AIRSTAGE

AIR CONDITIONER

Duct type

FUJITSU

REFRIGERANT R32

INVERTER

DESIGN & TECHNICAL MANUAL

INDOOR			
	ARUH12KUAS	ARUH18KUAS ARUH24KUAS ARUH30KUAS	ARUH36KUAS ARUH42KUAS ARUH48KUAS
OUTDOOR			
	AOUH12KUAS1 AOUH18KUAS1	AOUH24KUAS1	AOUH30KUAS1 AOUH36KUAS1 AOUH42KUAS1 AOUH48KUAS1

FUJITSU GENERAL LIMITED

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Part 1. INDOOR UNIT

DUCT TYPE:

ARUH12KUAS
ARUH18KUAS
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ARUH30KUAS
ARUH36KUAS
ARUH42KUAS
ARUH48KUAS

DUCT ARUH12-48KUAS

1. Specifications

Type					Duct
					Inverter, Heat pump
Model name					**ARUH12KUAS**
Power supply intake					Outdoor unit
System power supply		Voltage		V	208/230
		Frequency		Hz	60
		Available voltage range		V	187—253
Indoor unit power supply (from outdoor unit)				V	208/230
Capacity	Cooling		Rated	kW	3.52
				Btu/h	12,000
			Min.—Max.	kW	0.91—4.00
				Btu/h	3,100—13,600
	Heating	47°FDB (Outdoor temp.)	Rated	kW	4.69
				Btu/h	16,000
			Min.—Max.	kW	0.99—5.70
				Btu/h	3,400—19,400
		17°FDB (Outdoor temp.)*1	Rated	kW	3.14
				Btu/h	10,700
			Max.	kW	5.08
				Btu/h	17,300
		5°FDB (Outdoor temp.)*2	Rated	kW	4.54
				Btu/h	15,500
			Max.	kW	4.54
				Btu/h	15,500
Input power	Cooling		Rated	kW	0.94
			Max.		1.45
	Heating	47°FDB (Outdoor temp.)	Rated		1.25
			Max.		1.84
		17°FDB (Outdoor temp.)*1	Rated		1.07
			Max.		2.12
		5°FDB (Outdoor temp.)*2	Rated		2.25
			Max.		2.25
	Fan		HIGH	W	66
			MED		37
			LOW		26
			QUIET		18
Current		Cooling	Rated	A	4.2
		Heating			5.5
EER2		Cooling		Btu/hW	12.7
COP2		Heating		kW/kW	3.76
SEER2		Cooling		Btu/hW	19.1
HSPF2		Heating			10.5
Power factor		Cooling		%	97.3
		Heating			98.8
Moisture removal				pints/h (L/h)	1.5 (0.7)
Maximum operating current*3		Cooling		A	10.2
		Heating			11.7
Fan	Airflow rate	Cooling	HIGH	CFM (m^3/h)	500 (850)
			MED		400 (680)
			LOW		347 (590)
			QUIET		300 (510)
		Heating	HIGH		500 (850)
			MED		400 (680)
			LOW		347 (590)
			QUIET		300 (510)
	Type × Qty				Sirocco fan × 1
	Motor output			W	154
Static pressure range				inWG (Pa)	0.12 to 0.80 (30 to 200)
Sound pressure level*4		Cooling	HIGH	dB (A)	35
			MED		30
			LOW		27
			QUIET		24
		Heating	HIGH		35
			MED		30
			LOW		27
			QUIET		24
Heat exchanger type		Dimensions (H × W × D)		in (mm)	16-9/16 × 18-1/16 × 1-9/16 (420 × 458 × 39.9)
		Fin pitch		FPI	18
		Rows × Stages			3 × 20
		Pipe type			Copper tube
		Fin type			Aluminum
Enclosure		Material			Steel sheet
		Color			—
Dimensions (H × W × D)	Net			in (mm)	11-13/16 × 27-9/16 × 27-9/16 (300 × 700 × 700)
	Gross				15-3/4 × 36-15/16 × 34-7/16 (400 × 938 × 875)
Weight	Net			lb (kg)	66 (30)
	Gross				82 (37)
Connection pipe	Size	Liquid		in (mm)	Ø1/4 (Ø6.35)
		Gas			Ø3/8 (Ø9.52)
	Method				Flare
Drain port	Material				Polyvinyl chloride
	Tip diameter			in (mm)	I.D.: Ø1 (Ø26), O.D.: Ø1-1/4 (Ø32)
Drain hose	Material				Polyvinyl chloride
	Tip diameter			in (mm)	I.D.: Ø13/16 (Ø20.7), O.D.: Ø1-1/16 (Ø26.6)
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 (Option)					Wired, Wireless, Mobile app*5 (AIRSTAGE Mobile)

DUCT
ARUH12-48KUAS

Type	Duct
	Inverter, Heat pump
Model name	ARUH12KUAS

NOTES:

- Specifications are based on the following conditions:
  - 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.
    - Capacity test condition: Static pressure 0.58 inWG (145 Pa)
  - Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)
  - Standard static pressure: 0.18 inWG (45 Pa)
- Protective function might work when using it outside the operation range.
- *3: Maximum current:
  - The maximum value when operated within the operation range.
  - The total current of indoor unit and outdoor unit.
- *4: Sound pressure level:
  - 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.

DUCT ARUH12-48KUAS

Type					Duct		
					Inverter, Heat pump		
Model name					ARUH18KUAS	ARUH24KUAS	ARUH30KUAS
Power supply intake					Outdoor unit		
System power supply		Voltage		V	208/230		
		Frequency		Hz	60		
		Available voltage range		V	187—253		
Indoor unit power supply (from outdoor unit)				V	208/230		
Capacity	Cooling		Rated	kW	5.28	7.03	8.79
				Btu/h	18,000	24,000	30,000
			Min.—Max.	kW	0.91—5.89	1.58—8.21	2.81—10.26
				Btu/h	3,100—20,100	5,400—28,000	9,600—35,000
	Heating	47°FDB (Outdoor temp.)	Rated	kW	6.33	7.91	9.38
				Btu/h	21,600	27,000	32,000
			Min.—Max.	kW	0.91—7.03	1.58—9.38	2.70—11.14
				Btu/h	3,100—24,000	5,400—32,000	9,200—38,000
		17°FDB (Outdoor temp.)*1	Rated	kW	4.22	5.22	6.21
				Btu/h	14,400	17,800	21,200
			Max.	kW	5.66	7.62	9.05
				Btu/h	19,300	26,000	30,900
		5°FDB (Outdoor temp.)*2	Rated	kW	5.01	6.92	8.21
				Btu/h	17,100	23,600	28,000
			Max.	kW	5.01	6.92	8.21
				Btu/h	17,100	23,600	28,000
Input power	Cooling		Rated	kW	1.53	2.05	2.72
			Max.		2.14	2.89	3.67
	Heating	47°FDB (Outdoor temp.)	Rated		1.73	2.17	2.51
			Max.		2.75	3.03	3.81
		17°FDB (Outdoor temp.)*1	Rated		1.45	1.79	2.21
			Max.		2.44	3.29	3.96
		5°FDB (Outdoor temp.)*2	Rated		2.32	3.40	4.02
			Max.		2.32	3.40	4.02
	Fan		HIGH	W	62	110	189
			MED		33	55	107
			LOW		24	32	80
			QUIET		16	17	61
Current		Cooling	Rated	A	6.8	9.1	12.0
		Heating			7.6	9.6	11.1
EER2		Cooling		Btu/hW	11.7		11.0
COP2		Heating		kW/kW	3.64		3.74
SEER2		Cooling		Btu/hW	18.6	18.5	
HSPF2		Heating			10.3	10.2	10.0
Power factor		Cooling		%	97.8	97.9	98.6
		Heating			99.0	98.3	
Moisture removal				pints/h (L/h)	3.4 (1.6)	5.1 (2.4)	6.3 (3.0)
Maximum operating current*3		Cooling		A	12.2	15.9	19.8
		Heating			14.8	15.9	19.8
Fan	Airflow rate	Cooling	HIGH	CFM (m^3/h)	618 (1,050)	800 (1,360)	1,001 (1,700)
			MED		494 (840)	636 (1,080)	800 (1,360)
			LOW		430 (730)	518 (880)	700 (1,190)
			QUIET		371 (630)	400 (680)	630 (1,070)
		Heating	HIGH		618 (1,050)	800 (1,360)	1,001 (1,700)
			MED		494 (840)	636 (1,080)	800 (1,360)
			LOW		430 (730)	518 (880)	700 (1,190)
			QUIET		371 (630)	400 (680)	630 (1,070)
	Type × Qty				Sirocco fan × 2		
	Motor output			W	197		375
Static pressure range				inWG (Pa)	0.12 to 0.80 (30 to 200)		
Sound pressure level*4		Cooling	HIGH	dB (A)	34	36	39
			MED		29	31	36
			LOW		26	28	33
			QUIET		24		30
		Heating	HIGH		34	36	39
			MED		29	31	36
			LOW		26	28	33
			QUIET		24		30
Heat exchanger type		Dimensions (H × W × D)		in (mm)	16-9/16 × 29-13/16 × 1-9/16 (420 × 758 × 39.9)		
		Fin pitch		FPI	18		
		Rows × Stages			3 × 20		
		Pipe type			Copper tube		
		Fin type			Aluminum		
Enclosure		Material			Steel sheet		
		Color			—		
Dimensions (H × W × D)	Net			in (mm)	11-13/16 × 39-3/8 × 27-9/16 (300 × 1,000 × 700)		
	Gross				15-3/4 × 48-3/4 × 34-7/16 (400 × 1,238 × 875)		
Weight	Net			lb (kg)	90 (41)	93 (42)	
	Gross				108 (49)	110 (50)	
Connection pipe	Size	Liquid		in (mm)	Ø1/4 (Ø6.35)		Ø3/8 (Ø9.52)
		Gas			Ø1/2 (Ø12.70)		Ø5/8 (Ø15.88)
	Method				Flare		
Drain port	Material				Polyvinyl chloride		
	Tip diameter			in (mm)	I.D.: Ø1 (Ø26), O.D.: Ø1-1/4 (Ø32)		
Drain hose	Material				Polyvinyl chloride		
	Tip diameter			in (mm)	I.D.: Ø13/16 (Ø20.7), O.D.: Ø1-1/16 (Ø26.6)		
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 (Option)					Wired, Wireless, Mobile app*5 (AIRSTAGE Mobile)		

DUCT
ARUH12-48KUAS

Type	Duct		
	Inverter, Heat pump		
Model name	ARUH18KUAS	ARUH24KUAS	ARUH30KUAS

NOTES:

- Specifications are based on the following conditions:
  - 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.
    - Capacity test condition: Static pressure 0.58 inWG (145 Pa)
  - Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)
  - Standard static pressure: 18 and 24 models: 0.18 inWG (45 Pa), 30 model: 0.23 inWG (57 Pa)
- Protective function might work when using it outside the operation range.
- *3: Maximum current:
  - The maximum value when operated within the operation range.
  - The total current of indoor unit and outdoor unit.
- *4: Sound pressure level:
  - 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.

DUCT ARUH12-48KUAS

Type					Duct		
					Inverter, Heat pump		
Model name					ARUH36KUAS	ARUH42KUAS	ARUH48KUAS
Power supply intake					Outdoor unit		
System power supply		Voltage		V	208/230		
		Frequency		Hz	60		
		Available voltage range		V	187—253		
Indoor unit power supply (from outdoor unit)				V	208/230		
Capacity	Cooling		Rated	kW	10.55	12.31	13.48
				Btu/h	36,000	42,000	46,000
			Min.—Max.	kW	2.81—11.43	4.00—13.19	4.50—14.07
				Btu/h	9,600—39,000	13,600—45,000	15,400—48,000
	Heating	47°FDB (Outdoor temp.)	Rated	kW	11.14	13.77	14.95
				Btu/h	38,000	47,000	51,000
			Min.—Max.	kW	2.70—12.60	4.20—14.95	4.70—16.12
				Btu/h	9,200—43,000	14,300—51,000	16,000—55,000
		17°FDB (Outdoor temp.)*1	Rated	kW	7.44	9.38	10.55
				Btu/h	25,400	32,000	36,000
			Max.	kW	10.11	12.02	12.67
				Btu/h	34,500	41,000	43,200
		5°FDB (Outdoor temp.)*2	Rated	kW	9.09	10.84	11.28
				Btu/h	31,000	37,000	38,500
			Max.	kW	9.09	10.84	11.28
				Btu/h	31,000	37,000	38,500
Input power	Cooling		Rated	kW	3.45	4.08	4.69
			Max.		4.27	4.61	5.10
	Heating	47°FDB (Outdoor temp.)	Rated		3.16	3.76	4.37
			Max.		4.12	4.65	4.94
		17°FDB (Outdoor temp.)*1	Rated		2.66	3.28	3.84
			Max.		4.30	4.86	5.10
		5°FDB (Outdoor temp.)*2	Rated		4.37	4.86	5.10
			Max.		4.37	4.86	5.10
	Fan		HIGH	W	158	230	252
			MED		92	131	146
			LOW		58	78	80
			QUIET		40	61	64
Current		Cooling	Rated	A	15.2	17.9	20.6
		Heating			13.9	16.5	19.2
EER2		Cooling		Btu/hW	10.4	10.3	9.8
COP2		Heating		kW/kW	3.52	3.66	3.42
SEER2		Cooling		Btu/hW	18.0	17.3	16.4
HSPF2		Heating			9.8	10.2	10.0
Power factor		Cooling		%	98.7	99.1	99.0
		Heating			98.8	99.1	99.0
Moisture removal				pints/h (L/h)	7.6 (3.6)	5.5 (2.6)	8.2 (3.9)
Maximum operating current*3		Cooling		A	20.8	24.0	25.0
		Heating			20.8	24.0	25.0
Fan	Airflow rate	Cooling	HIGH	CFM (m^3/h)	1,207 (2,050)	1,501 (2,550)	
			MED		965 (1,640)	1,201 (2,040)	
			LOW		783 (1,330)	971 (1,650)	
			QUIET		630 (1,070)	842 (1,430)	
		Heating	HIGH		1,207 (2,050)	1,501 (2,550)	
			MED		965 (1,640)	1,201 (2,040)	
			LOW		783 (1,330)	971 (1,650)	
			QUIET		630 (1,070)	842 (1,430)	
	Type × Qty				Sirocco fan × 3		
	Motor output			W	375		
Static pressure range				inWG (Pa)	0.12 to 0.80 (30 to 200)	0.12 to 0.72 (30 to 180)	
Sound pressure level*4		Cooling	HIGH	dB (A)	37	40	
			MED		33	35	
			LOW		30	33	
			QUIET		26	29	
		Heating	HIGH		37	40	
			MED		33	35	
			LOW		30	33	
			QUIET		26	29	
Heat exchanger type		Dimensions (H × W × D)		in (mm)	16-9/16 × 45-9/16 × 1-9/16 (420 × 1,158 × 39.9)		
		Fin pitch		FPI	18		
		Rows × Stages			3 × 20		
		Pipe type			Copper tube		
		Fin type			Aluminum		
Enclosure		Material			Steel sheet		
		Color			—		
Dimensions (H × W × D)	Net			in (mm)	11-13/16 × 55-1/8 × 27-9/16 (300 × 1,400 × 700)		
	Gross				15-3/4 × 64-1/2 × 34-7/16 (400 × 1,638 × 875)		
Weight	Net			lb (kg)	121 (55)		
	Gross				141 (64)		
Connection pipe	Size	Liquid		in (mm)	Ø3/8 (Ø9.52)		
		Gas			Ø5/8 (Ø15.88)		
	Method				Flare		
Drain port	Material				Polyvinyl chloride		
	Tip diameter			in (mm)	I.D.: Ø1 (Ø26), O.D.: Ø1-1/4 (Ø32)		
Drain hose	Material				Polyvinyl chloride		
	Tip diameter			in (mm)	I.D.: Ø13/16 (Ø20.7), O.D.: Ø1-1/16 (Ø26.6)		
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 (Option)					Wired, Wireless, Mobile app*5 (AIRSTAGE Mobile)		

DUCT
ARUH12-48KUAS

Type	Duct		
	Inverter, Heat pump		
Model name	ARUH36KUAS	ARUH42KUAS	ARUH48KUAS

NOTES:

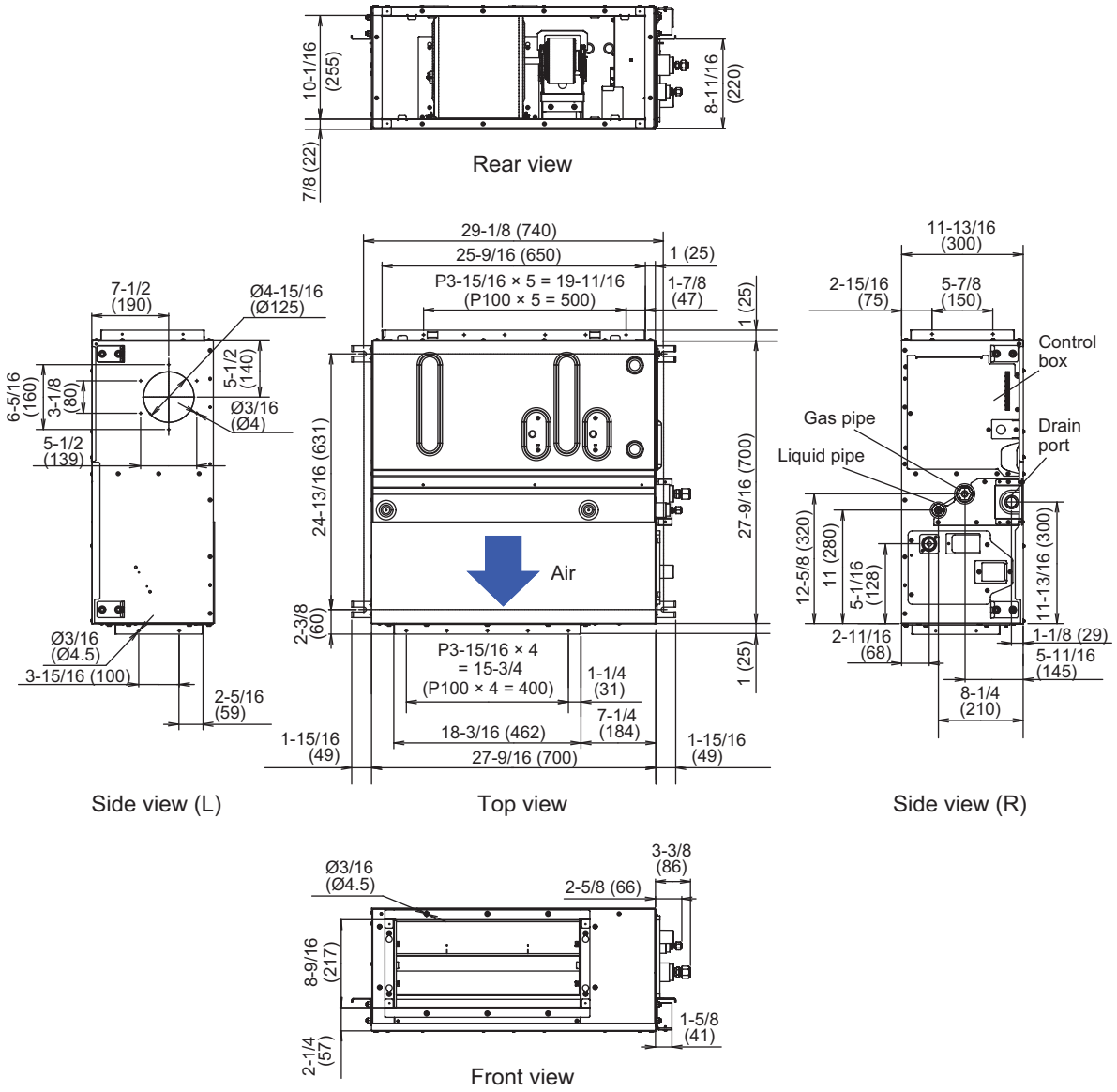
- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 80°FDB/67°FWB (26.67°CDB/19.44°CWB), and outdoor temperature of 95°FDB/75°FWB (35°CDB/23.9°CWB).
  - Heating: Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 47°FDB/43°FWB (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.
    - Capacity test condition: Static pressure 0.58 inWG (145 Pa)
  - Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)
  - Standard static pressure: 36 and 42 models: 0.23 inWG (57 Pa), 48 model: 0.28 inWG (70 Pa)
- Protective function might work when using it outside the operation range.
- *3: Maximum current:
  - The maximum value when operated within the operation range.
  - The total current of indoor unit and outdoor unit.
- *4: Sound pressure level:
  - 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.

DUCT
ARUH12-48KUAS

2. Dimensions

2-1. Model: ARUH12KUAS

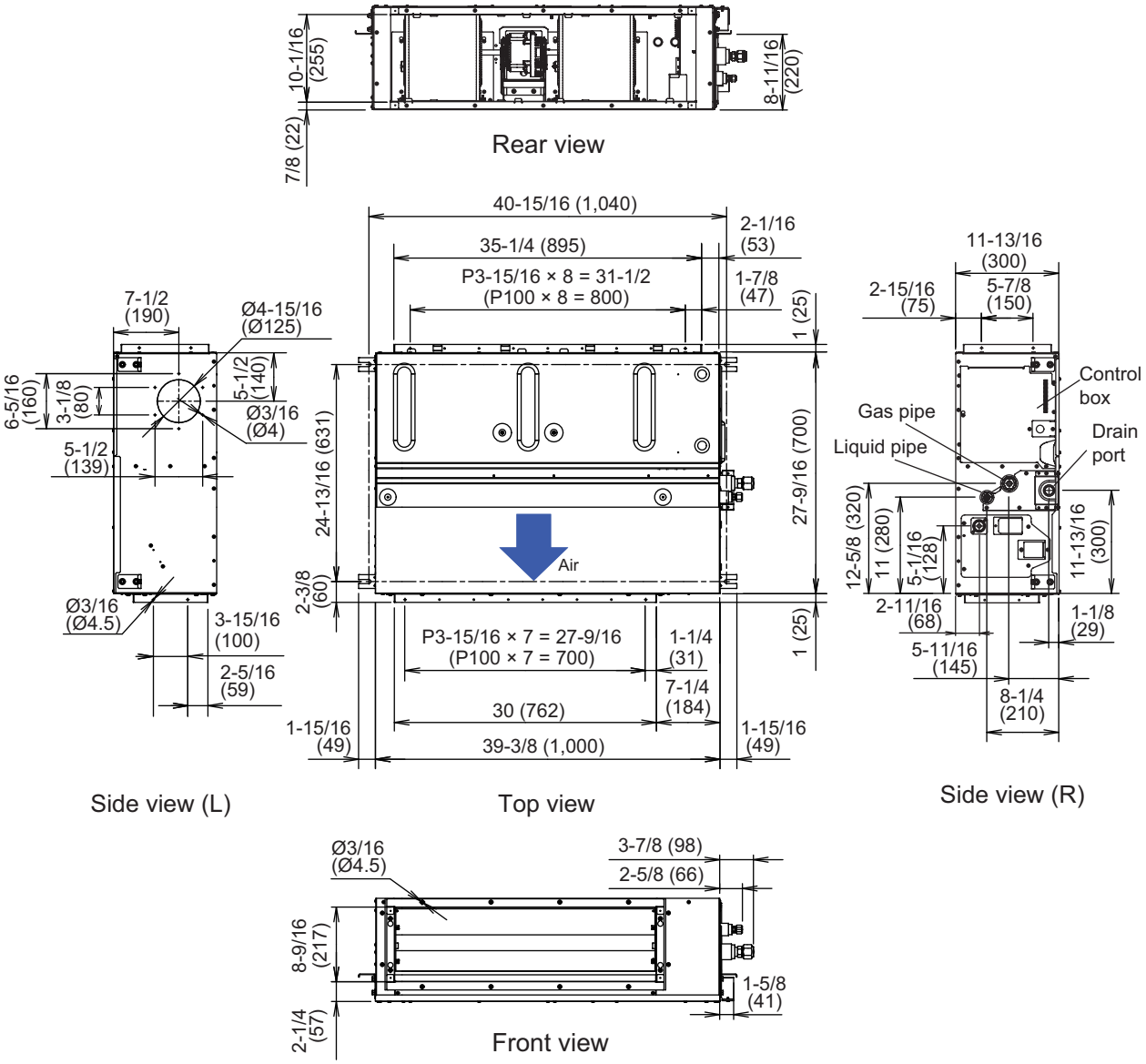
Unit: in (mm)



DUCT
ARUH12-48KUAS

2-2. Models: ARUH18KUAS, ARUH24KUAS, and ARUH30KUAS

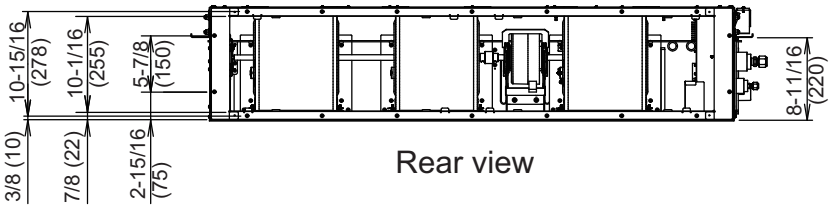
Unit: in (mm)



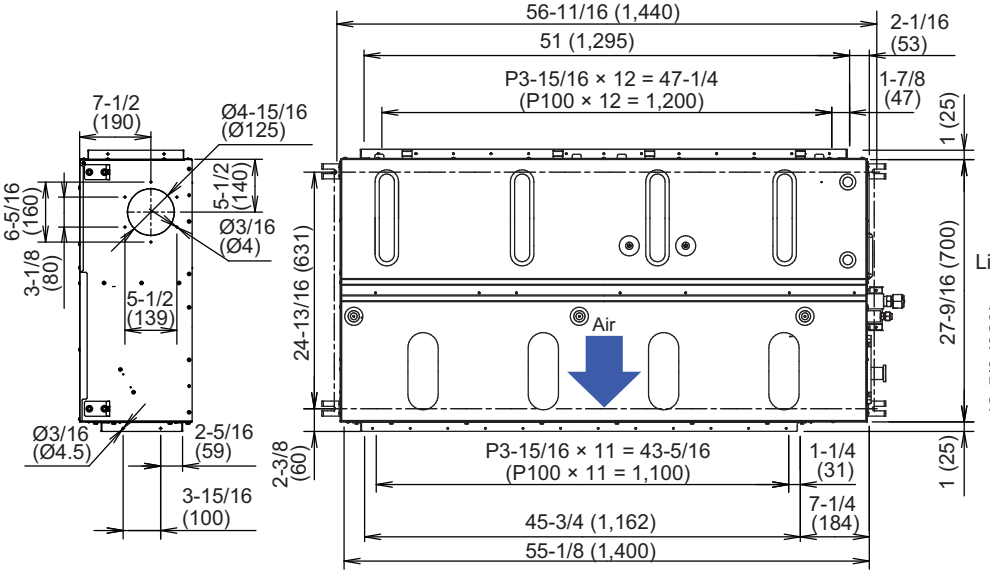
DUCT
ARUH12-48KUAS

2-3. Models: ARUH36KUAS, ARUH42KUAS, and ARUH48KUAS

Unit: in (mm)

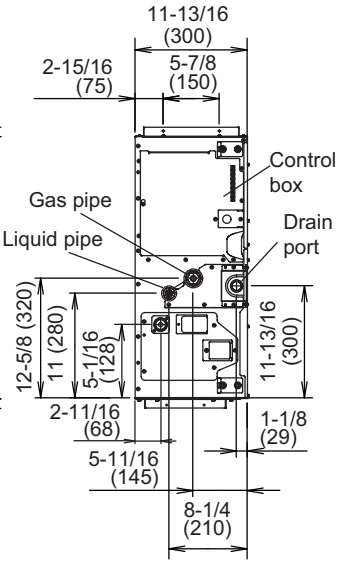


Rear view

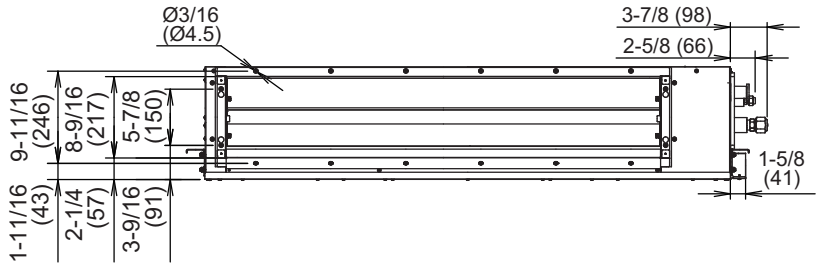


Side view (L)

Top view



Side view (R)



Front view

DUCT
ARUH12-48KUAS

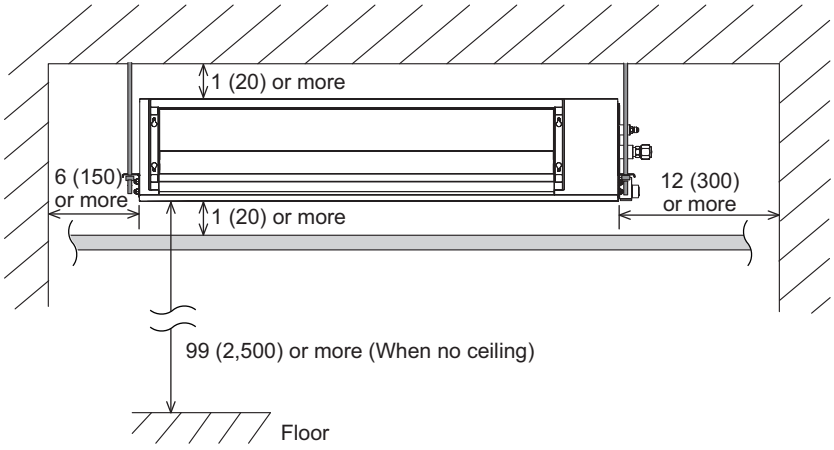
2-4. Installation space requirement

Provide sufficient installation space for product safety.

NOTE: The detailed component shape depends on the model.

■ Models: ARUH12KUAS, ARUH18KUAS, ARUH24KUAS, ARUH30KUAS, ARUH36KUAS, ARUH42KUAS, and ARUH48KUAS

Unit: in (mm)



DUCT
ARUH12-48KUAS

2-5. Maintenance space requirement

Provide sufficient maintenance space for efficient maintenance.

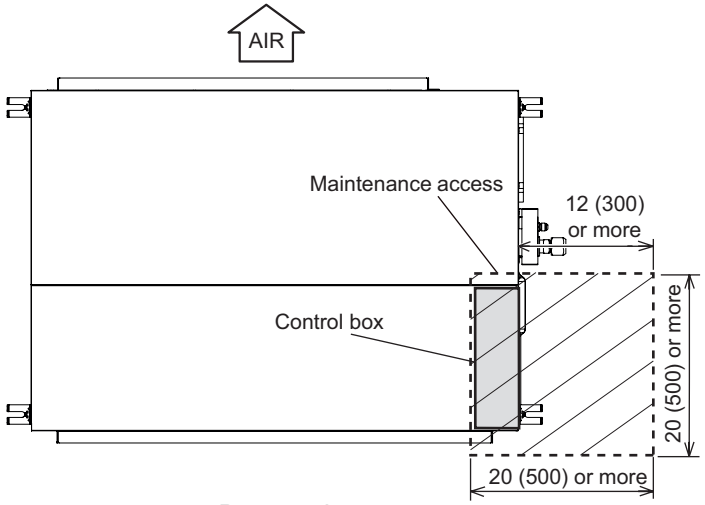
NOTES:

- Do not place any wiring or illumination in the maintenance space, as they will impede service.
- The detailed component shape depends on the model.

■ Models: ARUH12KUAS, ARUH18KUAS, ARUH24KUAS, ARUH30KUAS, ARUH36KUAS, ARUH42KUAS, and ARUH48KUAS

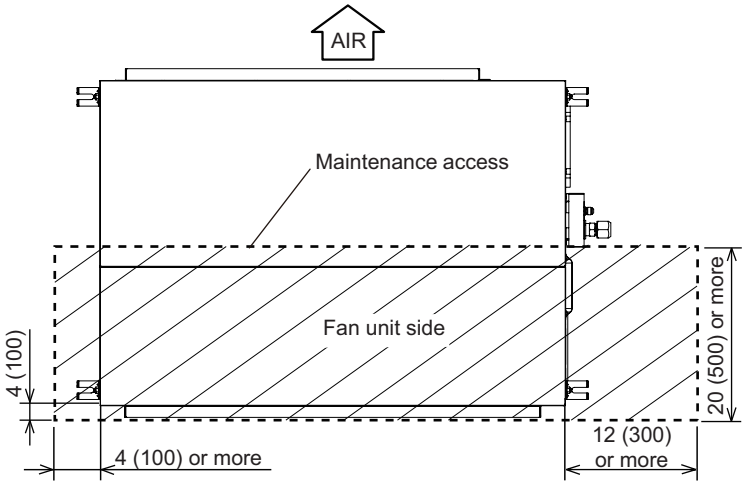
Unit: in (mm)

- Provide a maintenance access for maintenance purposes.



Bottom view

- The maintenance access necessary for fan units and filter maintenance.

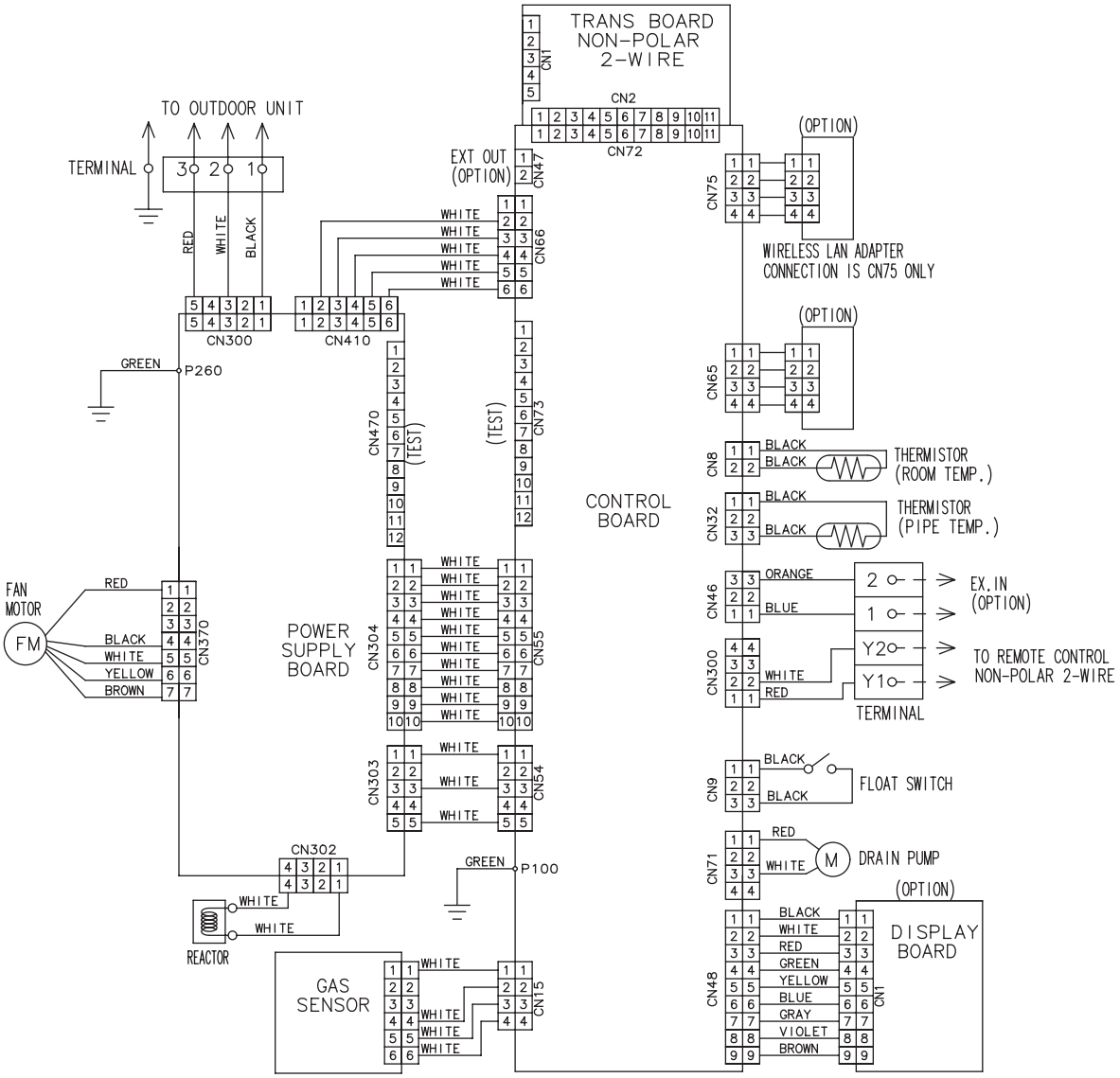


Bottom view

DUCT
ARUH12-48KUAS

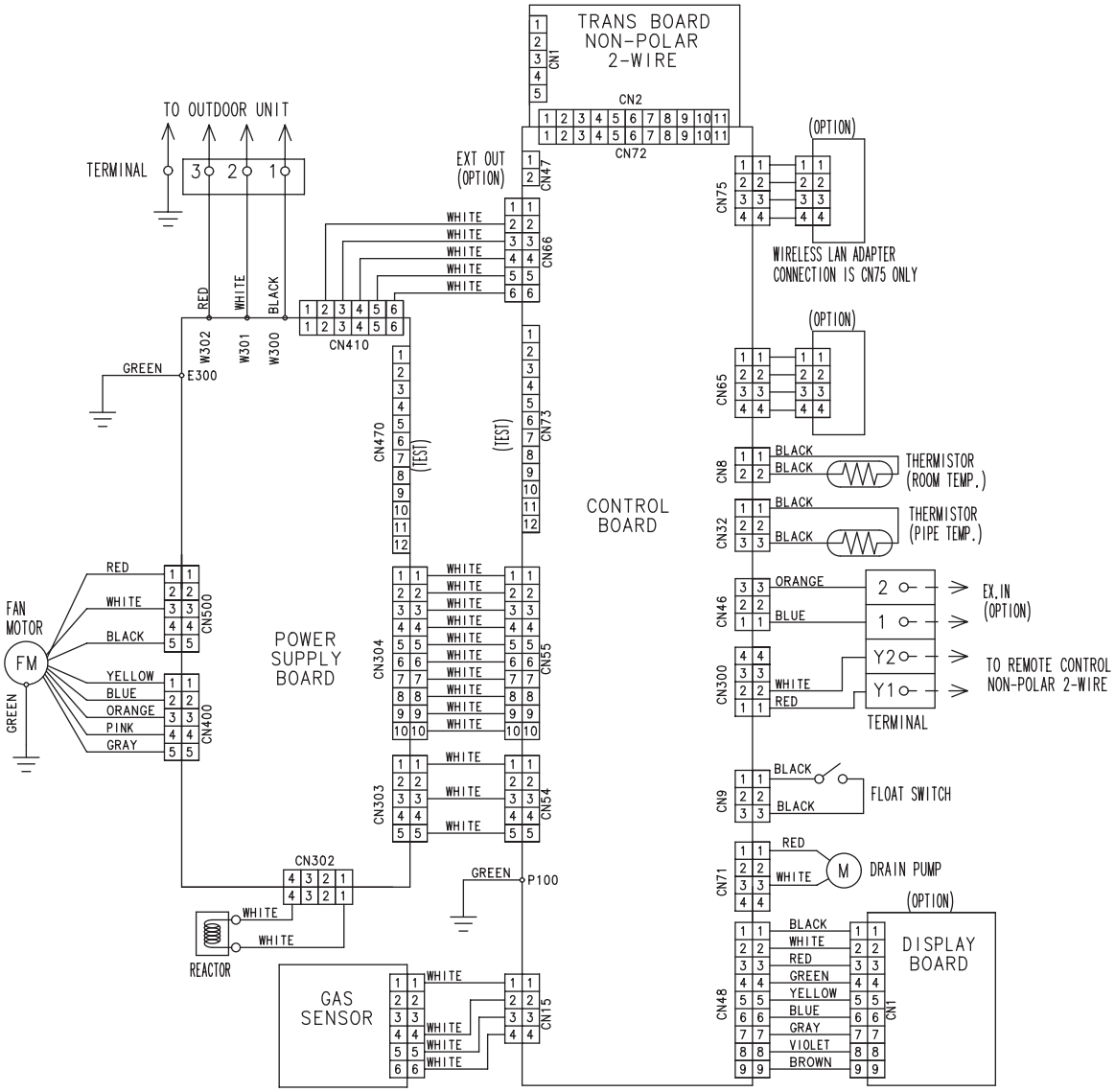
3. Wiring diagrams

3-1. Models: ARUH12KUAS, ARUH18KUAS, and ARUH24KUAS



DUCT
ARUH12-48KUAS

3-2. Models: ARUH30KUAS, ARUH36KUAS, ARUH42KUAS, and ARUH48KUAS



DUCT
ARUH12-48KUAS

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: ARUH12KUAS

AFR	CFM	500

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	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
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	-5	10.54	9.33	0.45	11.72	10.54	0.45	12.14	11.10	0.45	13.32	11.90	0.46	14.19	12.70	0.46	14.92	13.15	0.46
	5	10.45	9.25	0.46	11.62	10.45	0.46	12.04	11.00	0.47	13.20	11.80	0.47	14.06	12.59	0.49	14.79	13.03	0.49
	14	10.37	9.18	0.47	11.53	10.37	0.47	11.94	10.92	0.47	13.11	11.70	0.49	13.96	12.49	0.49	14.67	12.93	0.49
	32	10.20	9.01	0.48	11.36	10.20	0.48	11.74	10.78	0.50	12.91	11.53	0.50	13.68	12.28	0.51	14.47	12.69	0.51
	41	10.13	8.87	0.50	11.26	10.03	0.50	11.67	10.58	0.51	12.81	11.33	0.51	13.58	12.08	0.52	14.37	12.45	0.52
	50	10.03	8.63	0.51	11.19	9.76	0.51	11.57	10.30	0.52	12.71	11.06	0.52	13.48	11.81	0.53	14.23	12.18	0.53
	59	9.96	7.95	0.52	11.09	8.97	0.53	11.46	9.49	0.53	12.61	10.13	0.53	13.38	10.82	0.53	14.13	11.19	0.53
	67	11.23	8.77	0.64	12.52	9.72	0.65	12.93	10.68	0.65	14.22	11.23	0.67	15.08	11.46	0.67	15.93	12.76	0.68
	77	10.68	8.46	0.73	11.91	9.38	0.75	12.32	10.34	0.75	13.53	10.85	0.76	14.33	11.09	0.77	15.15	12.35	0.78
	87	10.10	8.12	0.82	11.26	9.01	0.83	11.64	9.93	0.83	12.78	10.41	0.84	13.55	10.65	0.84	14.33	11.87	0.86
	95	9.49	7.81	0.91	10.58	8.67	0.92	10.92	9.55	0.93	12.00	10.03	0.94	12.73	10.27	0.95	13.31	11.40	0.96
	104	8.02	7.20	0.98	8.91	8.02	1.00	9.21	8.84	1.01	10.13	9.25	1.02	10.75	9.49	1.04	11.36	10.54	1.05
	115	7.37	6.72	0.79	8.22	7.40	0.80	8.50	8.19	0.81	9.34	8.60	0.82	9.90	8.77	0.83	10.48	10.10	0.84
	122	6.97	6.36	0.79	7.78	7.01	0.80	8.04	7.75	0.81	8.85	8.14	0.82	9.36	8.30	0.83	9.91	9.56	0.84

AFR	m^3/h	850

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	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
		kW			kW			kW			kW			kW			kW		
	-20.6	3.09	2.73	0.45	3.44	3.09	0.45	3.56	3.25	0.45	3.90	3.49	0.46	4.16	3.72	0.46	4.37	3.85	0.46
	-15.0	3.06	2.71	0.46	3.41	3.06	0.46	3.53	3.23	0.47	3.87	3.46	0.47	4.12	3.69	0.49	4.33	3.82	0.49
	-10.0	3.04	2.69	0.47	3.38	3.04	0.47	3.50	3.20	0.47	3.84	3.43	0.49	4.09	3.66	0.49	4.30	3.79	0.49
	0.0	2.99	2.64	0.48	3.33	2.99	0.48	3.44	3.16	0.50	3.78	3.38	0.50	4.01	3.60	0.51	4.24	3.72	0.51
	5.0	2.97	2.60	0.50	3.30	2.94	0.50	3.42	3.10	0.51	3.76	3.32	0.51	3.98	3.54	0.52	4.21	3.65	0.52
	10.0	2.94	2.53	0.51	3.28	2.86	0.51	3.39	3.02	0.52	3.73	3.24	0.52	3.95	3.46	0.53	4.17	3.57	0.53
	15.0	2.92	2.33	0.52	3.25	2.63	0.53	3.36	2.78	0.53	3.70	2.97	0.53	3.92	3.17	0.53	4.14	3.28	0.53
	19.4	3.29	2.57	0.64	3.67	2.85	0.65	3.79	3.13	0.65	4.17	3.29	0.67	4.42	3.36	0.67	4.67	3.74	0.68
	25.0	3.13	2.48	0.73	3.49	2.75	0.75	3.61	3.03	0.75	3.97	3.18	0.76	4.20	3.25	0.77	4.44	3.62	0.78
	30.0	2.96	2.38	0.82	3.30	2.64	0.83	3.41	2.91	0.83	3.75	3.05	0.84	3.97	3.12	0.84	4.20	3.48	0.86
	35.0	2.78	2.29	0.91	3.10	2.54	0.92	3.20	2.80	0.93	3.52	2.94	0.94	3.73	3.01	0.95	3.90	3.34	0.96
	40.0	2.35	2.11	0.98	2.61	2.35	1.00	2.70	2.59	1.01	2.97	2.71	1.02	3.15	2.78	1.04	3.33	3.09	1.05
	46.1	2.16	1.97	0.79	2.41	2.17	0.80	2.49	2.40	0.81	2.74	2.52	0.82	2.90	2.57	0.83	3.07	2.96	0.84
	50.0	2.04	1.86	0.79	2.28	2.05	0.80	2.36	2.27	0.81	2.59	2.38	0.82	2.74	2.43	0.83	2.91	2.80	0.84

DUCT
ARUH12-48KUAS

■ Model: ARUH18KUAS

AFR	CFM	618

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	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
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	-5	16.31	13.36	0.72	18.17	13.45	0.74	18.79	14.62	0.74	20.65	15.84	0.76	21.88	15.78	0.76	23.12	16.81	0.76
	5	16.04	13.15	0.75	17.86	13.22	0.75	18.47	14.38	0.77	20.30	15.56	0.77	21.52	15.52	0.78	22.73	16.52	0.78
	14	15.79	12.94	0.75	17.59	13.02	0.76	18.19	14.15	0.76	19.99	15.34	0.78	21.19	15.27	0.78	22.39	16.26	0.79
	32	15.30	12.53	0.76	17.04	12.61	0.78	17.62	13.70	0.78	19.37	14.85	0.79	20.53	14.78	0.80	21.69	15.75	0.80
	41	15.06	12.34	0.77	16.77	12.41	0.79	17.34	13.48	0.79	19.06	14.61	0.80	20.20	14.56	0.81	21.34	15.50	0.81
	50	14.81	12.13	0.78	16.50	12.20	0.80	17.06	13.26	0.80	18.75	14.37	0.81	19.87	14.30	0.82	21.00	15.24	0.84
	59	14.56	11.90	0.78	16.22	11.97	0.79	16.78	13.02	0.81	18.44	14.10	0.82	19.54	14.05	0.82	20.65	14.97	0.83
	67	16.73	13.71	1.13	18.64	13.79	1.14	19.27	15.00	1.16	21.18	16.24	1.17	22.45	16.18	1.18	23.72	17.24	1.19
	77	15.96	13.04	1.23	17.78	13.13	1.25	18.38	14.26	1.25	20.20	15.45	1.27	21.41	15.39	1.28	22.62	16.39	1.29
	87	15.12	12.38	1.37	16.85	12.46	1.39	17.42	13.55	1.39	19.14	14.67	1.42	20.29	14.62	1.44	21.44	15.57	1.45
	95	14.22	11.65	1.48	15.84	11.72	1.50	16.38	12.75	1.51	18.00	13.81	1.53	19.08	13.75	1.54	20.16	14.65	1.56
	104	12.49	10.23	1.59	13.91	10.28	1.61	14.38	11.17	1.63	15.80	12.10	1.65	16.75	12.05	1.67	17.70	12.84	1.68
	115	10.48	9.29	1.31	11.67	9.35	1.33	12.07	10.17	1.34	13.26	11.02	1.36	14.06	10.97	1.37	14.86	11.68	1.39
	122	9.20	8.16	1.31	10.25	8.22	1.33	10.61	8.94	1.34	11.66	9.69	1.36	12.35	9.63	1.37	13.04	10.25	1.39

AFR	m^3/h	1,050

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	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
		kW			kW			kW			kW			kW			kW		
	-20.6	4.78	3.92	0.72	5.32	3.94	0.74	5.51	4.29	0.74	6.05	4.64	0.76	6.41	4.62	0.76	6.78	4.93	0.76
	-15.0	4.70	3.85	0.75	5.24	3.88	0.75	5.41	4.21	0.77	5.95	4.57	0.77	6.31	4.55	0.78	6.66	4.84	0.78
	-10.0	4.63	3.79	0.75	5.16	3.81	0.76	5.33	4.14	0.76	5.86	4.49	0.78	6.21	4.47	0.78	6.56	4.77	0.79
	0.0	4.48	3.67	0.76	5.00	3.69	0.78	5.17	4.02	0.78	5.68	4.35	0.79	6.02	4.34	0.80	6.36	4.62	0.80
	5.0	4.41	3.61	0.77	4.92	3.63	0.79	5.08	3.95	0.79	5.59	4.28	0.80	5.92	4.26	0.81	6.26	4.55	0.81
	10.0	4.34	3.56	0.78	4.83	3.58	0.80	5.00	3.88	0.80	5.49	4.21	0.81	5.82	4.19	0.82	6.15	4.46	0.84
	15.0	4.27	3.49	0.78	4.75	3.50	0.79	4.92	3.82	0.81	5.40	4.14	0.82	5.73	4.12	0.82	6.05	4.39	0.83
	19.4	4.90	4.02	1.13	5.46	4.04	1.14	5.65	4.40	1.16	6.21	4.76	1.17	6.58	4.75	1.18	6.95	5.05	1.19
	25.0	4.68	3.83	1.23	5.21	3.84	1.25	5.39	4.18	1.25	5.92	4.53	1.27	6.28	4.52	1.28	6.63	4.81	1.29
	30.0	4.43	3.63	1.37	4.94	3.65	1.39	5.11	3.97	1.39	5.61	4.30	1.42	5.95	4.29	1.44	6.28	4.57	1.45
	35.0	4.17	3.42	1.48	4.64	3.43	1.50	4.80	3.74	1.51	5.28	4.05	1.53	5.59	4.03	1.54	5.91	4.30	1.56
	40.0	3.66	2.99	1.59	4.08	3.02	1.61	4.22	3.28	1.63	4.63	3.55	1.65	4.91	3.53	1.67	5.19	3.77	1.68
	46.1	3.07	2.72	1.31	3.42	2.74	1.33	3.54	2.98	1.34	3.89	3.24	1.36	4.12	3.22	1.37	4.35	3.41	1.39
	50.0	2.70	2.39	1.31	3.00	2.40	1.33	3.11	2.62	1.34	3.42	2.84	1.36	3.62	2.82	1.37	3.82	3.00	1.39

DUCT
ARUH12-48KUAS

■ Model: ARUH24KUAS

AFR	CFM	800

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	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
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	-5	19.18	14.78	1.69	21.36	14.84	1.71	22.81	16.15	1.72	24.26	17.47	1.74	25.72	17.41	1.76	27.18	18.54	1.77
	5	19.15	14.75	1.69	21.32	14.80	1.71	22.77	16.12	1.73	24.21	17.43	1.74	25.67	17.37	1.76	27.13	18.49	1.78
	14	19.10	14.68	1.67	21.27	14.77	1.70	22.72	16.10	1.72	24.17	17.39	1.74	25.62	17.31	1.75	27.07	18.44	1.77
	32	19.03	14.64	1.68	21.20	14.71	1.70	22.64	16.01	1.71	24.09	17.31	1.73	25.54	17.24	1.75	26.99	18.37	1.77
	41	18.99	14.57	1.66	21.16	14.66	1.68	22.60	15.96	1.71	24.04	17.28	1.72	25.49	17.22	1.74	26.93	18.33	1.76
	50	18.96	14.54	1.66	21.12	14.62	1.69	22.56	15.93	1.71	24.00	17.24	1.72	25.43	17.15	1.73	26.88	18.28	1.75
	59	19.71	14.81	1.48	21.95	14.89	1.49	23.44	16.20	1.51	24.94	17.52	1.53	26.44	17.46	1.54	27.95	18.61	1.56
	67	21.61	15.81	1.55	24.08	15.90	1.57	25.72	17.33	1.58	27.35	18.73	1.60	29.01	18.67	1.61	30.64	19.89	1.63
	77	20.91	15.50	1.67	23.31	15.61	1.69	24.89	17.02	1.71	26.47	18.38	1.73	28.06	18.33	1.74	29.66	19.52	1.77
	87	20.30	15.29	1.78	22.60	15.33	1.81	24.14	16.72	1.82	25.69	18.08	1.85	27.22	18.01	1.86	28.76	19.17	1.88
	95	18.96	14.66	1.98	21.13	14.75	2.01	22.55	16.08	2.03	24.00	17.39	2.05	25.43	17.31	2.07	26.87	18.46	2.09
	104	17.61	14.09	2.18	19.63	14.18	2.21	20.97	15.43	2.23	22.30	16.70	2.25	23.65	16.64	2.28	25.00	17.75	2.31
	115	15.64	13.36	2.39	17.43	13.47	2.42	18.60	14.63	2.43	19.81	15.86	2.47	20.98	15.78	2.48	22.19	16.80	2.52
	122	14.37	12.28	2.52	16.04	12.39	2.56	17.10	13.45	2.57	18.23	14.60	2.62	19.30	14.51	2.63	20.40	15.45	2.67

AFR	m^3/h	1,360

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	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
		kW			kW			kW			kW			kW			kW		
	-20.6	5.62	4.33	1.69	6.26	4.35	1.71	6.69	4.74	1.72	7.11	5.12	1.74	7.54	5.11	1.76	7.97	5.44	1.77
	-15.0	5.61	4.32	1.69	6.25	4.33	1.71	6.67	4.72	1.73	7.10	5.11	1.74	7.52	5.09	1.76	7.95	5.42	1.78
	-10.0	5.60	4.30	1.67	6.23	4.33	1.70	6.66	4.72	1.72	7.08	5.10	1.74	7.51	5.08	1.75	7.93	5.41	1.77
	0.0	5.58	4.30	1.68	6.21	4.32	1.70	6.64	4.70	1.71	7.06	5.07	1.73	7.49	5.05	1.75	7.91	5.38	1.77
	5.0	5.57	4.27	1.66	6.20	4.29	1.68	6.62	4.68	1.71	7.05	5.06	1.72	7.47	5.04	1.74	7.89	5.37	1.76
	10.0	5.56	4.26	1.66	6.19	4.29	1.69	6.61	4.67	1.71	7.03	5.05	1.72	7.45	5.03	1.73	7.88	5.36	1.75
	15.0	5.78	4.35	1.48	6.43	4.36	1.49	6.87	4.75	1.51	7.31	5.13	1.53	7.75	5.11	1.54	8.19	5.45	1.56
	19.4	6.33	4.63	1.55	7.06	4.67	1.57	7.54	5.08	1.58	8.02	5.49	1.60	8.50	5.47	1.61	8.98	5.83	1.63
	25.0	6.13	4.55	1.67	6.83	4.57	1.69	7.30	4.99	1.71	7.76	5.39	1.73	8.23	5.38	1.74	8.69	5.73	1.77
	30.0	5.95	4.49	1.78	6.62	4.49	1.81	7.08	4.91	1.82	7.53	5.30	1.85	7.98	5.28	1.86	8.43	5.62	1.88
	35.0	5.56	4.30	1.98	6.19	4.32	2.01	6.61	4.72	2.03	7.03	5.10	2.05	7.45	5.07	2.07	7.87	5.41	2.09
	40.0	5.16	4.12	2.18	5.75	4.15	2.21	6.15	4.53	2.23	6.54	4.89	2.25	6.93	4.88	2.28	7.33	5.21	2.31
	46.1	4.58	3.91	2.39	5.11	3.95	2.42	5.45	4.29	2.43	5.81	4.65	2.47	6.15	4.62	2.48	6.50	4.92	2.52
	50.0	4.21	3.60	2.52	4.70	3.63	2.56	5.01	3.95	2.57	5.34	4.28	2.62	5.66	4.25	2.63	5.98	4.53	2.67

DUCT ARUH12-48KUAS

■ Model: ARUH30KUAS

AFR	CFM	1,001

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	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
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	-5	25.49	20.28	2.02	28.41	20.43	2.01	30.35	22.25	1.97	32.29	24.06	1.95	34.23	23.95	1.97	36.14	25.49	1.99
	5	25.35	20.23	1.90	28.24	20.37	1.91	30.17	22.17	1.95	32.10	23.98	1.96	34.03	23.88	1.98	35.93	25.41	2.00
	14	25.22	20.13	1.89	28.09	20.27	1.92	30.00	22.07	1.94	31.93	23.92	1.96	33.86	23.81	1.98	35.75	25.30	2.00
	32	24.96	20.05	1.91	27.79	20.15	1.95	29.69	21.98	1.97	31.60	23.78	1.98	33.51	23.69	2.01	35.38	25.23	2.02
	41	24.82	20.04	1.90	27.64	20.11	1.93	29.54	21.93	1.96	31.43	23.72	1.98	33.33	23.63	1.99	35.19	25.17	2.02
	50	24.72	19.97	1.92	27.54	20.12	1.95	29.40	21.89	1.96	31.27	23.65	1.99	33.13	23.58	2.01	35.02	25.12	2.03
	59	25.18	20.19	1.82	28.07	20.39	1.86	29.98	22.19	1.87	31.89	24.00	1.89	33.81	23.90	1.91	35.71	25.44	1.93
	67	27.08	20.82	2.04	30.17	20.94	2.07	32.23	22.78	2.10	34.28	24.63	2.12	36.35	24.54	2.13	38.39	26.14	2.16
	77	26.05	20.36	2.24	29.02	20.47	2.26	31.00	22.31	2.29	32.98	24.13	2.32	34.96	24.05	2.34	36.94	25.59	2.36
	87	25.14	20.01	2.41	27.99	20.13	2.46	29.90	21.91	2.48	31.81	23.69	2.50	33.73	23.63	2.53	35.64	25.15	2.54
	95	23.70	19.37	2.63	26.40	19.49	2.67	28.20	21.20	2.69	30.00	22.95	2.72	31.80	22.86	2.75	33.60	24.36	2.79
	104	22.26	18.72	2.84	24.79	18.88	2.86	26.47	20.50	2.90	28.18	22.20	2.94	29.88	22.11	2.96	31.54	23.56	2.99
	115	20.50	17.92	3.09	22.84	18.08	3.13	24.40	19.68	3.16	25.97	21.29	3.21	27.51	21.17	3.24	29.06	22.56	3.26
	122	19.39	16.94	3.25	21.58	17.09	3.30	23.06	18.60	3.33	24.55	20.12	3.38	26.00	20.01	3.41	27.48	21.34	3.44

AFR	m^3/h	1,700

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	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
		kW			kW			kW			kW			kW			kW		
	-20.6	7.47	5.94	2.02	8.33	5.99	2.01	8.89	6.51	1.97	9.46	7.05	1.95	10.03	7.02	1.97	10.59	7.47	1.99
	-15.0	7.43	5.92	1.90	8.28	5.97	1.91	8.84	6.50	1.95	9.41	7.03	1.96	9.97	6.99	1.98	10.53	7.45	2.00
	-10.0	7.39	5.90	1.89	8.23	5.94	1.92	8.79	6.46	1.94	9.36	7.01	1.96	9.92	6.98	1.98	10.48	7.41	2.00
	0.0	7.32	5.88	1.91	8.14	5.90	1.95	8.70	6.44	1.97	9.26	6.97	1.98	9.82	6.94	2.01	10.37	7.40	2.02
	5.0	7.27	5.87	1.90	8.10	5.89	1.93	8.66	6.43	1.96	9.21	6.95	1.98	9.77	6.93	1.99	10.31	7.37	2.02
	10.0	7.24	5.85	1.92	8.07	5.90	1.95	8.62	6.41	1.96	9.16	6.93	1.99	9.71	6.91	2.01	10.27	7.37	2.03
	15.0	7.38	5.92	1.82	8.23	5.98	1.86	8.79	6.51	1.87	9.35	7.04	1.89	9.91	7.01	1.91	10.47	7.46	1.93
	19.4	7.94	6.10	2.04	8.84	6.13	2.07	9.45	6.68	2.10	10.05	7.22	2.12	10.65	7.19	2.13	11.25	7.66	2.16
	25.0	7.64	5.97	2.24	8.51	6.00	2.26	9.09	6.54	2.29	9.67	7.07	2.32	10.25	7.06	2.34	10.83	7.50	2.36
	30.0	7.37	5.86	2.41	8.20	5.89	2.46	8.76	6.41	2.48	9.32	6.94	2.50	9.88	6.91	2.53	10.44	7.37	2.54
	35.0	6.95	5.68	2.63	7.74	5.71	2.67	8.26	6.21	2.69	8.79	6.73	2.72	9.32	6.70	2.75	9.85	7.15	2.79
	40.0	6.52	5.48	2.84	7.26	5.53	2.86	7.76	6.02	2.90	8.26	6.51	2.94	8.76	6.48	2.96	9.24	6.90	2.99
	46.1	6.01	5.25	3.09	6.69	5.29	3.13	7.15	5.77	3.16	7.61	6.24	3.21	8.06	6.20	3.24	8.52	6.62	3.26
	50.0	5.68	4.97	3.25	6.32	5.00	3.30	6.76	5.45	3.33	7.19	5.90	3.38	7.62	5.86	3.41	8.05	6.26	3.44

DUCT ARUH12-48KUAS

■ Model: ARUH36KUAS

AFR	CFM	1,207

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	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
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	-5	29.41	25.38	2.22	32.75	25.46	2.24	34.97	26.00	2.26	37.19	28.11	2.29	39.43	28.02	2.30	41.67	29.83	2.32
	5	29.24	23.72	2.23	32.56	23.80	2.25	34.77	25.92	2.27	36.98	28.03	2.29	39.20	27.93	2.31	41.43	29.73	2.33
	14	29.06	23.58	2.21	32.37	23.73	2.25	34.58	25.87	2.27	36.78	27.95	2.30	38.99	27.82	2.32	41.20	29.64	2.33
	32	28.76	23.49	2.24	32.04	23.62	2.27	34.22	25.71	2.29	36.40	27.79	2.32	38.60	27.68	2.35	40.80	29.49	2.38
	41	28.61	23.39	2.25	31.86	23.50	2.28	34.04	25.61	2.31	36.21	27.71	2.33	38.38	27.61	2.36	40.55	29.40	2.39
	50	28.46	23.31	2.25	31.69	23.43	2.29	33.85	25.54	2.31	36.02	27.63	2.34	38.16	27.48	2.35	40.34	29.31	2.38
	59	28.50	23.41	2.24	31.74	23.54	2.27	33.90	25.61	2.30	36.06	27.70	2.32	38.23	27.60	2.35	40.41	29.42	2.38
	67	32.91	25.14	2.64	36.66	25.29	2.67	39.17	27.57	2.69	41.64	29.79	2.72	44.17	29.69	2.75	46.66	31.63	2.77
	77	31.51	24.56	2.89	35.12	24.73	2.92	37.50	26.95	2.95	39.89	29.11	2.98	42.28	29.03	3.01	44.68	30.91	3.04
	87	30.27	24.10	3.08	33.70	24.18	3.13	36.01	26.38	3.15	38.32	28.51	3.20	40.59	28.40	3.22	42.90	30.25	3.26
	95	28.44	23.16	3.33	31.69	23.30	3.38	33.83	25.42	3.42	36.00	27.49	3.45	38.15	27.36	3.49	40.30	29.17	3.52
	104	26.60	22.34	3.58	29.65	22.48	3.63	31.66	24.47	3.67	33.68	26.47	3.70	35.71	26.38	3.74	37.75	28.13	3.78
	115	22.08	20.65	3.28	24.61	20.81	3.32	26.27	22.63	3.34	27.97	24.51	3.39	29.63	24.40	3.41	31.33	25.97	3.45
	122	19.20	17.96	3.08	21.40	18.10	3.13	22.85	19.68	3.15	24.34	21.33	3.19	25.76	21.21	3.21	27.24	22.58	3.25

AFR	m^3/h	2,050

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	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
		kW			kW			kW			kW			kW			kW		
	-20.6	8.62	7.43	2.22	9.60	7.46	2.24	10.25	7.62	2.26	10.90	8.24	2.29	11.56	8.22	2.30	12.21	8.74	2.32
	-15.0	8.57	6.96	2.23	9.54	6.97	2.25	10.19	7.59	2.27	10.84	8.21	2.29	11.49	8.19	2.31	12.14	8.71	2.33
	-10.0	8.52	6.91	2.21	9.49	6.96	2.25	10.13	7.58	2.27	10.78	8.19	2.30	11.43	8.16	2.32	12.07	8.69	2.33
	0.0	8.43	6.89	2.24	9.39	6.92	2.27	10.03	7.54	2.29	10.67	8.15	2.32	11.31	8.11	2.35	11.96	8.65	2.38
	5.0	8.38	6.85	2.25	9.34	6.89	2.28	9.98	7.51	2.31	10.61	8.12	2.33	11.25	8.10	2.36	11.89	8.62	2.39
	10.0	8.34	6.83	2.25	9.29	6.87	2.29	9.92	7.48	2.31	10.56	8.10	2.34	11.18	8.05	2.35	11.82	8.59	2.38
	15.0	8.35	6.86	2.24	9.30	6.90	2.27	9.93	7.51	2.30	10.57	8.12	2.32	11.21	8.10	2.35	11.84	8.62	2.38
	19.4	9.64	7.36	2.64	10.74	7.41	2.67	11.48	8.08	2.69	12.20	8.73	2.72	12.94	8.70	2.75	13.67	9.27	2.77
	25.0	9.23	7.19	2.89	10.29	7.25	2.92	10.99	7.90	2.95	11.69	8.53	2.98	12.39	8.51	3.01	13.10	9.06	3.04
	30.0	8.87	7.06	3.08	9.88	7.09	3.13	10.55	7.73	3.15	11.23	8.36	3.20	11.90	8.32	3.22	12.57	8.86	3.26
	35.0	8.34	6.79	3.33	9.29	6.83	3.38	9.91	7.44	3.42	10.55	8.06	3.45	11.18	8.02	3.49	11.81	8.55	3.52
	40.0	7.80	6.55	3.58	8.69	6.59	3.63	9.28	7.18	3.67	9.87	7.76	3.70	10.47	7.73	3.74	11.06	8.24	3.78
	46.1	6.47	6.05	3.28	7.21	6.09	3.32	7.70	6.63	3.34	8.20	7.18	3.39	8.68	7.14	3.41	9.18	7.61	3.45
	50.0	5.63	5.26	3.08	6.27	5.30	3.13	6.70	5.77	3.15	7.13	6.25	3.19	7.55	6.21	3.21	7.98	6.62	3.25

DUCT
ARUH12-48KUAS

■ Model: ARUH42KUAS

AFR	CFM	1,501

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	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
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	-5	28.80	24.19	2.36	32.07	24.29	2.38	34.24	26.44	2.40	36.44	28.59	2.42	38.64	28.56	2.46	40.83	30.40	2.48
	5	28.47	23.92	2.40	31.70	24.02	2.42	33.86	26.17	2.46	36.03	28.32	2.48	38.19	28.22	2.50	40.36	30.06	2.54
	14	28.16	22.49	2.47	31.40	22.62	2.49	33.53	24.60	2.53	35.66	26.65	2.53	37.83	26.55	2.57	39.96	28.32	2.59
	32	27.58	21.80	2.53	30.72	21.94	2.57	32.82	23.88	2.59	34.93	25.83	2.63	37.01	25.69	2.65	39.12	27.43	2.69
	41	27.32	21.84	2.59	30.43	21.97	2.63	32.48	23.88	2.67	34.57	25.86	2.69	36.62	25.73	2.71	38.71	27.43	2.72
	50	27.01	21.91	2.65	30.09	22.04	2.68	32.15	23.99	2.72	34.20	25.93	2.74	36.26	25.83	2.78	38.31	27.50	2.79
	59	26.71	21.60	2.69	29.78	21.74	2.72	31.79	23.65	2.76	33.84	25.63	2.79	35.85	25.49	2.81	37.90	27.16	2.84
	67	38.18	29.96	3.08	42.48	30.06	3.11	45.41	32.79	3.15	48.30	35.49	3.18	51.22	35.35	3.21	54.11	37.64	3.23
	77	36.35	28.56	3.39	40.50	28.73	3.44	43.27	31.29	3.49	46.04	33.81	3.50	48.80	33.71	3.55	51.57	35.93	3.58
	87	34.78	26.68	3.67	38.74	26.82	3.72	41.40	29.21	3.76	44.02	31.56	3.79	46.68	31.46	3.83	49.30	33.51	3.87
	95	33.17	25.80	3.93	36.95	25.97	4.00	39.48	28.29	4.04	42.00	30.61	4.08	44.53	30.50	4.11	47.05	32.48	4.16
	104	31.57	25.25	4.23	35.18	25.42	4.29	37.58	27.67	4.33	39.99	29.92	4.37	42.36	29.79	4.42	44.76	31.73	4.46
	115	22.26	19.82	3.44	24.80	19.93	3.50	26.49	21.70	3.53	28.18	23.48	3.57	29.86	23.37	3.61	31.58	24.91	3.64
	122	18.42	16.38	3.13	20.53	16.48	3.18	21.92	17.95	3.21	23.32	19.42	3.25	24.71	19.35	3.29	26.13	20.61	3.32

AFR	m^3/h	2,550

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	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
		kW			kW			kW			kW			kW			kW		
	-20.6	8.44	7.09	2.36	9.40	7.12	2.38	10.03	7.75	2.40	10.68	8.38	2.42	11.32	8.37	2.46	11.97	8.91	2.48
	-15.0	8.34	7.01	2.40	9.29	7.04	2.42	9.92	7.67	2.46	10.56	8.30	2.48	11.19	8.27	2.50	11.83	8.81	2.54
	-10.0	8.25	6.59	2.47	9.20	6.63	2.49	9.83	7.21	2.53	10.45	7.81	2.53	11.09	7.78	2.57	11.71	8.30	2.59
	0.0	8.08	6.39	2.53	9.00	6.43	2.57	9.62	7.00	2.59	10.24	7.57	2.63	10.85	7.53	2.65	11.46	8.04	2.69
	5.0	8.01	6.40	2.59	8.92	6.44	2.63	9.52	7.00	2.67	10.13	7.58	2.69	10.73	7.54	2.71	11.34	8.04	2.72
	10.0	7.92	6.42	2.65	8.82	6.46	2.68	9.42	7.03	2.72	10.02	7.60	2.74	10.63	7.57	2.78	11.23	8.06	2.79
	15.0	7.83	6.33	2.69	8.73	6.37	2.72	9.32	6.93	2.76	9.92	7.51	2.79	10.51	7.47	2.81	11.11	7.96	2.84
	19.4	11.19	8.78	3.08	12.45	8.81	3.11	13.31	9.61	3.15	14.15	10.40	3.18	15.01	10.36	3.21	15.86	11.03	3.23
	25.0	10.65	8.37	3.39	11.87	8.42	3.44	12.68	9.17	3.49	13.49	9.91	3.50	14.30	9.88	3.55	15.11	10.53	3.58
	30.0	10.19	7.82	3.67	11.35	7.86	3.72	12.13	8.56	3.76	12.90	9.25	3.79	13.68	9.22	3.83	14.45	9.82	3.87
	35.0	9.72	7.56	3.93	10.83	7.61	4.00	11.57	8.29	4.04	12.31	8.97	4.08	13.05	8.94	4.11	13.79	9.52	4.16
	40.0	9.25	7.40	4.23	10.31	7.45	4.29	11.01	8.11	4.33	11.72	8.77	4.37	12.41	8.73	4.42	13.12	9.30	4.46
	46.1	6.52	5.81	3.44	7.27	5.84	3.50	7.76	6.36	3.53	8.26	6.88	3.57	8.75	6.85	3.61	9.25	7.30	3.64
	50.0	5.40	4.80	3.13	6.02	4.83	3.18	6.42	5.26	3.21	6.83	5.69	3.25	7.24	5.67	3.29	7.66	6.04	3.32

DUCT ARUH12-48KUAS

■ Model: ARUH48KUAS

AFR	CFM	1,501

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	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
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	-5	30.61	25.69	2.42	34.11	25.83	2.46	36.42	28.15	2.49	38.76	30.44	2.50	41.07	30.33	2.53	43.38	32.31	2.56
	5	30.26	25.42	2.47	33.71	25.52	2.52	36.04	27.84	2.54	38.33	30.10	2.57	40.62	29.99	2.59	42.91	31.94	2.61
	14	29.96	23.92	2.53	33.38	24.06	2.58	35.67	26.21	2.61	37.94	28.35	2.62	40.23	28.25	2.66	42.50	30.10	2.69
	32	29.36	23.20	2.62	32.70	23.34	2.68	34.93	25.42	2.70	37.16	27.47	2.73	39.39	27.37	2.76	41.59	29.14	2.77
	41	29.07	23.24	2.69	32.38	23.37	2.73	34.58	25.45	2.76	36.77	27.50	2.79	38.97	27.40	2.81	41.20	29.21	2.85
	50	28.72	23.27	2.75	32.03	23.44	2.79	34.19	25.49	2.83	36.39	27.57	2.84	38.55	27.47	2.88	40.75	29.28	2.91
	59	28.43	23.00	2.79	31.66	23.10	2.83	33.83	25.18	2.87	36.00	27.23	2.90	38.17	27.13	2.92	40.30	28.90	2.95
	67	40.59	31.84	3.39	45.25	32.01	3.44	48.31	34.87	3.47	51.38	37.74	3.51	54.48	37.60	3.54	57.55	40.02	3.58
	77	39.02	30.68	3.81	43.50	30.85	3.86	46.47	33.61	3.91	49.45	36.34	3.93	52.38	36.20	3.98	55.36	38.56	4.02
	87	37.69	28.90	4.16	41.98	29.04	4.23	44.83	31.63	4.27	47.72	34.22	4.31	50.57	34.09	4.35	53.43	36.34	4.40
	95	36.32	28.25	4.53	40.47	28.42	4.60	43.22	30.98	4.65	46.00	33.51	4.69	48.74	33.37	4.74	51.52	35.55	4.79
	104	35.02	28.01	4.89	38.99	28.15	4.96	41.63	30.64	5.02	44.27	33.13	5.07	46.98	33.03	5.12	49.62	35.18	5.17
	115	23.96	21.33	3.74	26.69	21.43	3.81	28.51	23.34	3.84	30.32	25.22	3.87	32.16	25.15	3.92	33.97	26.79	3.95
	122	19.61	17.44	3.28	21.84	17.54	3.34	23.32	19.11	3.36	24.81	20.64	3.39	26.31	20.58	3.44	27.79	21.91	3.46

AFR	m^3/h	2,550

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	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
		kW			kW			kW			kW			kW			kW		
	-20.6	8.97	7.53	2.42	10.00	7.57	2.46	10.67	8.25	2.49	11.36	8.92	2.50	12.04	8.89	2.53	12.71	9.47	2.56
	-15.0	8.87	7.45	2.47	9.88	7.48	2.52	10.56	8.16	2.54	11.23	8.82	2.57	11.90	8.79	2.59	12.58	9.36	2.61
	-10.0	8.78	7.01	2.53	9.78	7.05	2.58	10.46	7.68	2.61	11.12	8.31	2.62	11.79	8.28	2.66	12.45	8.82	2.69
	0.0	8.60	6.80	2.62	9.58	6.84	2.68	10.24	7.45	2.70	10.89	8.05	2.73	11.54	8.02	2.76	12.19	8.54	2.77
	5.0	8.52	6.81	2.69	9.49	6.85	2.73	10.13	7.46	2.76	10.78	8.06	2.79	11.42	8.03	2.81	12.07	8.56	2.85
	10.0	8.42	6.82	2.75	9.39	6.87	2.79	10.02	7.47	2.83	10.66	8.08	2.84	11.30	8.05	2.88	11.94	8.58	2.91
	15.0	8.33	6.74	2.79	9.28	6.77	2.83	9.91	7.38	2.87	10.55	7.98	2.90	11.19	7.95	2.92	11.81	8.47	2.95
	19.4	11.90	9.33	3.39	13.26	9.38	3.44	14.16	10.22	3.47	15.06	11.06	3.51	15.97	11.02	3.54	16.87	11.73	3.58
	25.0	11.44	8.99	3.81	12.75	9.04	3.86	13.62	9.85	3.91	14.49	10.65	3.93	15.35	10.61	3.98	16.22	11.30	4.02
	30.0	11.04	8.47	4.16	12.30	8.51	4.23	13.14	9.27	4.27	13.99	10.03	4.31	14.82	9.99	4.35	15.66	10.65	4.40
	35.0	10.64	8.28	4.53	11.86	8.33	4.60	12.67	9.08	4.65	13.48	9.82	4.69	14.28	9.78	4.74	15.10	10.42	4.79
	40.0	10.26	8.21	4.89	11.43	8.25	4.96	12.20	8.98	5.02	12.97	9.71	5.07	13.77	9.68	5.12	14.54	10.31	5.17
	46.1	7.02	6.25	3.74	7.82	6.28	3.81	8.35	6.84	3.84	8.88	7.39	3.87	9.42	7.37	3.92	9.95	7.85	3.95
	50.0	5.75	5.11	3.28	6.40	5.14	3.34	6.84	5.60	3.36	7.27	6.05	3.39	7.71	6.03	3.44	8.15	6.42	3.46

DUCT
ARUH12-48KUAS

4-2. Heating capacity

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

■ Model: ARUH12KUAS

AFR	CFM	500

			Indoor temperature									
		°FDB	60		65		70		72		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
Outdoor temperature	-5	-7	14.66	2.11	14.31	2.16	13.96	2.20	13.63	2.24	13.26	2.29
	5	3	16.25	2.16	15.89	2.21	15.50	2.25	14.87	2.29	14.70	2.34
	14	12	17.68	2.10	17.28	2.14	16.86	2.18	16.34	2.22	16.00	2.26
	17	15	18.21	2.03	17.79	2.08	17.30	2.12	16.90	2.16	16.49	2.21
	23	19	19.14	1.92	18.70	1.96	18.22	2.00	17.77	2.04	17.33	2.09
	32	28	19.45	1.87	19.01	1.91	18.53	1.95	18.08	1.99	17.61	2.04
	41	37	19.79	1.82	19.31	1.86	18.84	1.89	18.36	1.93	17.88	1.97
	47	43	20.40	1.77	19.93	1.80	19.40	1.84	18.96	1.87	18.46	1.91
	50	47	22.52	1.76	21.97	1.80	21.43	1.83	20.90	1.86	20.37	1.89
	59	50	23.34	1.55	22.79	1.59	22.25	1.62	21.70	1.65	21.12	1.68

AFR	m^3/h	850

			Indoor temperature									
		°CDB	15.6		18.3		21.1		22.0		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	-20.6	-21.7	4.30	2.11	4.19	2.16	4.09	2.20	4.00	2.24	3.89	2.29
	-15.0	-16.1	4.76	2.16	4.66	2.21	4.54	2.25	4.36	2.29	4.31	2.34
	-10.0	-11.1	5.18	2.10	5.07	2.14	4.94	2.18	4.79	2.22	4.69	2.26
	-8.3	-9.4	5.34	2.03	5.21	2.08	5.08	2.12	4.95	2.16	4.83	2.21
	-5.0	-7.2	5.61	1.92	5.48	1.96	5.34	2.00	5.21	2.04	5.08	2.09
	0.0	-2.2	5.70	1.87	5.57	1.91	5.43	1.95	5.30	1.99	5.16	2.04
	5.0	2.8	5.80	1.82	5.66	1.86	5.52	1.89	5.38	1.93	5.24	1.97
	8.3	6.1	5.98	1.77	5.84	1.80	5.70	1.84	5.56	1.87	5.41	1.91
	10.0	8.3	6.60	1.76	6.44	1.80	6.28	1.83	6.13	1.86	5.97	1.89
	15.0	10.0	6.84	1.55	6.68	1.59	6.52	1.62	6.36	1.65	6.19	1.68

■ Model: ARUH18KUAS

AFR	CFM	618

			Indoor temperature									
		°FDB	60		65		70		72		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
Outdoor temperature	-5	-7	15.13	2.07	14.76	2.11	14.40	2.16	14.06	2.20	13.69	2.24
	5	3	17.64	2.22	17.22	2.27	17.10	2.32	16.40	2.36	15.97	2.41
	14	12	19.62	2.31	19.15	2.36	18.80	2.41	18.22	2.46	17.75	2.50
	17	15	20.27	2.34	19.79	2.39	19.30	2.44	18.82	2.49	18.34	2.54
	23	19	21.62	2.41	21.09	2.46	20.57	2.50	20.05	2.56	19.56	2.61
	32	28	23.58	2.49	23.02	2.55	22.46	2.60	21.90	2.65	21.34	2.70
	41	37	25.20	2.57	24.60	2.63	24.00	2.69	23.40	2.74	22.80	2.80
	47	43	25.20	2.65	24.60	2.70	24.00	2.75	23.40	2.81	22.80	2.86
	50	47	25.20	2.60	24.60	2.66	24.00	2.71	23.40	2.77	22.80	2.82
	59	50	24.82	2.00	24.23	2.03	23.63	2.08	23.06	2.12	22.47	2.15

AFR	m^3/h	1,050

			Indoor temperature									
		°CDB	15.6		18.3		21.1		22.0		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	-20.6	-21.7	4.43	2.07	4.33	2.11	4.22	2.16	4.12	2.20	4.01	2.24
	-15.0	-16.1	5.17	2.22	5.05	2.27	5.01	2.32	4.81	2.36	4.68	2.41
	-10.0	-11.1	5.75	2.31	5.61	2.36	5.51	2.41	5.34	2.46	5.20	2.50
	-8.3	-9.4	5.94	2.34	5.80	2.39	5.66	2.44	5.52	2.49	5.37	2.54
	-5.0	-7.2	6.34	2.41	6.18	2.46	6.03	2.50	5.88	2.56	5.73	2.61
	0.0	-2.2	6.91	2.49	6.75	2.55	6.58	2.60	6.42	2.65	6.26	2.70
	5.0	2.8	7.39	2.57	7.21	2.63	7.03	2.69	6.86	2.74	6.68	2.80
	8.3	6.1	7.39	2.65	7.21	2.70	7.03	2.75	6.86	2.81	6.68	2.86
	10.0	8.3	7.39	2.60	7.21	2.66	7.03	2.71	6.86	2.77	6.68	2.82
	15.0	10.0	7.27	2.00	7.10	2.03	6.93	2.08	6.76	2.12	6.58	2.15

DUCT
ARUH12-48KUAS

■ Model: ARUH24KUAS

AFR	CFM	800

		Indoor temperature									
		°FDB	60		65		70		72		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
Outdoor temperature	-5	-7	22.05	3.21	21.53	3.28	21.00	3.40	20.47	3.41	19.95	3.49
	5	3	24.79	3.26	24.20	3.33	23.60	3.40	23.01	3.46	22.42	3.54
	14	12	26.67	3.19	26.04	3.25	25.41	3.32	24.77	3.39	24.11	3.45
	17	15	27.30	3.17	26.65	3.23	26.00	3.29	25.36	3.36	24.68	3.43
	23	19	28.57	3.12	27.88	3.18	27.21	3.24	26.51	3.31	25.85	3.37
	32	28	30.47	3.03	29.74	3.10	29.01	3.16	28.28	3.22	27.55	3.28
	41	37	32.36	2.95	31.60	3.03	30.81	3.08	30.05	3.15	29.27	3.20
	47	43	33.62	2.91	32.81	2.96	32.00	3.03	31.20	3.08	30.42	3.15
	50	47	34.45	2.92	33.65	2.98	32.82	3.03	32.00	3.09	31.17	3.17
	59	50	34.76	2.80	33.94	2.88	33.09	2.93	32.27	2.99	31.44	3.03

AFR	m^3/h	1,360

		Indoor temperature									
		°CDB	15.6		18.3		21.1		22.0		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	-20.6	-21.7	6.46	3.21	6.31	3.28	6.15	3.40	6.00	3.41	5.85	3.49
	-15.0	-16.1	7.27	3.26	7.09	3.33	6.92	3.40	6.74	3.46	6.57	3.54
	-10.0	-11.1	7.82	3.19	7.63	3.25	7.45	3.32	7.26	3.39	7.07	3.45
	-8.3	-9.4	8.00	3.17	7.81	3.23	7.62	3.29	7.43	3.36	7.23	3.43
	-5.0	-7.2	8.37	3.12	8.17	3.18	7.97	3.24	7.77	3.31	7.58	3.37
	0.0	-2.2	8.93	3.03	8.72	3.10	8.50	3.16	8.29	3.22	8.08	3.28
	5.0	2.8	9.48	2.95	9.26	3.03	9.03	3.08	8.81	3.15	8.58	3.20
	8.3	6.1	9.85	2.91	9.62	2.96	9.38	3.03	9.14	3.08	8.91	3.15
	10.0	8.3	10.10	2.92	9.86	2.98	9.62	3.03	9.38	3.09	9.13	3.17
	15.0	10.0	10.19	2.80	9.95	2.88	9.70	2.93	9.46	2.99	9.22	3.03

■ Model: ARUH30KUAS

AFR	CFM	1,001

		Indoor temperature									
		°FDB	60		65		70		72		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
Outdoor temperature	-5	-7	25.21	3.72	24.60	3.80	24.00	3.88	23.43	3.96	22.82	4.03
	5	3	29.41	3.86	28.71	3.94	28.00	4.02	27.33	4.10	26.63	4.18
	14	12	31.66	3.82	30.90	3.90	30.15	3.97	29.39	4.05	28.64	4.13
	17	15	32.43	3.81	31.66	3.88	30.90	3.96	30.13	4.04	29.33	4.11
	23	19	33.93	3.77	33.11	3.85	32.29	3.93	31.48	4.01	30.70	4.08
	32	28	36.16	3.73	35.30	3.81	34.44	3.88	33.58	3.96	32.73	4.04
	41	37	38.43	3.69	37.51	3.76	36.59	3.84	35.70	3.92	34.77	3.98
	47	43	39.90	3.66	38.95	3.73	38.00	3.81	37.05	3.89	36.10	3.96
	50	47	40.66	3.61	39.69	3.69	38.72	3.77	37.74	3.84	36.77	3.91
	59	50	37.81	3.00	36.90	3.06	36.00	3.12	35.13	3.18	34.22	3.23

AFR	m^3/h	1,700

		Indoor temperature									
		°CDB	15.6		18.3		21.1		22.0		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	-20.6	-21.7	7.39	3.72	7.21	3.80	7.03	3.88	6.87	3.96	6.69	4.03
	-15.0	-16.1	8.62	3.86	8.41	3.94	8.21	4.02	8.01	4.10	7.80	4.18
	-10.0	-11.1	9.28	3.82	9.06	3.90	8.84	3.97	8.61	4.05	8.39	4.13
	-8.3	-9.4	9.50	3.81	9.28	3.88	9.05	3.96	8.83	4.04	8.60	4.11
	-5.0	-7.2	9.94	3.77	9.70	3.85	9.46	3.93	9.23	4.01	9.00	4.08
	0.0	-2.2	10.60	3.73	10.35	3.81	10.09	3.88	9.84	3.96	9.59	4.04
	5.0	2.8	11.26	3.69	10.99	3.76	10.72	3.84	10.46	3.92	10.19	3.98
	8.3	6.1	11.69	3.66	11.42	3.73	11.14	3.81	10.86	3.89	10.58	3.96
	10.0	8.3	11.92	3.61	11.63	3.69	11.35	3.77	11.06	3.84	10.78	3.91
	15.0	10.0	11.08	3.00	10.82	3.06	10.55	3.12	10.30	3.18	10.03	3.23

DUCT ARUH12-48KUAS

■ Model: ARUH36KUAS

AFR	CFM	1,207

			Indoor temperature									
		°FDB	60		65		70		72		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
Outdoor temperature	-5	-7	28.35	3.87	27.68	3.95	27.00	4.06	26.32	4.10	25.65	4.19
	5	3	32.56	4.19	31.78	4.28	31.00	4.37	30.23	4.45	29.45	4.55
	14	12	35.25	4.15	34.41	4.23	33.58	4.32	32.74	4.40	31.87	4.49
	17	15	36.22	4.13	35.36	4.21	34.50	4.30	33.64	4.38	32.74	4.47
	23	19	37.96	4.10	37.04	4.18	36.15	4.26	35.23	4.35	34.34	4.44
	32	28	40.67	4.04	39.70	4.12	38.73	4.21	37.75	4.29	36.78	4.37
	41	37	43.37	3.98	42.35	4.08	41.30	4.16	40.28	4.24	39.23	4.32
	47	43	45.16	3.95	44.08	4.02	43.00	4.12	41.91	4.19	40.87	4.28
	50	47	46.40	3.97	45.32	4.05	44.20	4.13	43.09	4.21	41.98	4.31
	59	50	40.75	2.97	39.78	3.04	38.79	3.10	37.82	3.16	36.86	3.21

AFR	m^3/h	2,050

			Indoor temperature									
		°CDB	15.6		18.3		21.1		22.0		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	-20.6	-21.7	8.31	3.87	8.11	3.95	7.91	4.06	7.71	4.10	7.52	4.19
	-15.0	-16.1	9.54	4.19	9.31	4.28	9.09	4.37	8.86	4.45	8.63	4.55
	-10.0	-11.1	10.33	4.15	10.09	4.23	9.84	4.32	9.60	4.40	9.34	4.49
	-8.3	-9.4	10.61	4.13	10.36	4.21	10.11	4.30	9.86	4.38	9.60	4.47
	-5.0	-7.2	11.13	4.10	10.86	4.18	10.60	4.26	10.32	4.35	10.06	4.44
	0.0	-2.2	11.92	4.04	11.64	4.12	11.35	4.21	11.06	4.29	10.78	4.37
	5.0	2.8	12.71	3.98	12.41	4.08	12.10	4.16	11.81	4.24	11.50	4.32
	8.3	6.1	13.24	3.95	12.92	4.02	12.60	4.12	12.28	4.19	11.98	4.28
	10.0	8.3	13.60	3.97	13.28	4.05	12.96	4.13	12.63	4.21	12.30	4.31
	15.0	10.0	11.94	2.97	11.66	3.04	11.37	3.10	11.08	3.16	10.80	3.21

■ Model: ARUH42KUAS

AFR	CFM	1,501

			Indoor temperature									
		°FDB	60		65		70		72		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
Outdoor temperature	-5	-7	35.96	4.78	35.08	4.83	34.23	4.86	33.35	4.91	32.55	4.97
	5	3	38.81	4.78	37.86	4.83	37.00	4.86	36.04	4.91	35.13	4.97
	14	12	41.99	4.78	40.98	4.83	40.00	4.86	38.98	4.91	38.00	4.97
	17	15	43.07	4.78	42.04	4.83	41.00	4.86	40.00	4.91	38.97	4.97
	23	19	45.17	4.78	44.12	4.83	43.01	4.86	41.96	4.91	40.91	4.97
	32	28	48.31	4.78	47.16	4.83	46.02	4.86	44.84	4.91	43.69	4.97
	41	37	51.49	4.66	50.27	4.71	49.03	4.73	47.81	4.79	46.59	4.84
	47	43	53.54	4.57	52.31	4.62	51.00	4.65	49.75	4.70	48.45	4.75
	50	47	54.61	4.45	53.32	4.50	52.03	4.53	50.70	4.58	49.41	4.63
	59	50	57.81	4.11	56.44	4.15	55.03	4.17	53.65	4.22	52.31	4.27

AFR	m^3/h	2,550

			Indoor temperature									
		°CDB	15.6		18.3		21.1		22.0		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	-20.6	-21.7	10.54	4.78	10.28	4.83	10.03	4.86	9.78	4.91	9.54	4.97
	-15.0	-16.1	11.37	4.78	11.10	4.83	10.84	4.86	10.56	4.91	10.30	4.97
	-10.0	-11.1	12.31	4.78	12.01	4.83	11.72	4.86	11.42	4.91	11.14	4.97
	-8.3	-9.4	12.62	4.78	12.32	4.83	12.02	4.86	11.72	4.91	11.42	4.97
	-5.0	-7.2	13.24	4.78	12.93	4.83	12.60	4.86	12.30	4.91	11.99	4.97
	0.0	-2.2	14.16	4.78	13.82	4.83	13.49	4.86	13.14	4.91	12.80	4.97
	5.0	2.8	15.09	4.66	14.73	4.71	14.37	4.73	14.01	4.79	13.66	4.84
	8.3	6.1	15.69	4.57	15.33	4.62	14.95	4.65	14.58	4.70	14.20	4.75
	10.0	8.3	16.01	4.45	15.63	4.50	15.25	4.53	14.86	4.58	14.48	4.63
	15.0	10.0	16.94	4.11	16.54	4.15	16.13	4.17	15.72	4.22	15.33	4.27

DUCT
ARUH12-48KUAS

■ Model: ARUH48KUAS

AFR	CFM	1,501

			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	-7	37.40	5.02	36.50	5.07	35.62	5.10	34.71	5.16	33.84	5.21
	5	3	40.38	5.02	39.43	5.07	38.50	5.10	37.51	5.16	36.56	5.21
	14	12	44.14	5.02	43.09	5.07	42.03	5.10	40.98	5.16	39.93	5.21
	17	15	45.39	5.02	44.31	5.07	43.20	5.10	42.13	5.16	41.06	5.21
	23	19	47.88	5.02	46.73	5.07	45.58	5.10	44.46	5.16	43.31	5.21
	32	28	51.56	5.02	50.34	5.07	49.12	5.10	47.87	5.16	46.68	5.21
	41	37	55.33	4.92	53.98	4.98	52.66	5.00	51.35	5.06	50.03	5.11
	47	43	57.77	4.86	56.37	4.91	55.00	4.94	53.64	4.99	52.24	5.05
	50	47	58.51	4.72	57.10	4.77	55.71	4.80	54.30	4.85	52.92	4.91
	59	50	60.71	4.32	59.24	4.37	57.80	4.39	56.37	4.44	54.90	4.49

AFR	m^3/h	2,550

			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	
	-20.6	-21.7	10.96	5.02	10.70	5.07	10.44	5.10	10.17	5.16	9.92	5.21
	-15.0	-16.1	11.83	5.02	11.56	5.07	11.28	5.10	10.99	5.16	10.71	5.21
	-10.0	-11.1	12.94	5.02	12.63	5.07	12.32	5.10	12.01	5.16	11.70	5.21
	-8.3	-9.4	13.30	5.02	12.99	5.07	12.67	5.10	12.35	5.16	12.03	5.21
	-5.0	-7.2	14.03	5.02	13.70	5.07	13.36	5.10	13.03	5.16	12.69	5.21
	0.0	-2.2	15.11	5.02	14.75	5.07	14.40	5.10	14.03	5.16	13.68	5.21
	5.0	2.8	16.22	4.92	15.82	4.98	15.43	5.00	15.05	5.06	14.66	5.11
	8.3	6.1	16.93	4.86	16.52	4.91	16.12	4.94	15.72	4.99	15.31	5.05
	10.0	8.3	17.15	4.72	16.73	4.77	16.33	4.80	15.91	4.85	15.51	4.91
	15.0	10.0	17.79	4.32	17.36	4.37	16.94	4.39	16.52	4.44	16.09	4.49

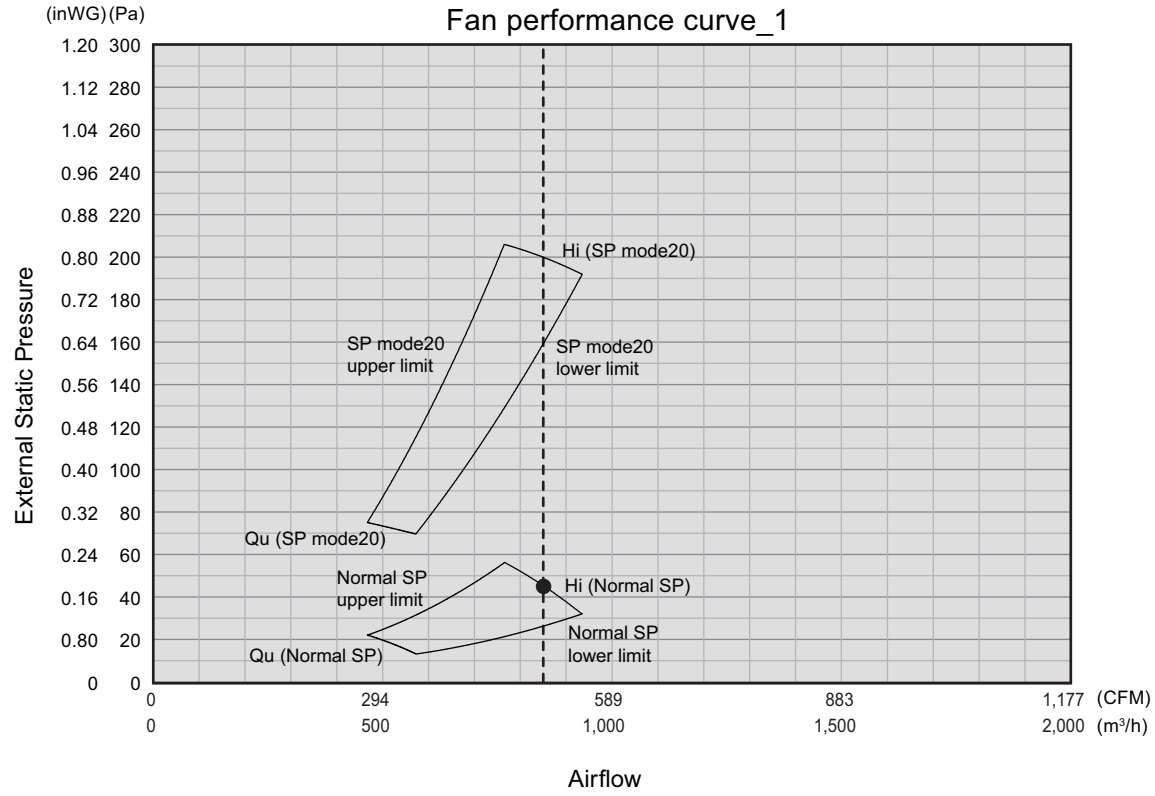
DUCT ARUH12-48KUAS

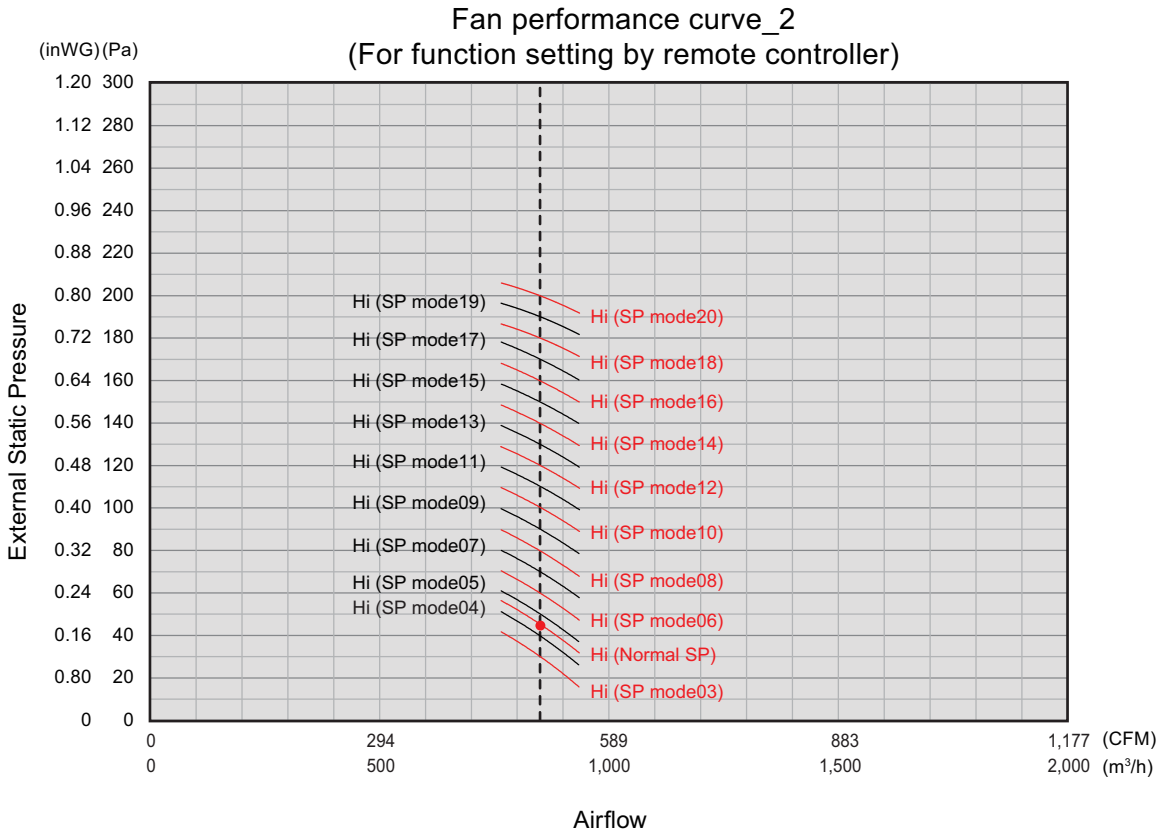
5. Fan performance

NOTE: Airflow and capacity/outlet temperature curve data are measured based on the same conditions mentioned in "Specifications".

5-1. Fan performance curve

■ Model: ARUH12KUAS





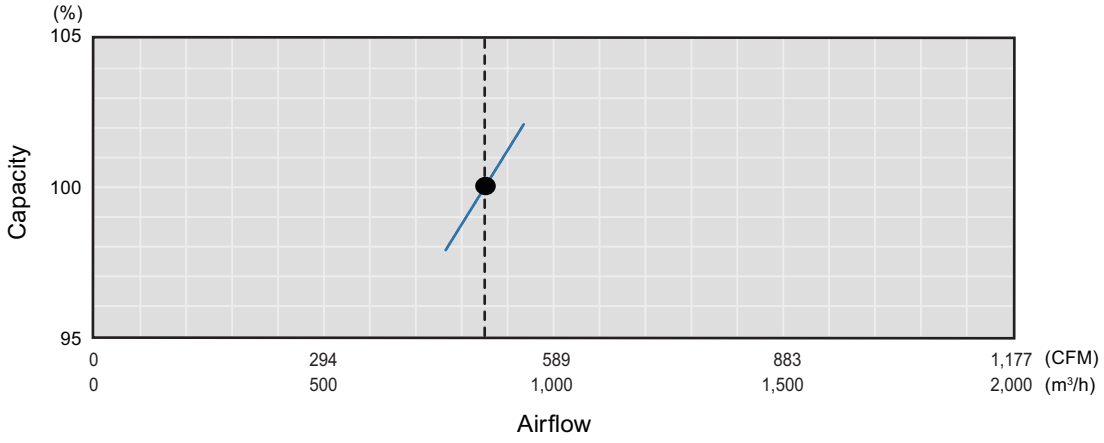
DUCT
ARUH12-48KUAS

NOTES:

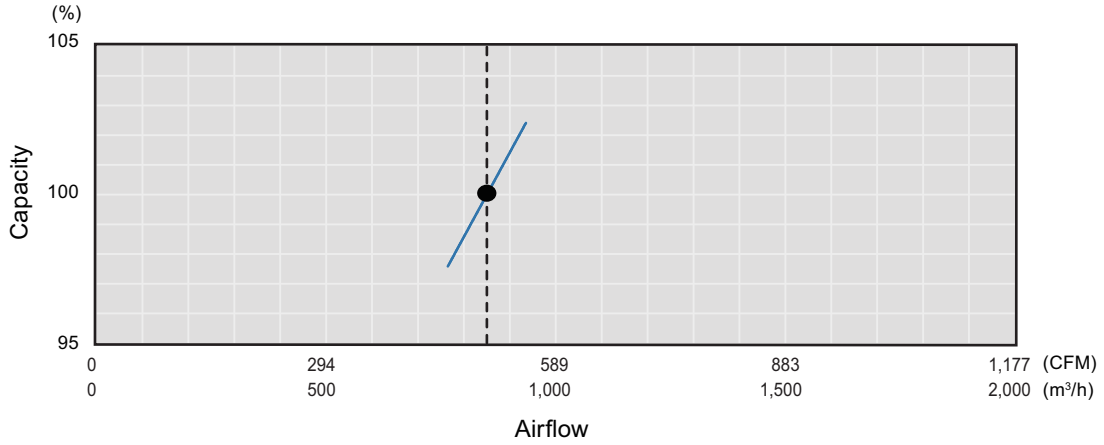
- Setting of the external static pressure is switchable into modes by using the remote controller.
- According to the resistance of the connecting duct, perform the setting of the external static pressure with referring “Fan performance curve_2” above.
- The default setting is set at "Normal SP".

● Characteristics of air volume and capacity

- **Cooling**

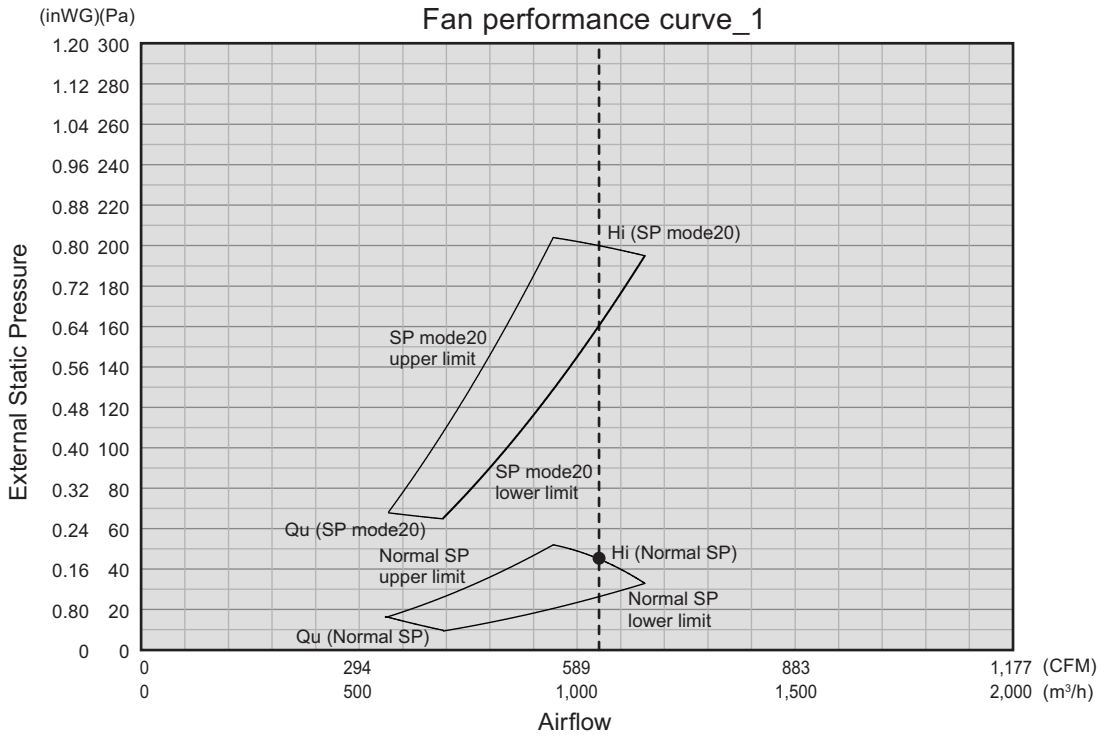


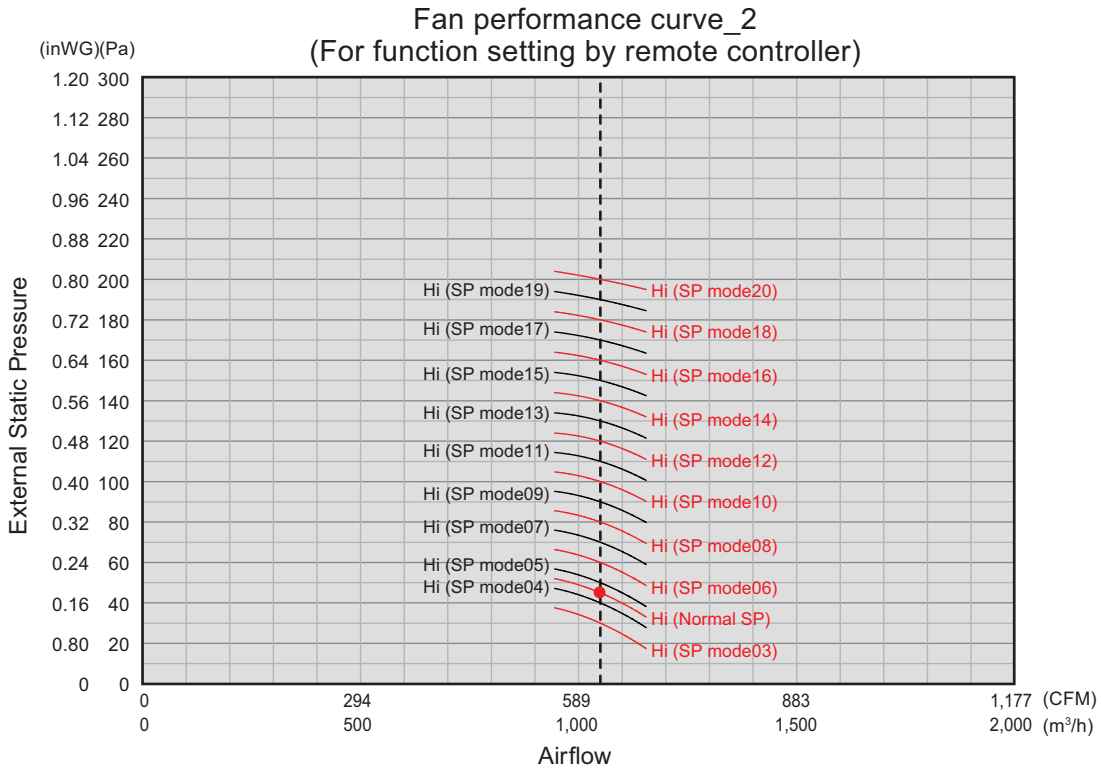
- **Heating**



DUCT
ARUH12-48KUAS

■ Model: ARUH18KUAS





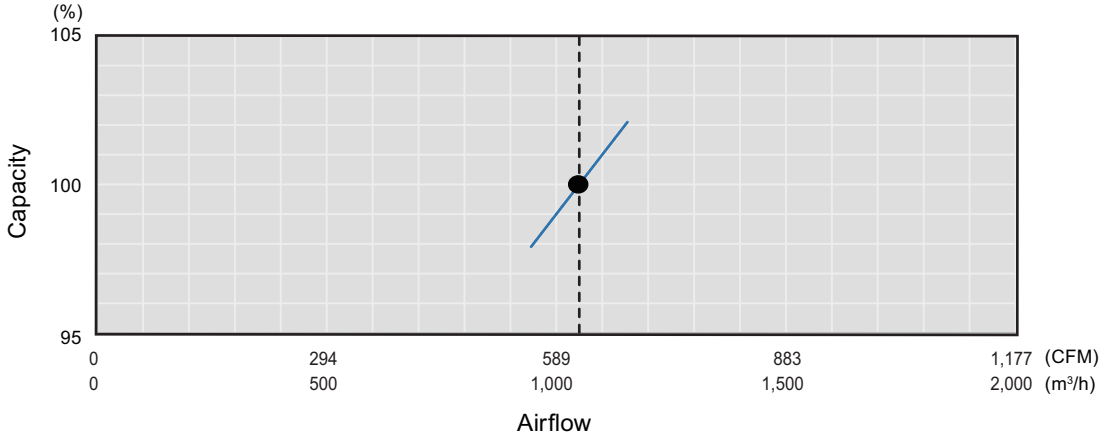
NOTES:

- Setting of the external static pressure is switchable into modes by using the remote controller.
- According to the resistance of the connecting duct, perform the setting of the external static pressure with referring “Fan performance curve_2” above.
- The default setting is set at "Normal SP".

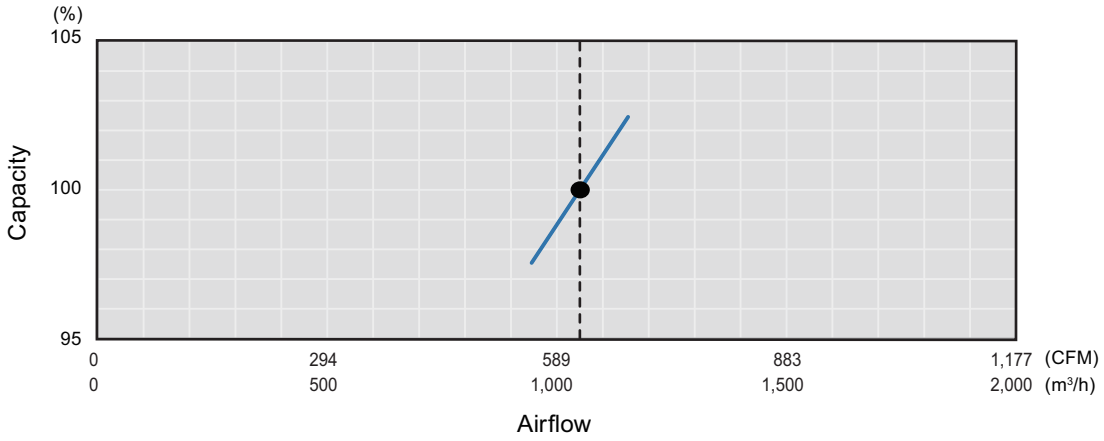
DUCT
ARUH12-48KUAS

● Characteristics of air volume and capacity

- **Cooling**

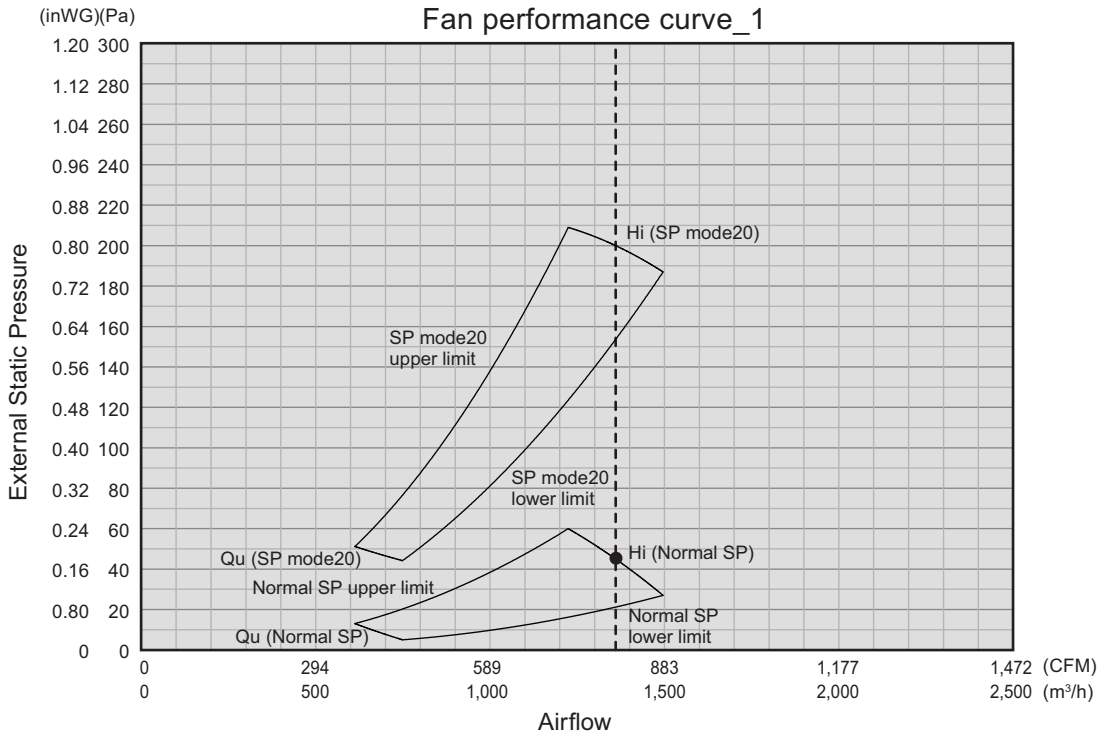


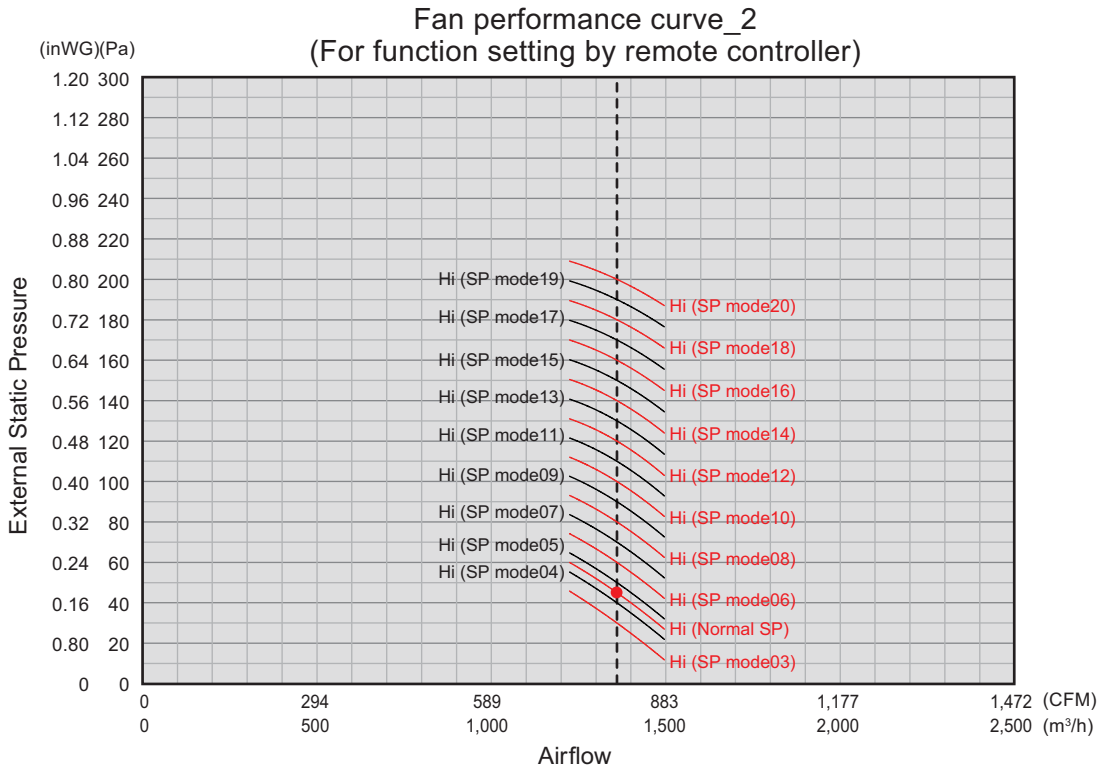
- **Heating**



DUCT
ARUH12-48KUAS

■ Model: ARUH24KUAS





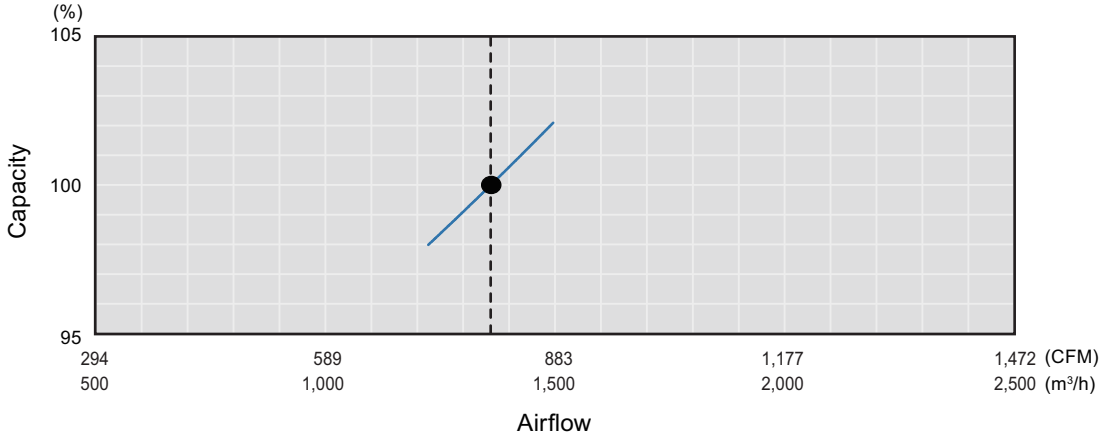
NOTES:

- Setting of the external static pressure is switchable into modes by using the remote controller.
- According to the resistance of the connecting duct, perform the setting of the external static pressure with referring “Fan performance curve_2” above.
- The default setting is set at "Normal SP".

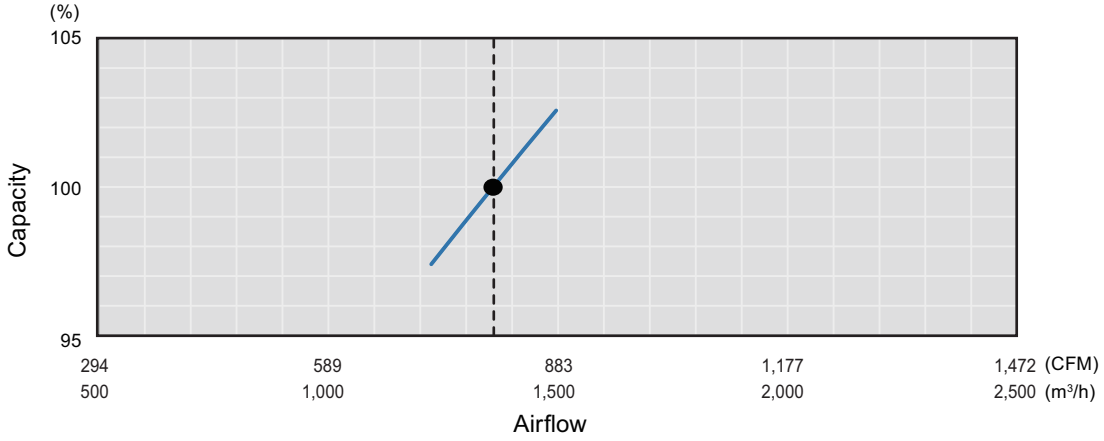
DUCT
ARUH12-48KUAS

● Characteristics of air volume and capacity

- **Cooling**

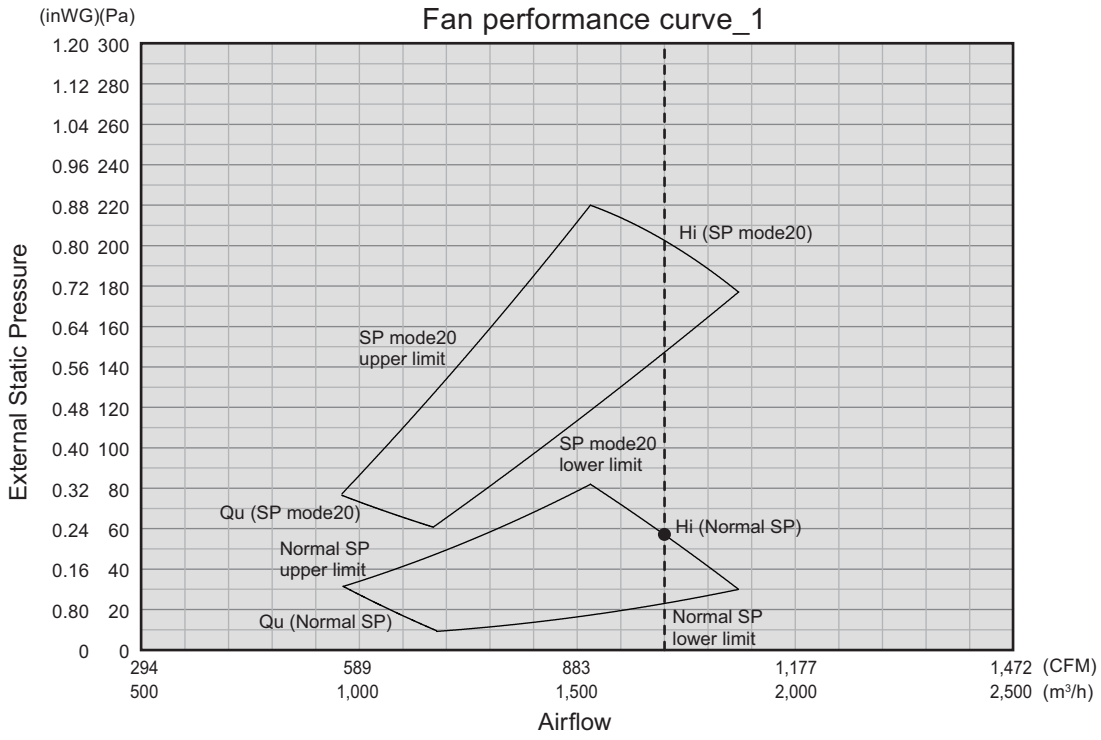


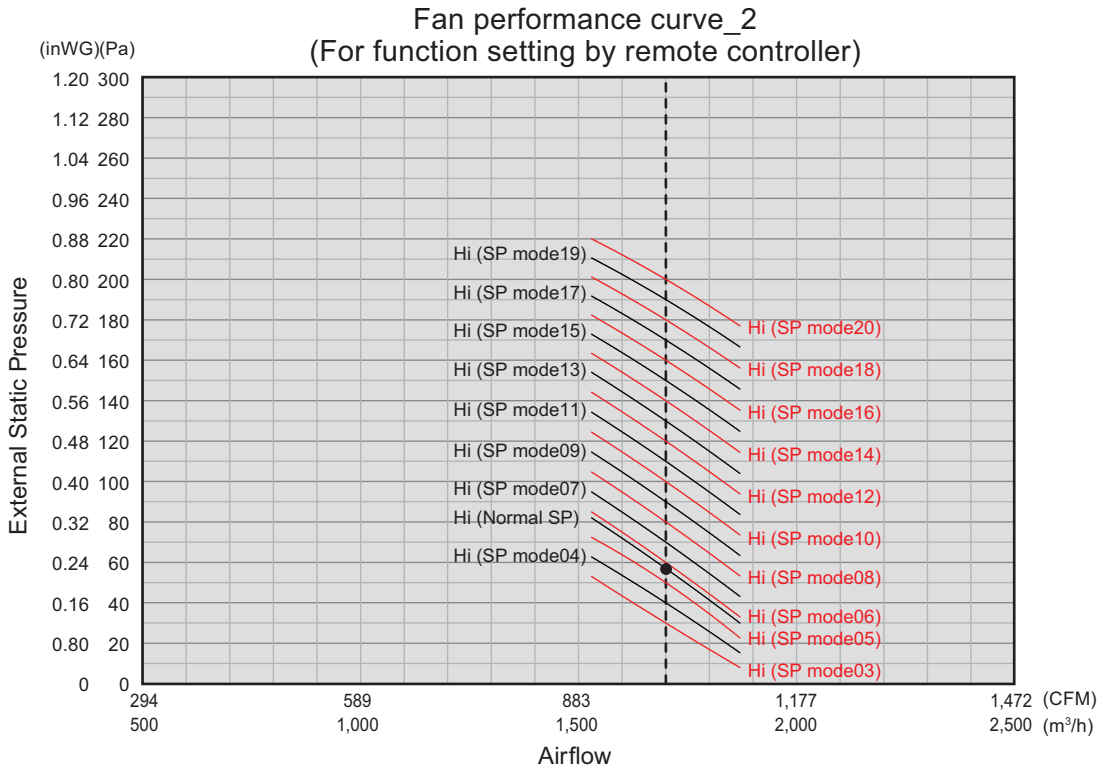
- **Heating**



DUCT
ARUH12-48KUAS

■ Model: ARUH30KUAS





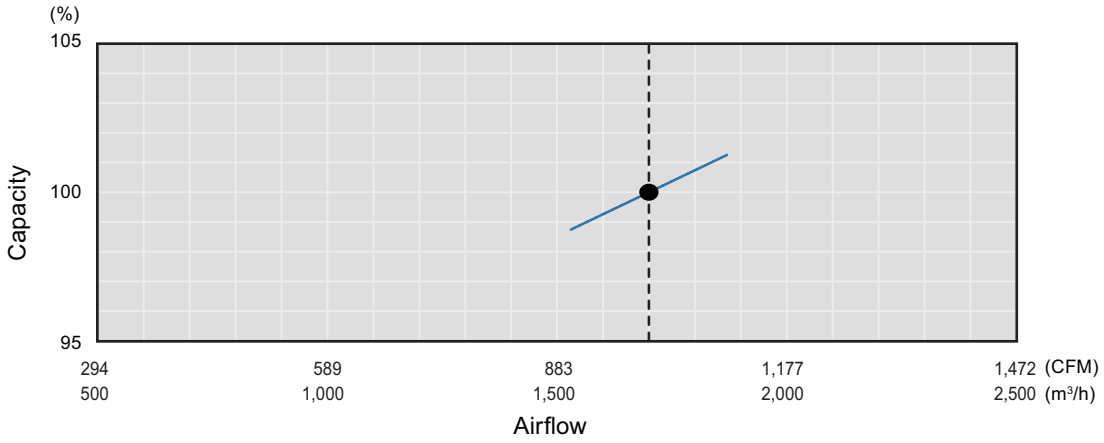
NOTES:

- Setting of the external static pressure is switchable into modes by using the remote controller.
- According to the resistance of the connecting duct, perform the setting of the external static pressure with referring “Fan performance curve_2” above.
- The default setting is set at "Normal SP".

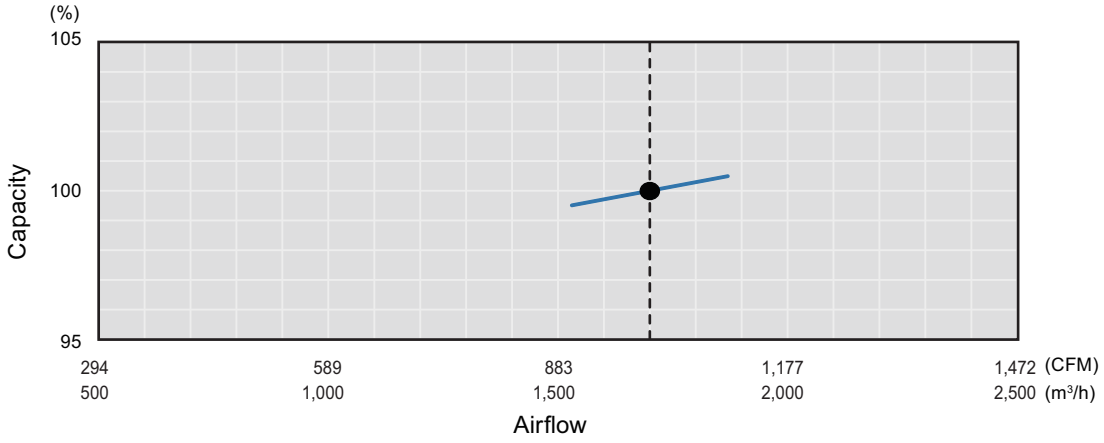
DUCT
ARUH12-48KUAS

● Characteristics of air volume and capacity

- **Cooling**

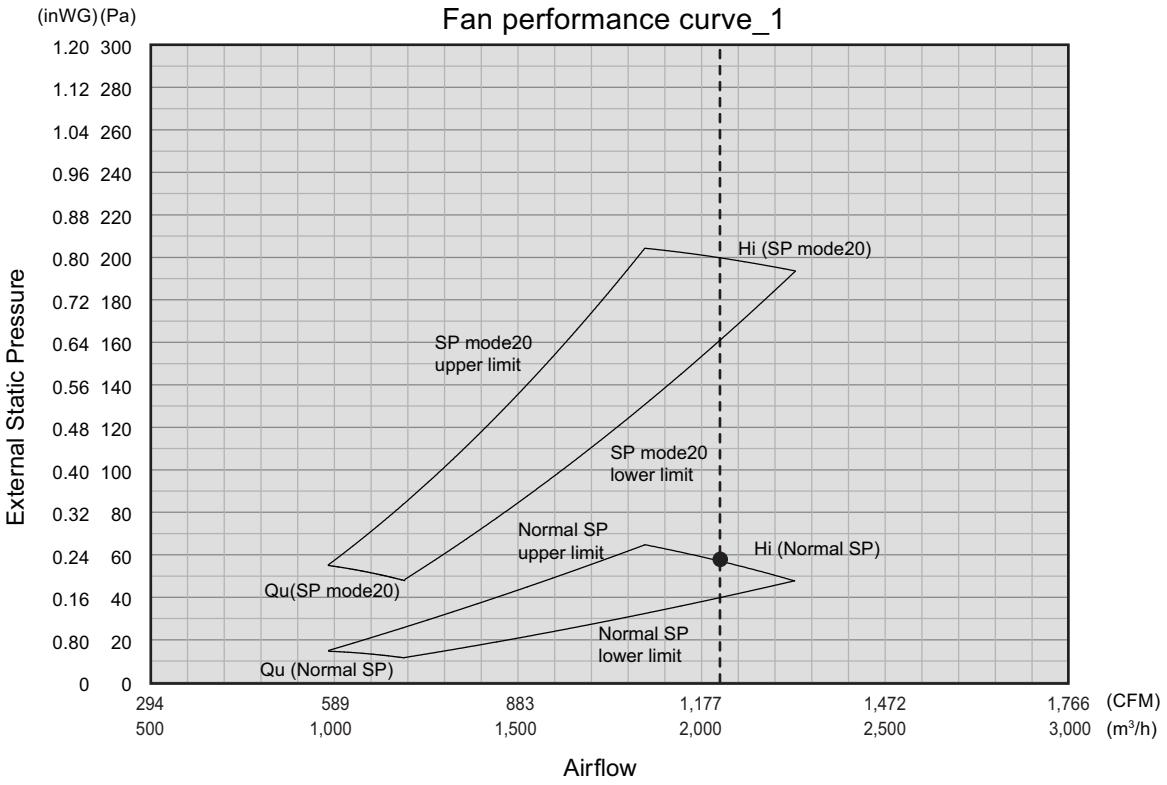


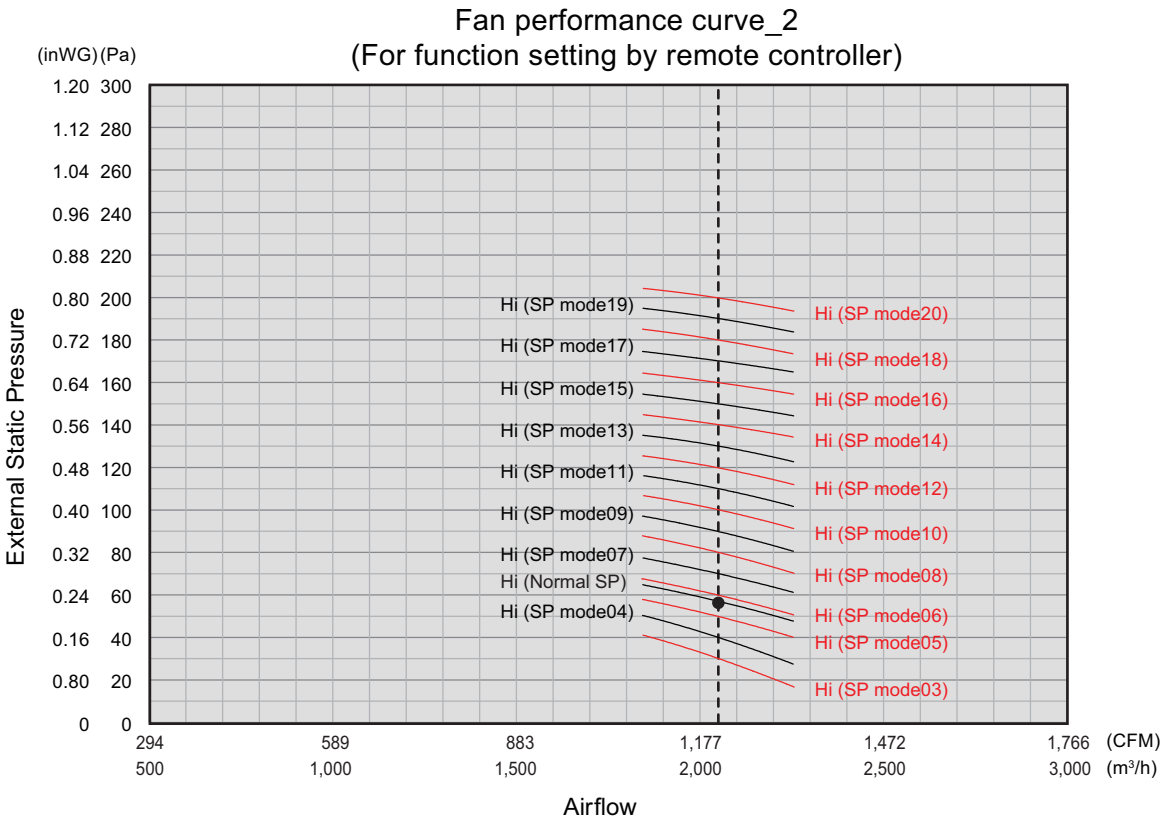
- **Heating**



DUCT
ARUH12-48KUAS

■ Model: ARUH36KUAS





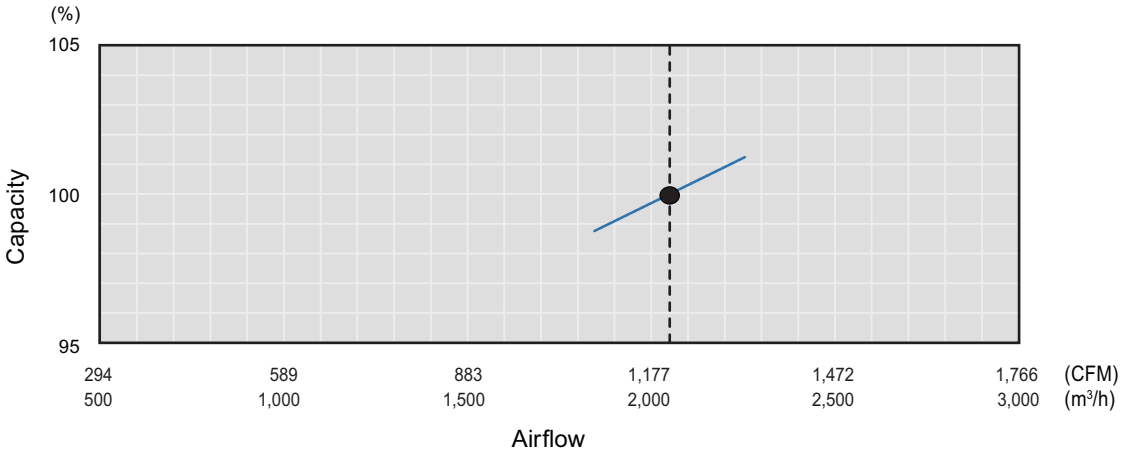
NOTES:

- Setting of the external static pressure is switchable into modes by using the remote controller.
- According to the resistance of the connecting duct, perform the setting of the external static pressure with referring “Fan performance curve_2” above.
- The default setting is set at "Normal SP".

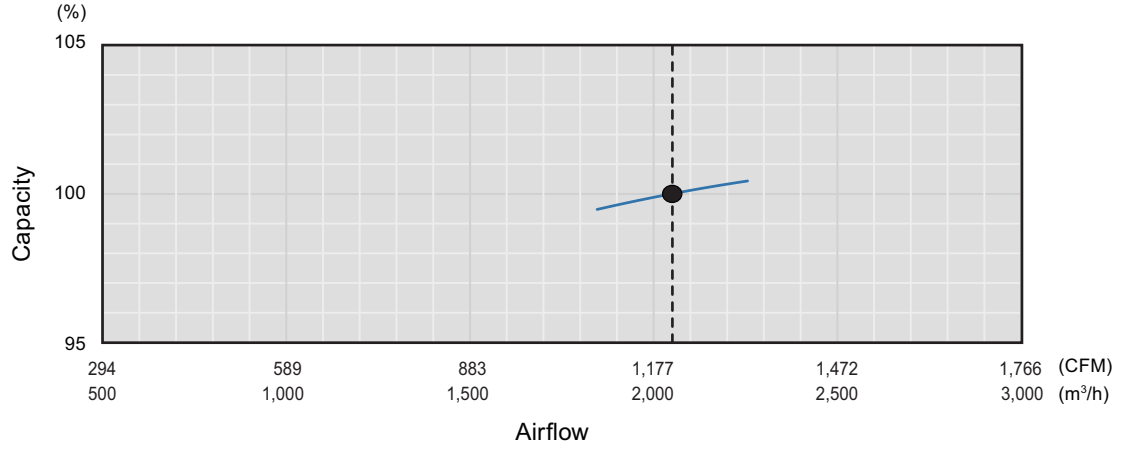
DUCT
ARUH12-48KUAS

● Characteristics of air volume and capacity

- **Cooling**



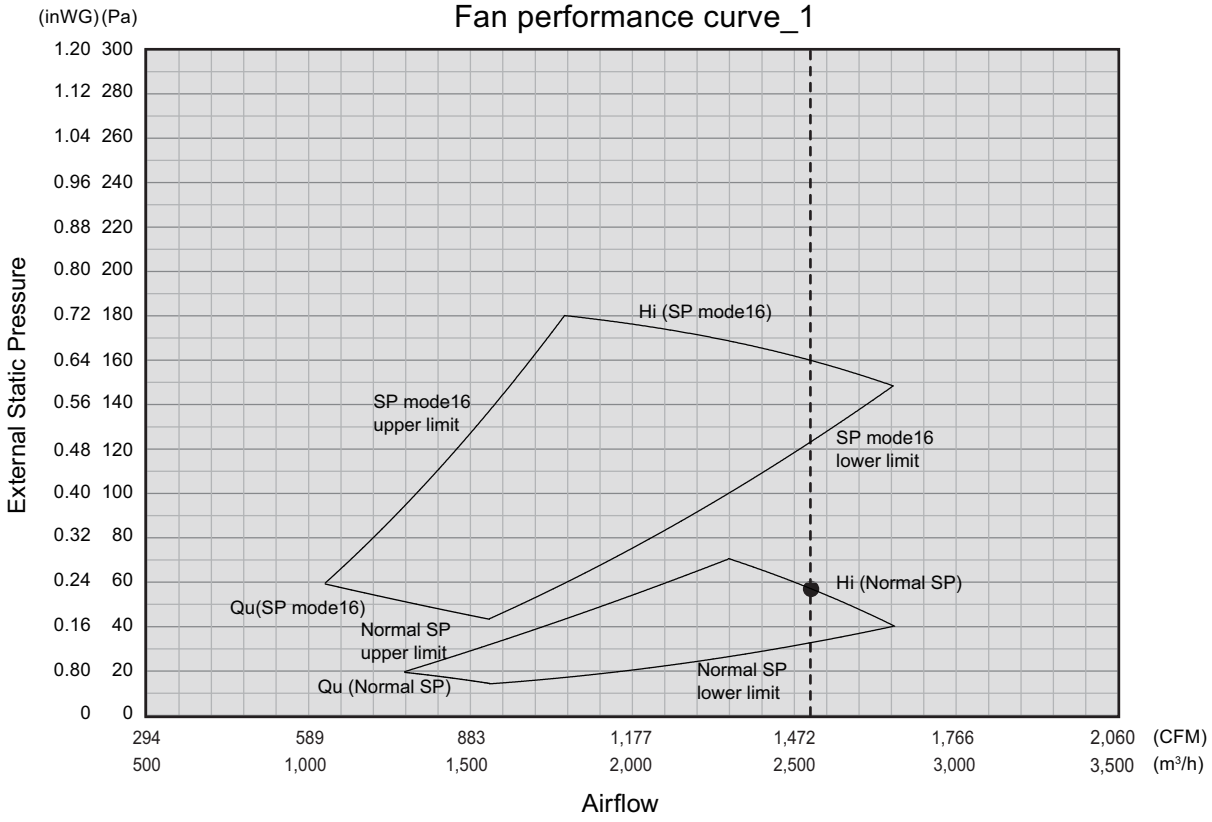
- **Heating**



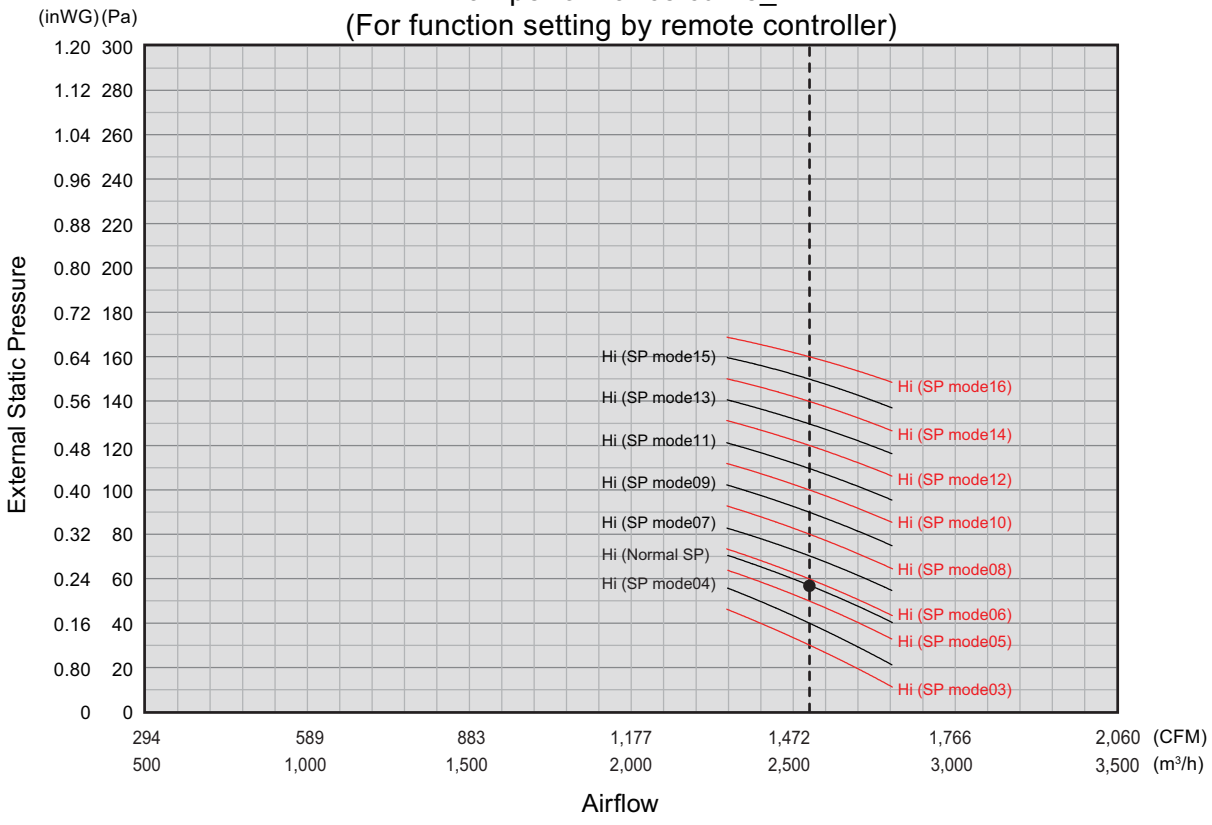
DUCT
ARUH12-48KUAS

■ Model: ARUH42KUAS

Fan performance curve_1



Fan performance curve_2
(For function setting by remote controller)



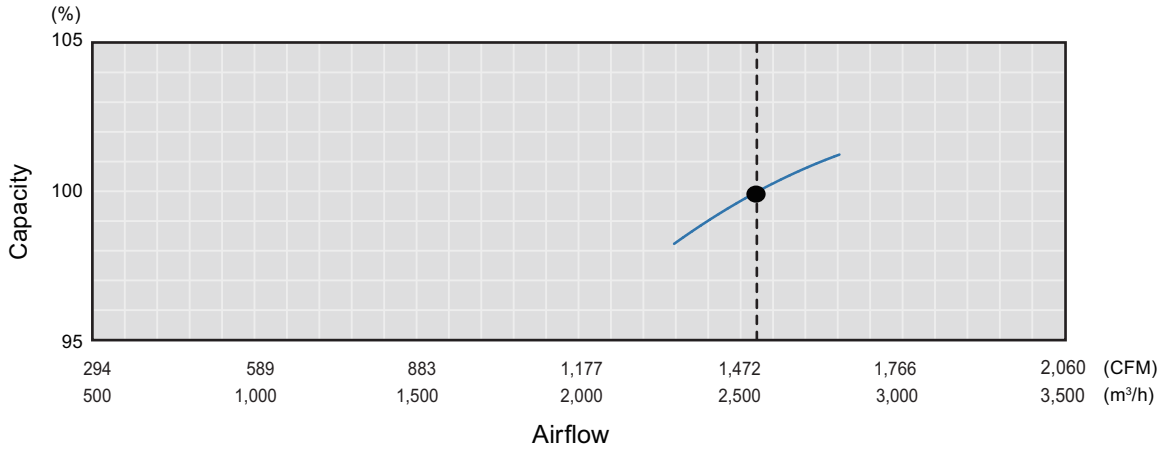
NOTES:

- Setting of the external static pressure is switchable into modes by using the remote controller.
- According to the resistance of the connecting duct, perform the setting of the external static pressure with referring “Fan performance curve_2” above.
- The default setting is set at "Normal SP".

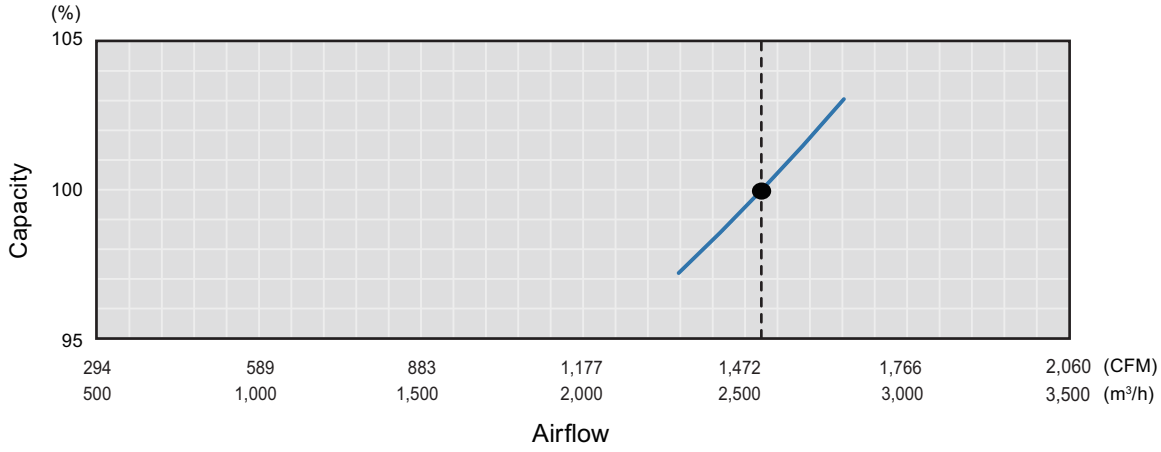
DUCT
ARUH12-48KUAS

● Characteristics of air volume and capacity

- **Cooling**

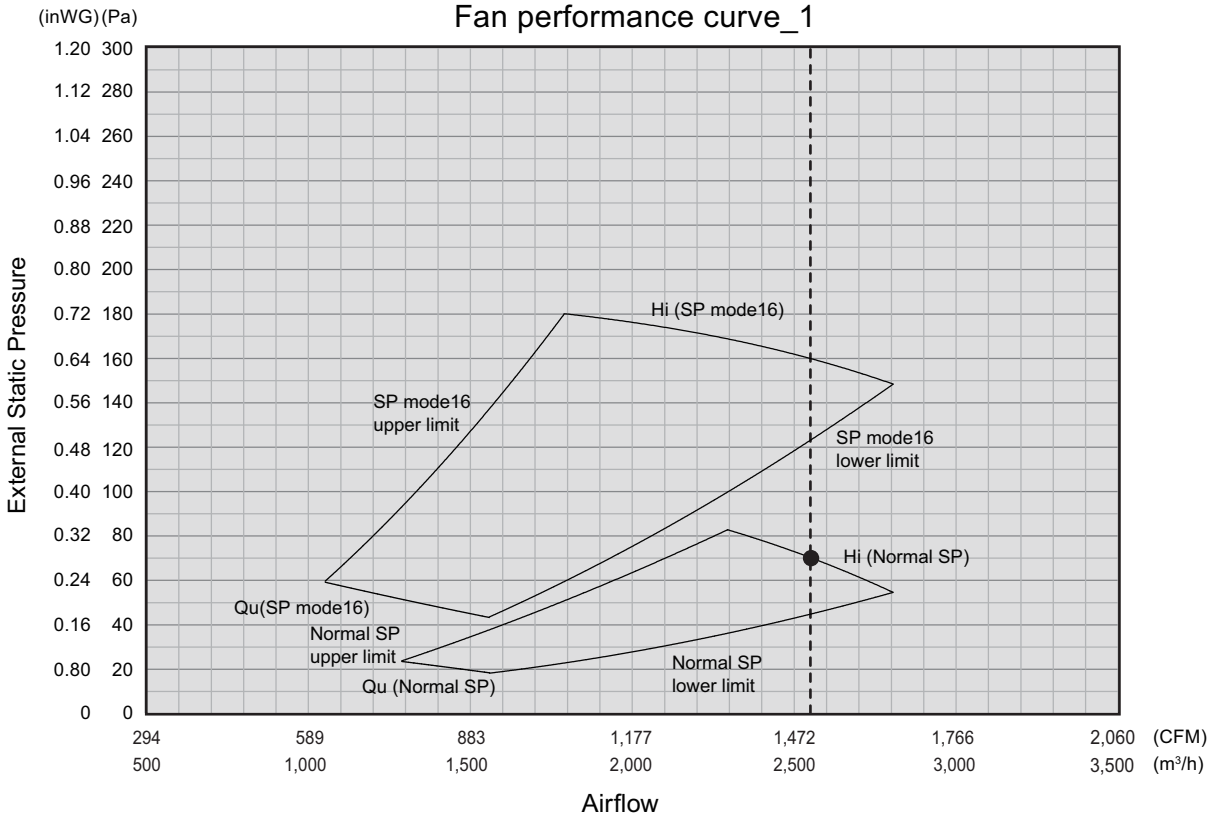


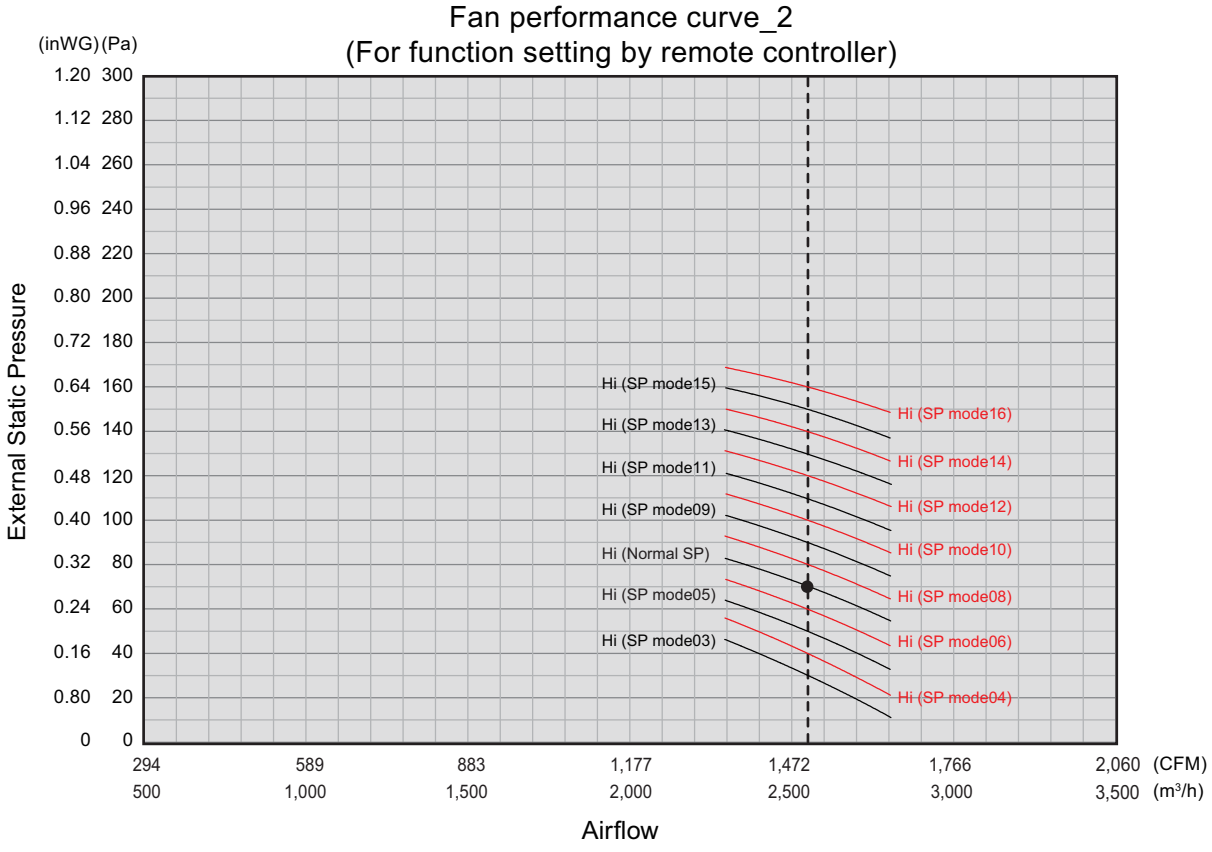
- **Heating**



DUCT
ARUH12-48KUAS

■ Model: ARUH48KUAS





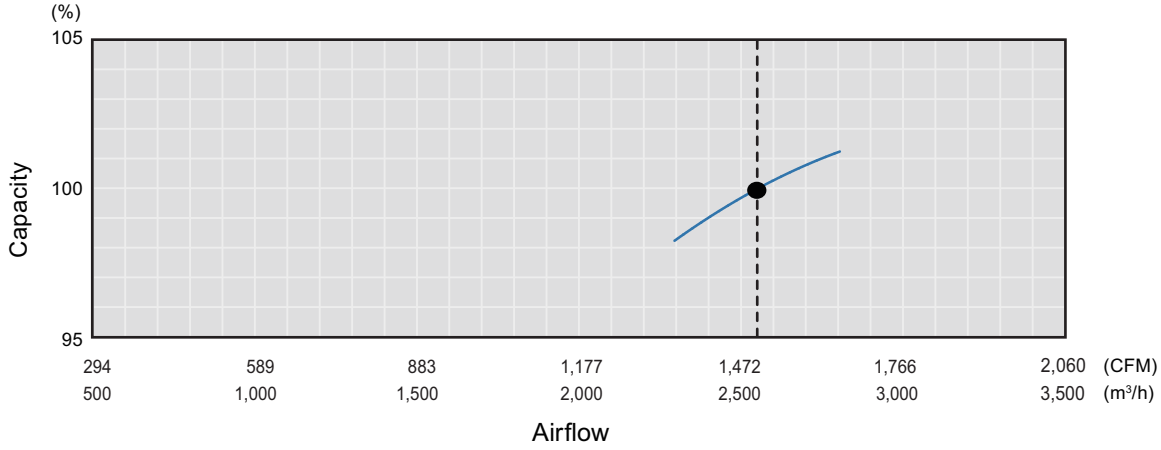
NOTES:

- Setting of the external static pressure is switchable into modes by using the remote controller.
- According to the resistance of the connecting duct, perform the setting of the external static pressure with referring “Fan performance curve_2” above.
- The default setting is set at "Normal SP".

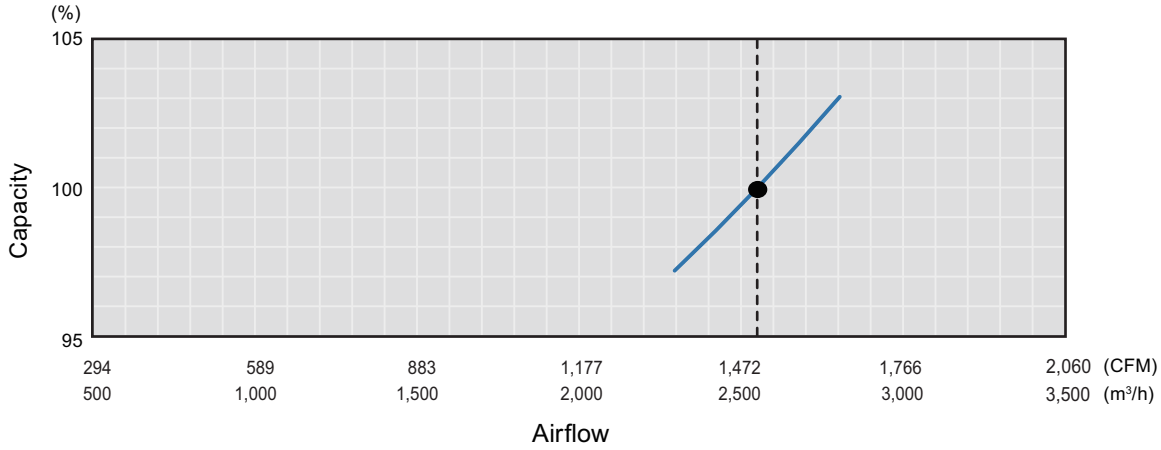
DUCT
ARUH12-48KUAS

● Characteristics of air volume and capacity

- **Cooling**



- **Heating**



■ Automatic airflow adjustment procedures

1. To start the auto setting, use setting value 32 in function number 26.
2. Run the air conditioner on fan mode (High).
   * For instructions on how to operate the air conditioner, refer to the operation manual of the remote controller.

   During automatic airflow adjustment, the mode will be fixed at fan (High).

   When this function is active, do not operate the outdoor unit.
3. The air conditioner will run for about 1 to 8 min then stop automatically.
   * Do not change the throttles of the inlet and outlet ports during operation.

   When used in a group control system, the setting will take about 10 min.
4. Turn the air conditioner off and on again.
5. Check the setting value of function number 26.
   * If the setting value has not changed, repeat the procedure from step 2.

⚠ CAUTION

When the duct or outlet installations are changed after the Automatic airflow adjustment is completed, repeat the procedure from step 1.

DUCT
ARUH12-48KUAS

5-2. Airflow

■ Model: ARUH12KUAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	850
	l/s	236
	CFM	500
MED	m^3/h	680
	l/s	189
	CFM	400
LOW	m^3/h	590
	l/s	164
	CFM	347
QUIET	m^3/h	510
	l/s	142
	CFM	300

● Heating

Fan speed	Airflow	
HIGH	m^3/h	850
	l/s	236
	CFM	500
MED	m^3/h	680
	l/s	189
	CFM	400
LOW	m^3/h	590
	l/s	164
	CFM	347
QUIET	m^3/h	510
	l/s	142
	CFM	300

DUCT
ARUH12-48KUAS

■ Model: ARUH18KUAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	1,050
	l/s	292
	CFM	618
MED	m^3/h	840
	l/s	233
	CFM	494
LOW	m^3/h	730
	l/s	203
	CFM	430
QUIET	m^3/h	630
	l/s	175
	CFM	371

● Heating

Fan speed	Airflow	
HIGH	m^3/h	1,050
	l/s	292
	CFM	618
MED	m^3/h	840
	l/s	233
	CFM	494
LOW	m^3/h	730
	l/s	203
	CFM	430
QUIET	m^3/h	630
	l/s	175
	CFM	371

DUCT
ARUH12-48KUAS

■ Model: ARUH24KUAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	1,360
	l/s	378
	CFM	800
MED	m^3/h	1,080
	l/s	300
	CFM	636
LOW	m^3/h	880
	l/s	244
	CFM	518
QUIET	m^3/h	680
	l/s	189
	CFM	400

● Heating

Fan speed	Airflow	
HIGH	m^3/h	1,360
	l/s	378
	CFM	800
MED	m^3/h	1,080
	l/s	300
	CFM	636
LOW	m^3/h	880
	l/s	244
	CFM	518
QUIET	m^3/h	680
	l/s	189
	CFM	400

DUCT
ARUH12-48KUAS

■ Model: ARUH30KUAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	1,700
	l/s	472
	CFM	1,001
MED	m^3/h	1,360
	l/s	378
	CFM	800
LOW	m^3/h	1,190
	l/s	331
	CFM	700
QUIET	m^3/h	1,070
	l/s	297
	CFM	630

● Heating

Fan speed	Airflow	
HIGH	m^3/h	1,700
	l/s	472
	CFM	1,001
MED	m^3/h	1,360
	l/s	378
	CFM	800
LOW	m^3/h	1,190
	l/s	331
	CFM	700
QUIET	m^3/h	1,070
	l/s	297
	CFM	630

DUCT
ARUH12-48KUAS

■ Model: ARUH36KUAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	2,050
	l/s	569
	CFM	1,207
MED	m^3/h	1,640
	l/s	456
	CFM	965
LOW	m^3/h	1,330
	l/s	369
	CFM	783
QUIET	m^3/h	1,070
	l/s	297
	CFM	630

● Heating

Fan speed	Airflow	
HIGH	m^3/h	2,050
	l/s	569
	CFM	1,207
MED	m^3/h	1,640
	l/s	456
	CFM	965
LOW	m^3/h	1,330
	l/s	369
	CFM	783
QUIET	m^3/h	1,070
	l/s	297
	CFM	630

DUCT
ARUH12-48KUAS

■ Model: ARUH42KUAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	2,550
	l/s	708
	CFM	1,501
MED	m^3/h	2,040
	l/s	567
	CFM	1,201
LOW	m^3/h	1,650
	l/s	458
	CFM	971
QUIET	m^3/h	1,430
	l/s	397
	CFM	842

● Heating

Fan speed	Airflow	
HIGH	m^3/h	2,550
	l/s	708
	CFM	1,501
MED	m^3/h	2,040
	l/s	567
	CFM	1,201
LOW	m^3/h	1,650
	l/s	458
	CFM	971
QUIET	m^3/h	1,430
	l/s	397
	CFM	842

DUCT
ARUH12-48KUAS

■ Model: ARUH48KUAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	2,550
	l/s	708
	CFM	1,501
MED	m^3/h	2,040
	l/s	567
	CFM	1,201
LOW	m^3/h	1,650
	l/s	458
	CFM	971
QUIET	m^3/h	1,430
	l/s	397
	CFM	842

● Heating

Fan speed	Airflow	
HIGH	m^3/h	2,550
	l/s	708
	CFM	1,501
MED	m^3/h	2,040
	l/s	567
	CFM	1,201
LOW	m^3/h	1,650
	l/s	458
	CFM	971
QUIET	m^3/h	1,430
	l/s	397
	CFM	842

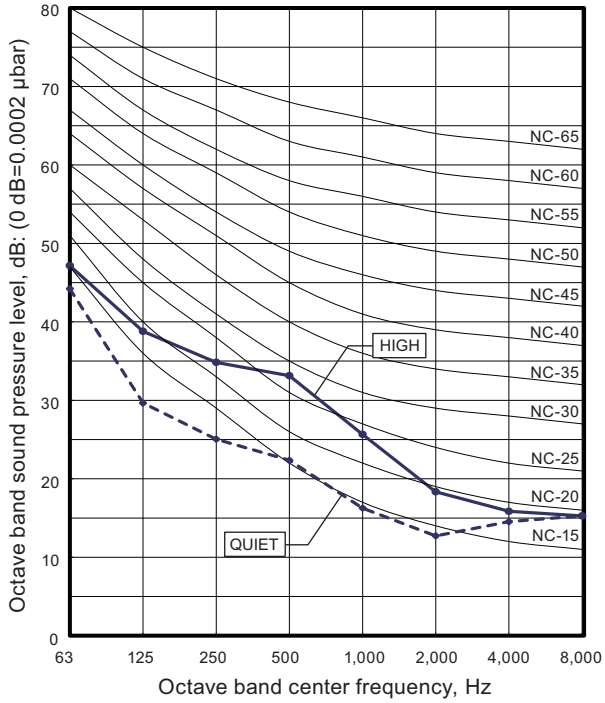
DUCT
ARUH12-48KUAS

6. Operation noise (sound pressure)

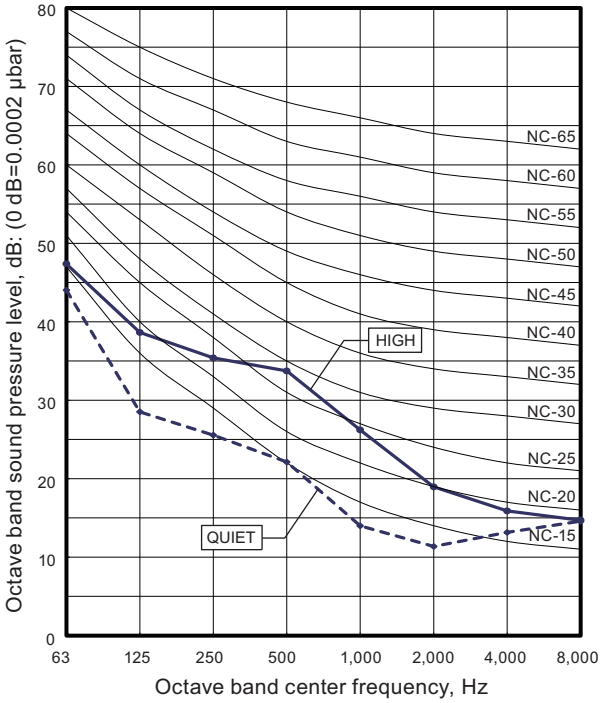
6-1. Noise level curve

■ Model: ARUH12KUAS

● Cooling

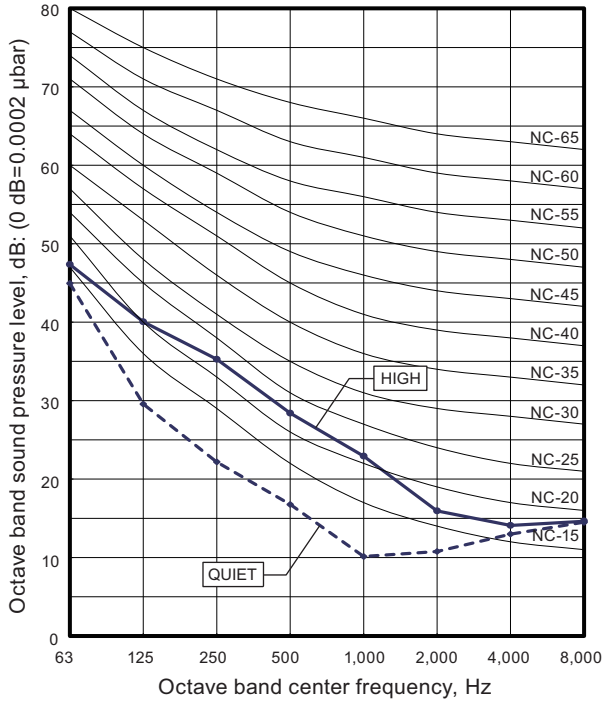


● Heating

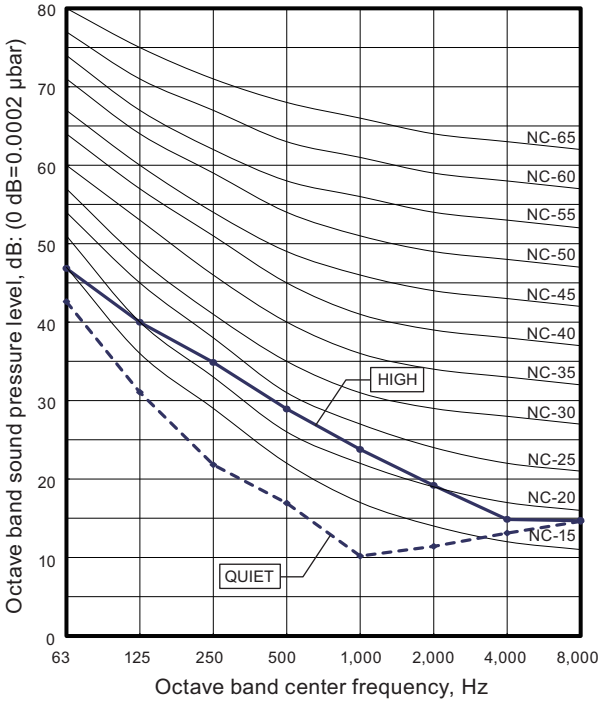


■ Model: ARUH18KUAS

● Cooling



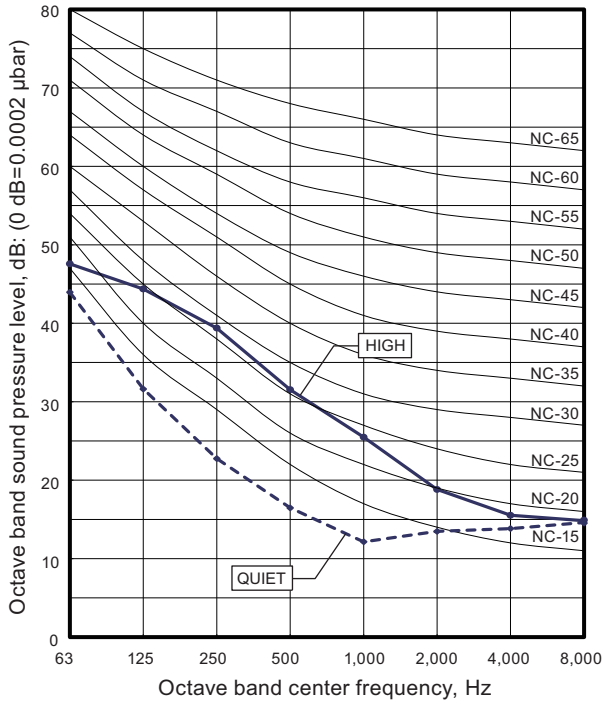
● Heating



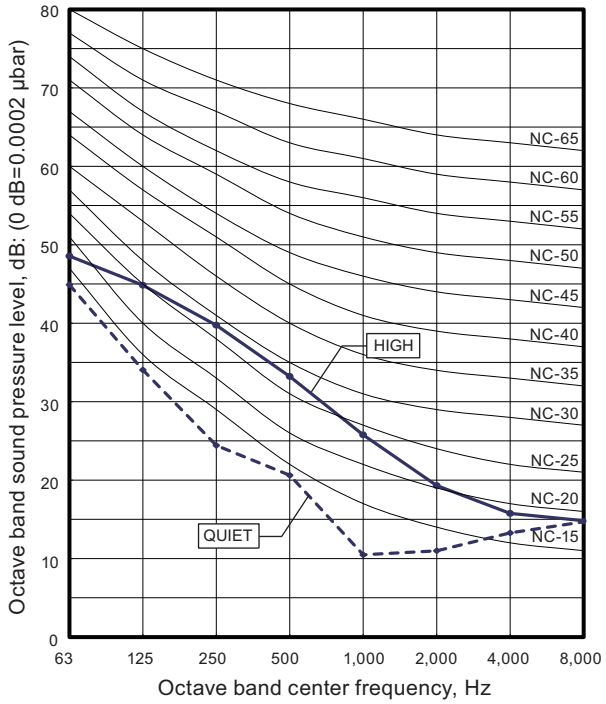
DUCT
ARUH12-48KUAS

■ Model: ARUH24KUAS

● Cooling

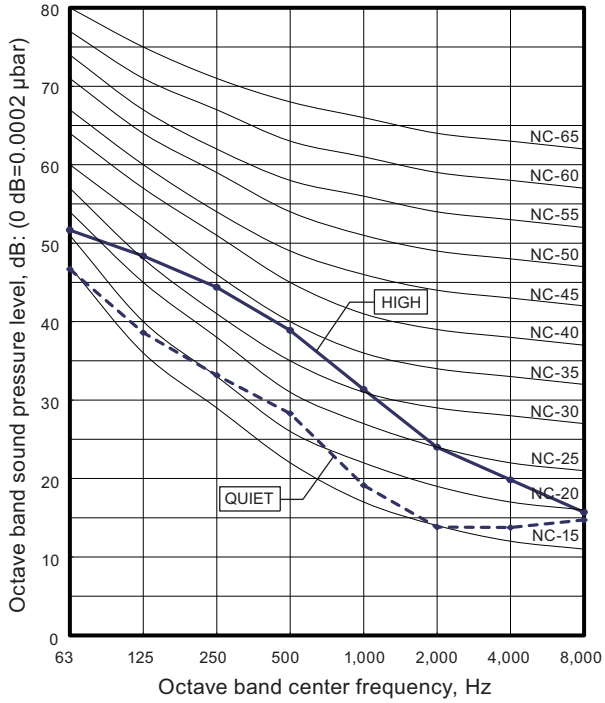


● Heating

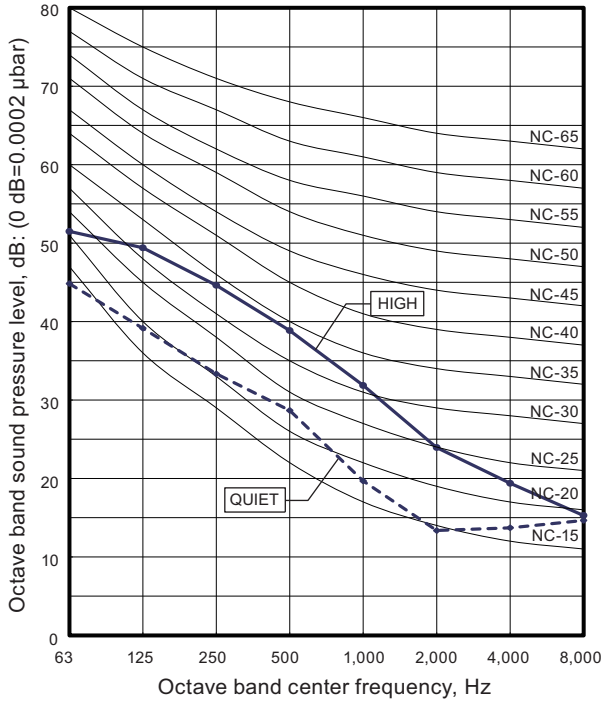


■ Model: ARUH30KUAS

● Cooling



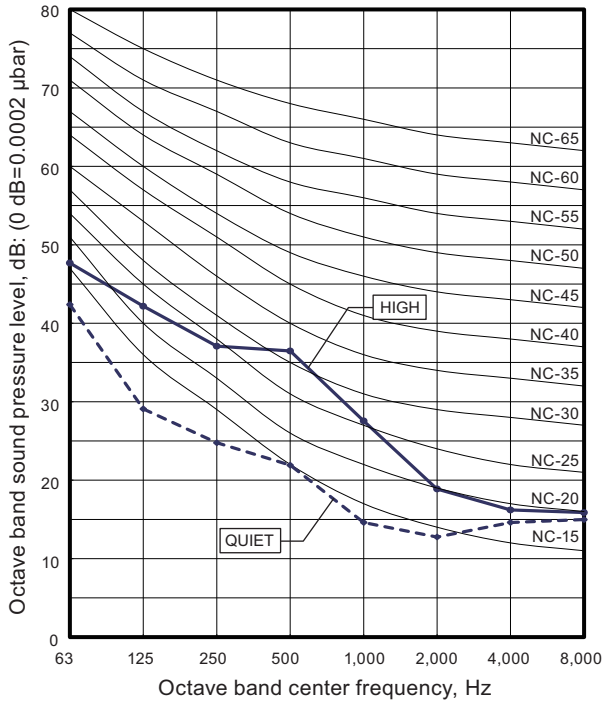
● Heating



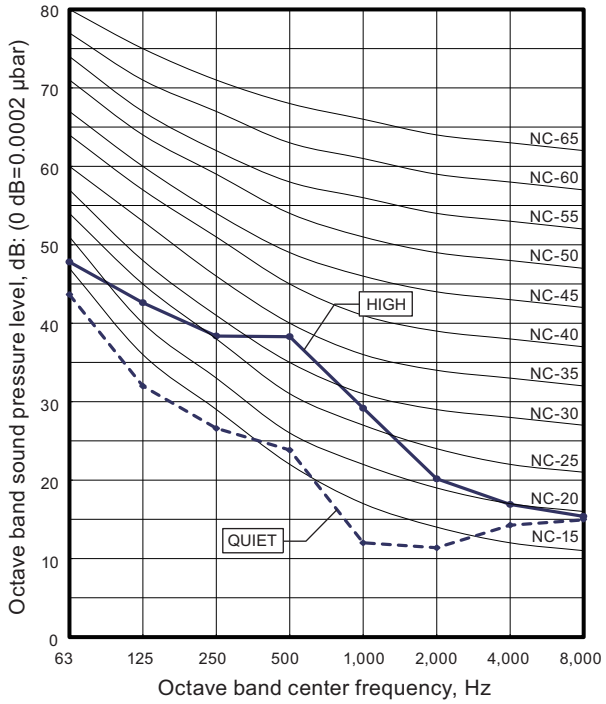
DUCT
ARUH12-48KUAS

■ Model: ARUH36KUAS

● Cooling

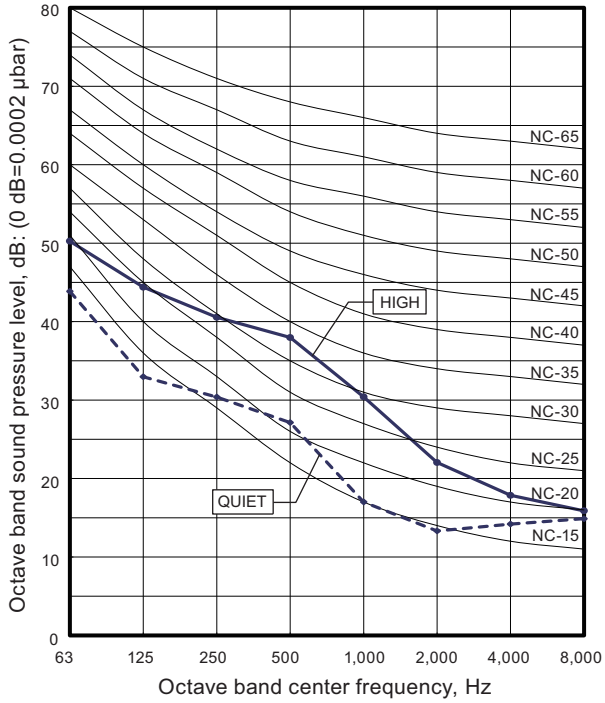


● Heating

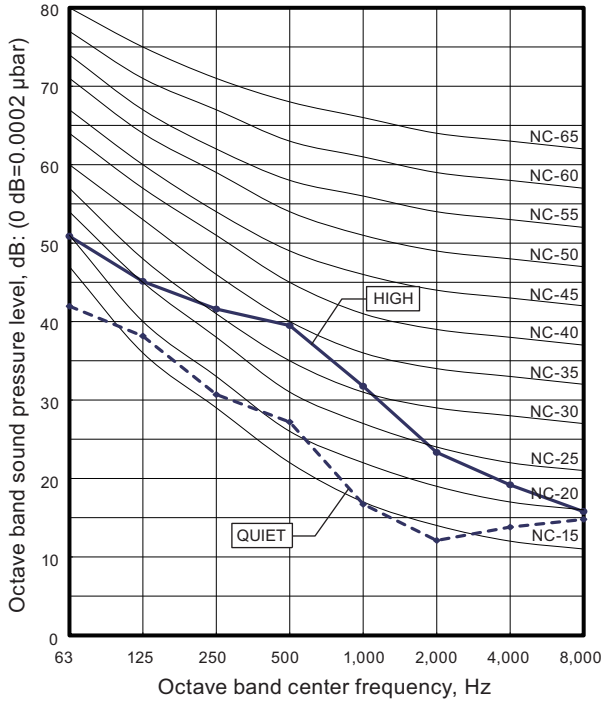


■ Model: ARUH42KUAS

● Cooling



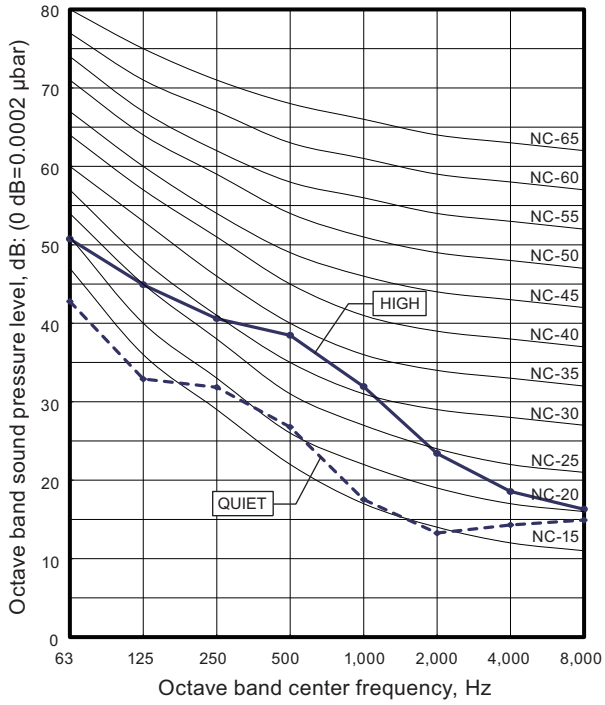
● Heating



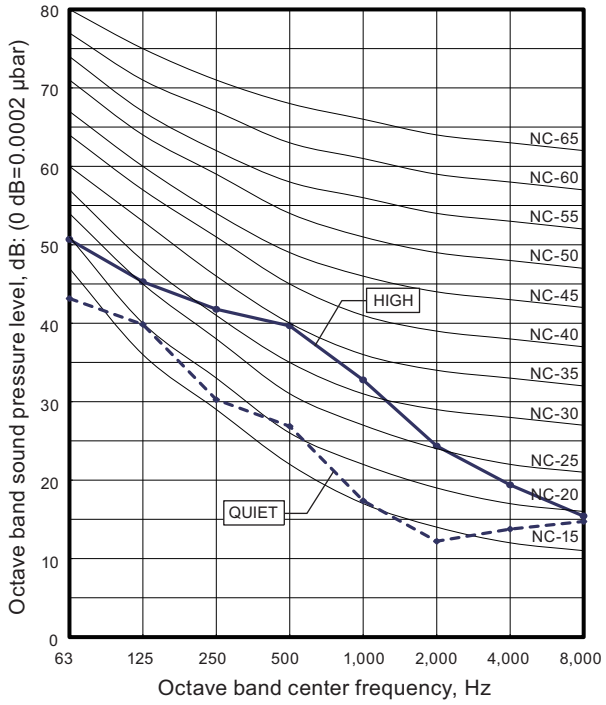
DUCT
ARUH12-48KUAS

■ Model: ARUH48KUAS

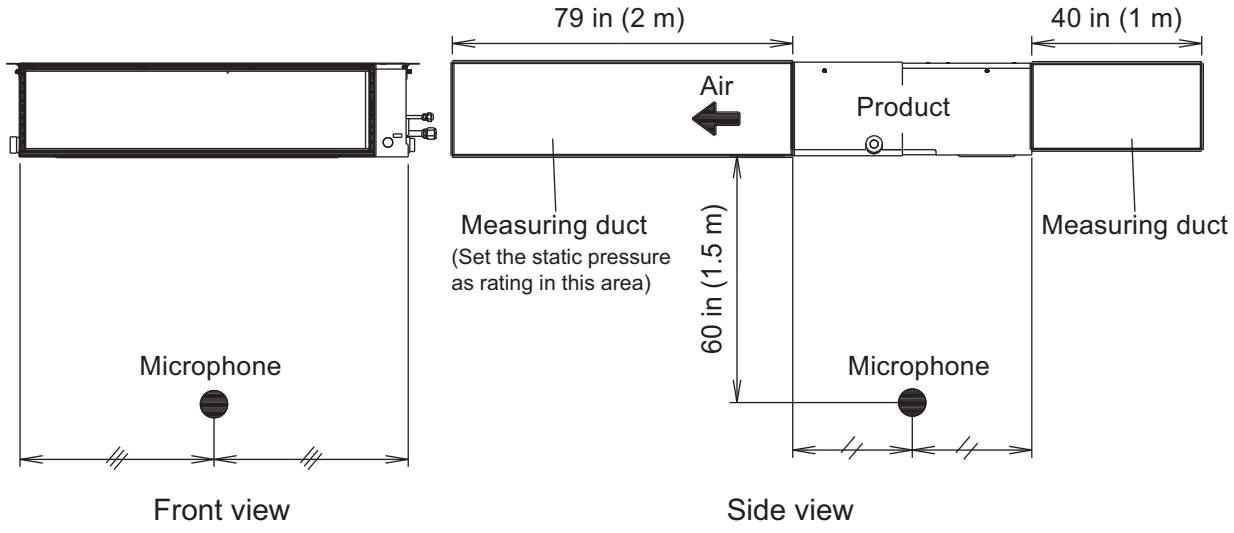
● Cooling



● Heating



6-2. Sound level check point



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

DUCT
ARUH12-48KUAS

7. Safety devices

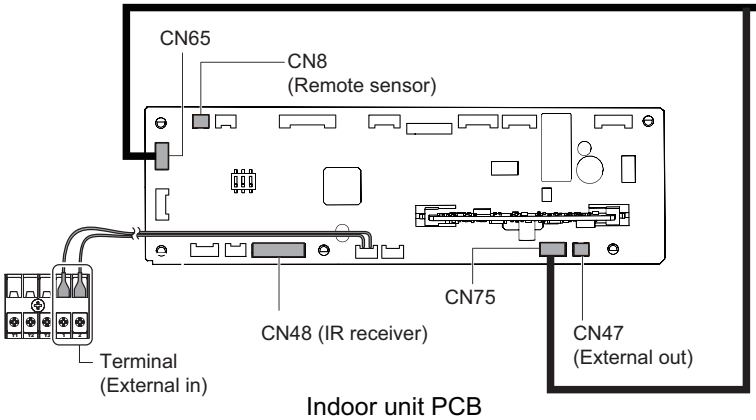
Type of protection	Protection form		Model	
			ARUH12KUAS	ARUH18KUAS ARUH24KUAS
Circuit protection	Current fuse (PCB*)		250 V, 5 A	
Fan motor protection	Thermal protection program	Activate	239 ±59°F (115 ±15°C) Fan motor stop	
		Reset	158°F (70°C) Fan motor restart	
	Current protection	Activate	1.64 A	2.13 A

Type of protection	Protection form		Model	
			ARUH30KUAS	ARUH36KUAS ARUH42KUAS ARUH48KUAS
Circuit protection	Current fuse (PCB*)		250 V, 10 A	
Fan motor protection	Thermal protection program	Activate	212 ±41°F (100 ±5°C) Fan motor stop	
		Reset	158 ±59°F (70 ±15°C) Fan motor restart	
	Current protection	Activate	7.58 A	8.89 A

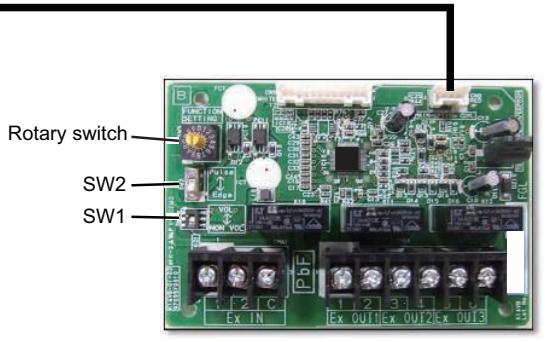
*PCB: Printed Circuit Board

DUCT ARUH12-48KUAS

8. External input and output



Indoor unit PCB



External Input and Output PCB

Connecting point		Input/Output	Function	Input select	Input signal
Indoor unit	Terminal	Input	Operation/Stop	Dry contact	Edge
			Forced stop		
	CN47	Output	Operation/Stop	—	—
			Error status		
			Indoor unit fan operation status		
			Cooling thermostat On		
			Heating thermostat On		
			External heater output		
External Input and Output PCB (UTY-XCSX)	Ex IN 1/2	Input	Operation/Stop	Dry contact/Apply voltage	Edge/Pulse
	Ex IN 1		Forced thermostat off		Edge
	Ex OUT 1 Ex OUT 2 Ex OUT 3	Output	Operation/Stop	—	—
			Error status		
			Indoor unit fan operation status		
			External heater output		
			Cooling high/low output		
			Heating thermostat On		

NOTE: For details of the switching function, refer to "Setting of external input and output" on page 56.

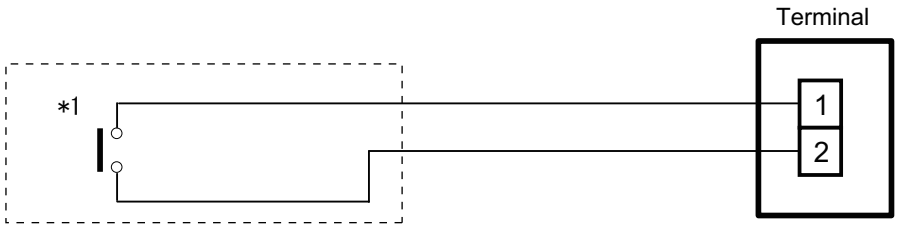
DUCT
ARUH12-48KUAS

8-1. External input

- “Operation/Stop” mode or “Forced stop” mode can be selected with function setting of indoor unit.
- A twisted pair cable (22 AWG) should be used. Maximum length of cable is 492 ft (150 m).
- Use an external input and output cable with appropriate external dimension, depending on the number of cables to be installed.
- The wire connection should be separate from the power cable line.

■ Indoor unit

Indoor unit functions such as Operation/Stop can be done by using indoor unit terminal.

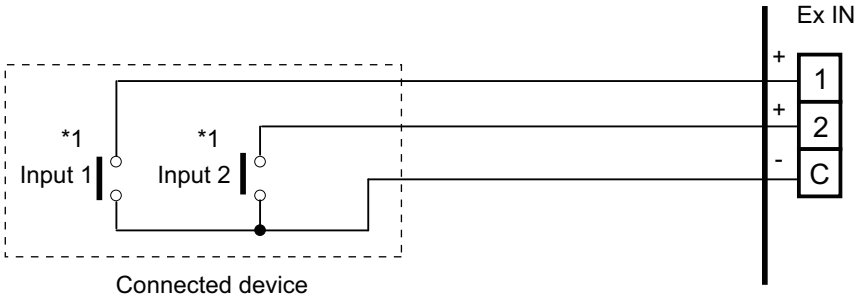


*1: The switch can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.

■ External Input and Output PCB

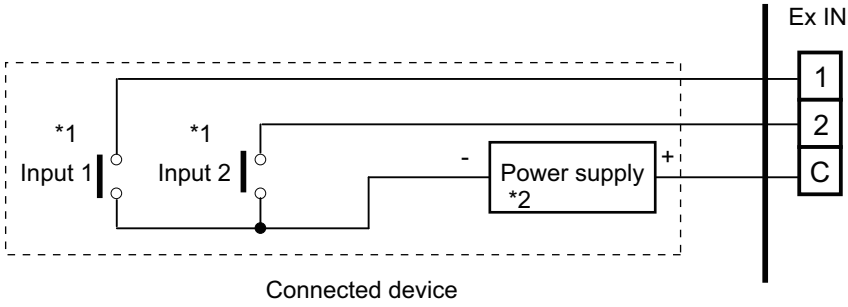
The indoor unit Operation/Stop can be set by using the input terminal on the PCB.

- **Input select**
  Use either one of these types of terminal according to the application. (Both types of terminal cannot be used simultaneously.)
  – **Dry contact**
  In case of internal power supply, set the slide switch of SW1 to "NON VOL" side.



*1: The switches can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.

  – **Apply voltage**
  In case of external power supply, set the slide switch of SW1 to “VOL” side.

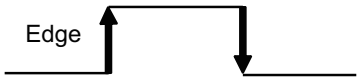


*1: The switches can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.
*2: Make the power supply DC 12 V to 24 V, 10 mA or more.

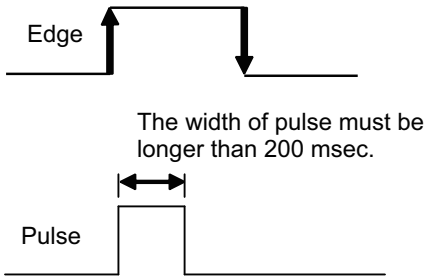
DUCT
ARUH12-48KUAS

■ Input signal type

- **Indoor unit**
  Input signal type is only "Edge".



- **External Input and Output PCB**
  The input signal type can be selected.
  Signal type (edge or pulse) can be switched by the DIP switch 2 (SW2) on the External Input and Output PCB.



NOTE: The input signal supports the following switch type:
- Edge: Alternate type switch
- Pulse: Momentary type switch

DUCT ARUH12-48KUAS

8-2. External output

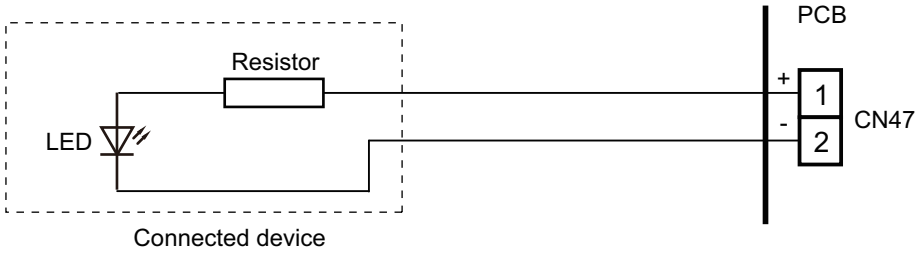
Use an external output cable with appropriate external dimension, depending on the number of cables to be installed.

■ Indoor unit

- A twisted pair cable (22 AWG) should be used. Maximum length of cable is 82 ft (25 m).
- Output voltage: High DC 12 V ±2 V, Low 0 V.
- Permissible current: 50 mA
- For details, refer to "Setting of external input and output" on page 56.

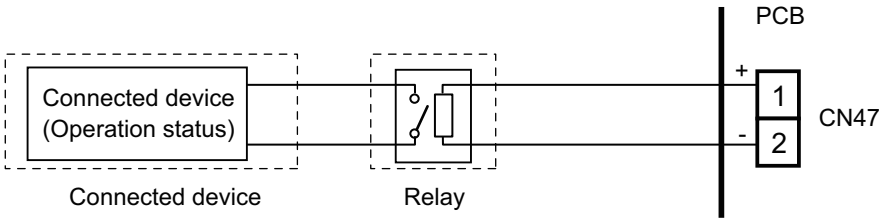
- **When indicator, etc. are connected directly**

Example: Function setting number 60 is set to "00"



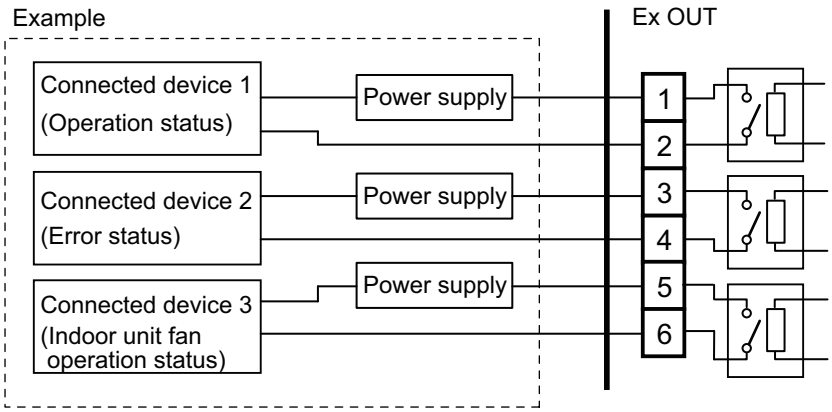
- **When connecting with a device equipped with a power supply**

Example: Function setting number 60 is set to "00"



■ External Input and Output PCB

- A twisted pair cable (22 AWG) should be used.
- Permissible voltage and current: DC 5 V to 30 V/3 A, AC 30 V to 250 V/3 A
- For details, refer to "Setting of external input and output" on page 56.



DUCT
ARUH12-48KUAS

8-3. Setting of external input and output

- **Indoor unit**

Input		
Connecting point	**Function setting number 46**	**Function**
Terminal	00	Operation/Stop mode 1
	01	(Setting prohibited)
	02	Forced stop mode
	03	Operation/Stop mode 2

Output		
Connecting point	**Function setting number 60**	**Function**
CN47	00	Operation/Stop
	01—04	Cooling thermostat On
	05	Heating thermostat On
	06	Operation/Stop
	07—08	Cooling thermostat On
	09	Error status
	10	Indoor unit fan operation status
	11	External heater output

DUCT ARUH12-48KUAS

- **External Input and Output PCB**

Switch setting		Ex IN		Ex OUT		
Rotary switch	**SW2**	**1**	**2**	**1**	**2**	**3**
1	Edge	Operation/Stop	Not available	Operation/Stop	Error status	Indoor unit fan operation status
	Pulse	Operation	Stop			
2	Edge*1	Forced thermostat off	Not available	Error status	Indoor unit fan operation status	External heater output
3		Mechanical cooling off	Not available	Error status	Indoor unit fan operation status	External heater output
4		Forced thermostat off	Not available	Error status	Operation/Stop	External heater output
5		Mechanical cooling on*2	Not available	Cooling high/low output	Operation/Stop	External heater output
6		Mechanical cooling on*2	Not available	Error status	Operation/Stop	Cooling high/low output
7		Forced thermostat off	Not available	Error status	Indoor unit fan operation status	External heater output
8		Forced thermostat off	Not available	Error status	Indoor unit fan operation status	Heating thermostat on
9		Mechanical cooling off	Not available	Error status	Heating thermostat on	External heater output
A		Forced thermostat off	Not available	Heating thermostat on	Operation/Stop	External heater output
B		Forced thermostat off	Not available	Operation/Stop	Indoor unit fan operation status	External heater output
C		Forced thermostat off	Not available	Operation/Stop	Error status	External heater output
D		Forced thermostat off	Not available	Operation/Stop	Indoor unit fan operation status	Error status

NOTES:

- When the rotary switch is selected to “1", the operation of the terminal input of the indoor unit and the External Input and Output PCB input are the same. The operation content depends on the setting of function setting number 46.
- *1: The external input other than “Operation/Stop” is available only when the SW2 is set to “Edge”.
- *2: The external input of “Mechanical cooling on” is available only when the function setting number 60 is set to “03” or “04”.

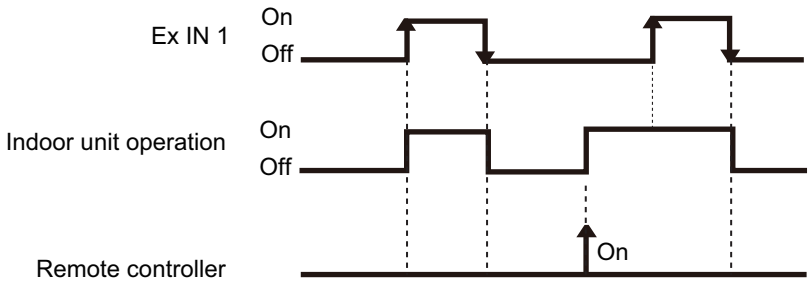
DUCT ARUH12-48KUAS

8-4. Details of control input function

■ Operation/Stop mode 1

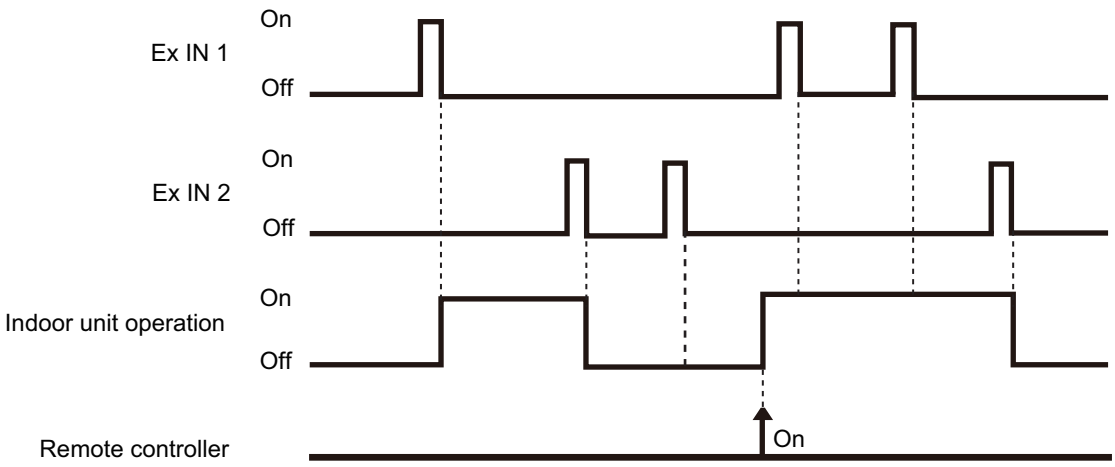
- **In the case of "Edge" input**

Function setting	External Input and Output PCB		External input		Input signal	Command
	Rotary switch	SW2				
46-00	—		Input of indoor unit	Terminal	Off → On	Operation
					On → Off	Stop
	1	Edge	External Input and Output PCB	Ex IN 1	Off → On	Operation
					On → Off	Stop



- **In the case of "Pulse" input**

Function setting	External Input and Output PCB		External input		Input signal	Command
	Rotary switch	SW2				
46-00	1	Pulse	External Input and Output PCB	Ex IN 1	Pulse	Operation
				Ex IN 2		Stop



NOTES:

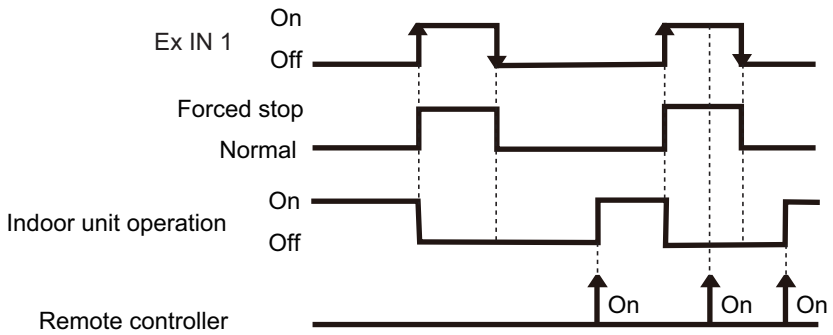
- The last command has priority.
- The indoor units within the same remote controller group operates in the same mode.

DUCT
ARUH12-48KUAS

■ Forced stop

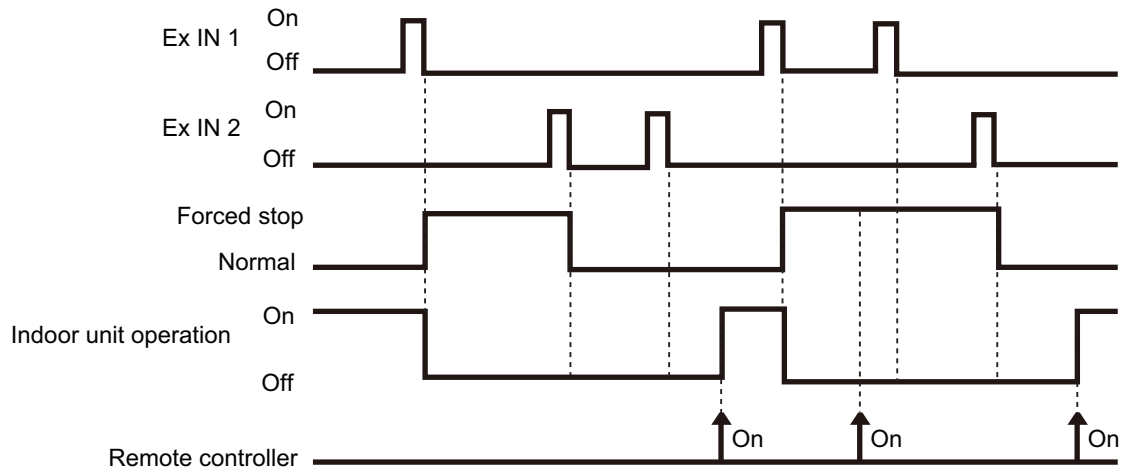
- **In the case of "Edge" input**

Function setting	External Input and Output PCB		External input		Input signal	Command
	Rotary switch	SW2				
46-02	—		Input of indoor unit	Terminal	Off → On	Forced stop (R.C. disabled)
					On → Off	Normal (R.C. enabled)
	1	Edge	External Input and Output PCB	Ex IN 1	Off → On	Forced stop (R.C. disabled)
					On → Off	Normal (R.C. enabled)



- **In the case of "Pulse" input**

Function setting	External Input and Output PCB		External input		Input signal	Command
	Rotary switch	SW2				
46-02	1	Pulse	External Input and Output PCB	Ex IN 1	Pulse	Forced stop (R.C. disabled)
				Ex IN 2		Normal (R.C. enabled)



NOTES:

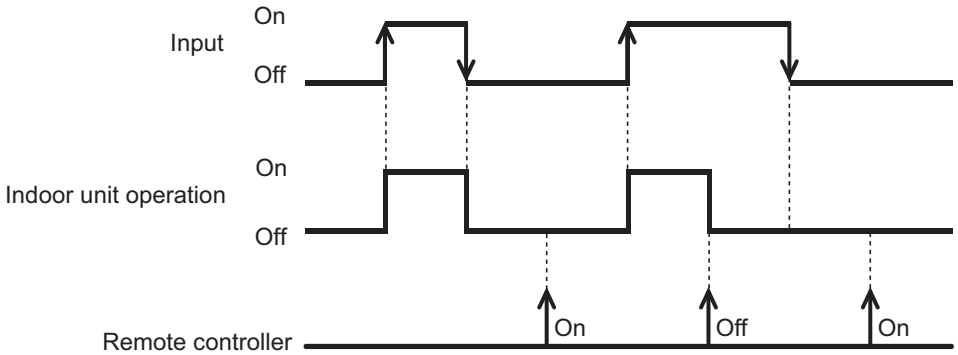
- When the forced stop is triggered, indoor unit stops and Operation/Stop operation by the remote controller is restricted.
- When forced stop function is used with forming a remote controller group, connect the same equipment to each indoor unit within the group.

DUCT ARUH12-48KUAS

■ Operation/Stop mode 2

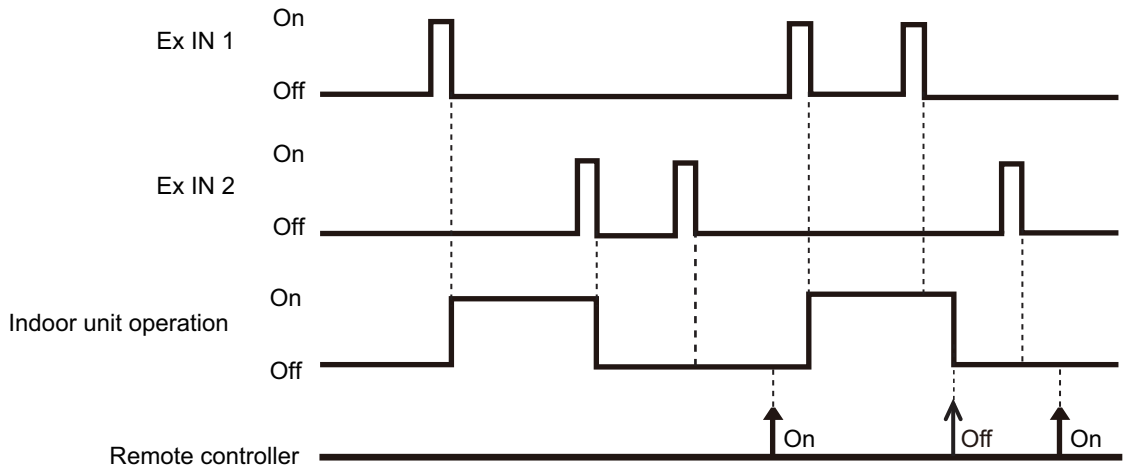
- **In the case of "Edge" input**

Function setting	External Input and Output PCB		External input		Input signal	Command
	Rotary switch	SW2				
46-03	—		Input of indoor unit	Terminal	Off → On	Operation (R.C. enabled)
					On → Off	Stop (R.C. disabled)
	1	Edge	External Input and Output PCB	Ex IN 1	Off → On	Operation (R.C. enabled)
					On → Off	Stop (R.C. disabled)



- **In the case of "Pulse" input**

Function setting	External Input and Output PCB		External input		Input signal	Command
	Rotary switch	SW2				
46-03	1	Pulse	External Input and Output PCB	Ex IN 1	Pulse	Operation (R.C. enabled)
				Ex IN 2		Stop (R.C. disabled)

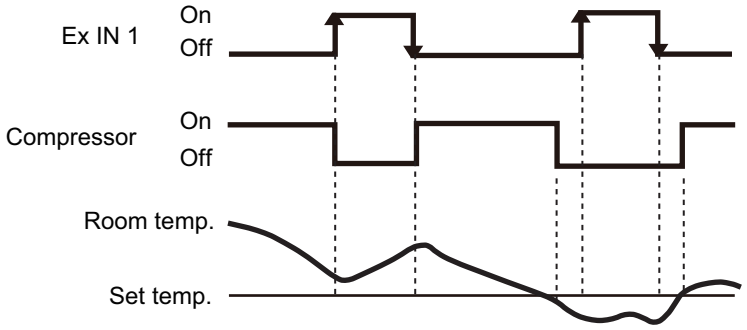


NOTE: When "Operation/Stop" mode 2 function is used with forming a remote controller group, connect the same equipment to each indoor unit within the group.

DUCT ARUH12-48KUAS

■ Forced thermostat off

External Input and Output PCB Rotary switch	External input		Input signal	Command
2, B, C, D	External Input and Output PCB	Ex IN 1	Off → On	Thermostat off
			On → Off	Normal operation
4, 7, 8, A	External Input and Output PCB	Ex IN 1	Off → On	Thermostat off
			On → Off	Normal operation



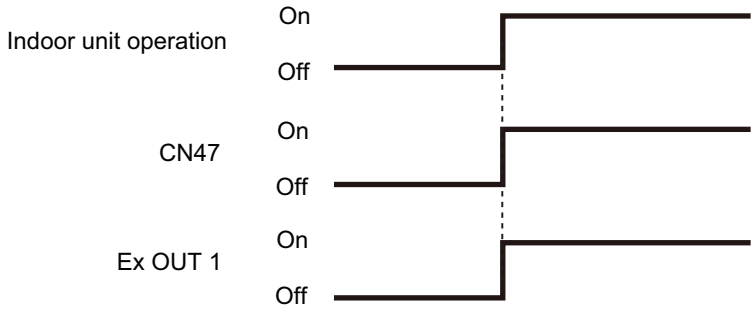
DUCT ARUH12-48KUAS

8-5. Details of control output function

■ Operation status

Function setting	External Input and Output PCB Rotary switch	External output		Output signal	Status
60-00 60-06	—	Output of indoor unit	CN47	Off → On	Operation
				On → Off	Stop
—	1, B, C, D	External Input and Output PCB	Ex OUT 1	Off → On	Operation
				On → Off	Stop

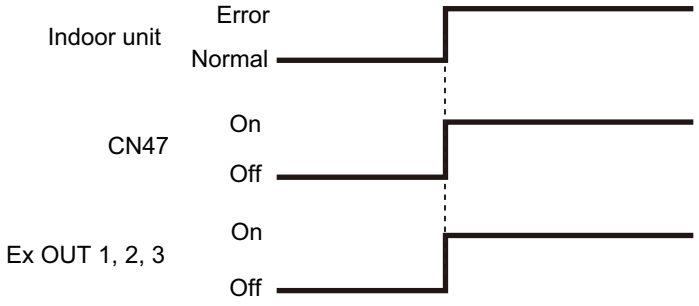
The output is low when the unit is stopped.



■ Error status

Function setting	External Input and Output PCB Rotary switch	External output		Output signal	Status
60-09	—	Output of indoor unit	CN47	Off → On	Error
				On → Off	Normal
—	2, 3, 4, 6, 7, 8, 9	External Input and Output PCB	Ex OUT 1	Off → On	Error
				On → Off	Normal
—	1, C	External Input and Output PCB	Ex OUT 2	Off → On	Error
				On → Off	Normal
—	D	External Input and Output PCB	Ex OUT 3	Off → On	Error
				On → Off	Normal

The output is on when an error is generated for the indoor unit.

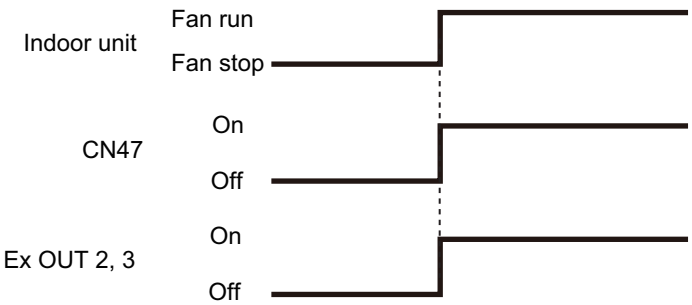


DUCT
ARUH12-48KUAS

■ Indoor unit fan operation status

Function setting	External Input and Output PCB Rotary switch	External output		Output signal	Status
60-10	—	Output of indoor unit	CN47	Off → On	Fan run
				On → Off	Fan stop
—	2, 3, 7, 8, B, D	External Input and Output PCB	Ex OUT 2	Off → On	Fan run
				On → Off	Fan stop
—	1	External Input and Output PCB	Ex OUT 3	Off → On	Fan run
				On → Off	Fan stop

Output signal	Condition
On	The indoor unit fan is operating.
Off	The fan is stopped or during cold air prevention. During thermostat off when in dry mode operation.



DUCT ARUH12-48KUAS

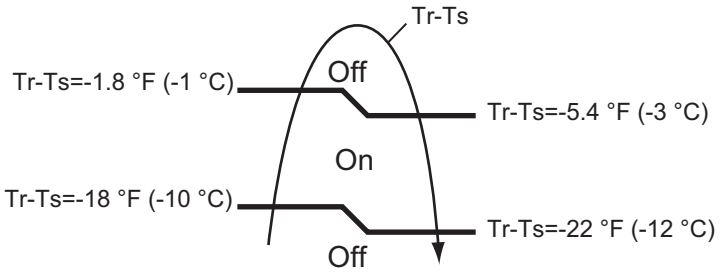
■ External heater output

Function setting	External Input and Output PCB / Rotary switch	External output		Output signal	Control
60-11	—	Output of indoor unit	CN47	Off → On	Heater on
				On → Off	Heater off
—	2, 3, 4, 5, 7, 9, A, B, C	External Input and Output PCB	Ex OUT 3	Off → On	Heater on
				On → Off	Heater off

Output signal	Condition
Off → On	Heater turns on as shown in diagram of heating temperature
On → Off	Heater turns off as shown in diagram of heating temperature • Other than Heating mode • Error occurred • Forced thermo off • Fan stop protection

Specifications of the signal output performance are as shown as follows:

Example: When set temperature (Ts) is set at 72°F (22°C);
- And room temperature (Tr) increase above 53.6°F (12°C), signal output is on.
- And Tr increase above 69.8°F (21°C), signal output is off.
- And Tr decrease below 66.2°F (19°C), signal output is on.
- And Tr decrease below 50°F (10°C), signal output is off.

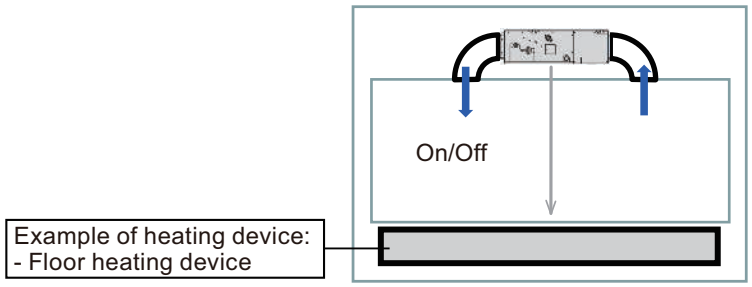


The output also turns off in defrost operation.

DUCT
ARUH12-48KUAS

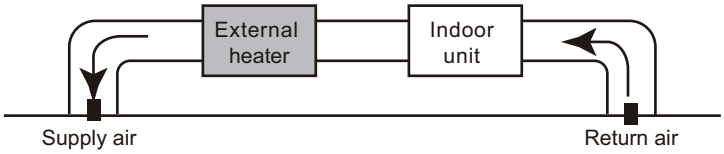
● Installation configuration of individual connection

External heating device is installed individually. (No use of indoor unit fan)

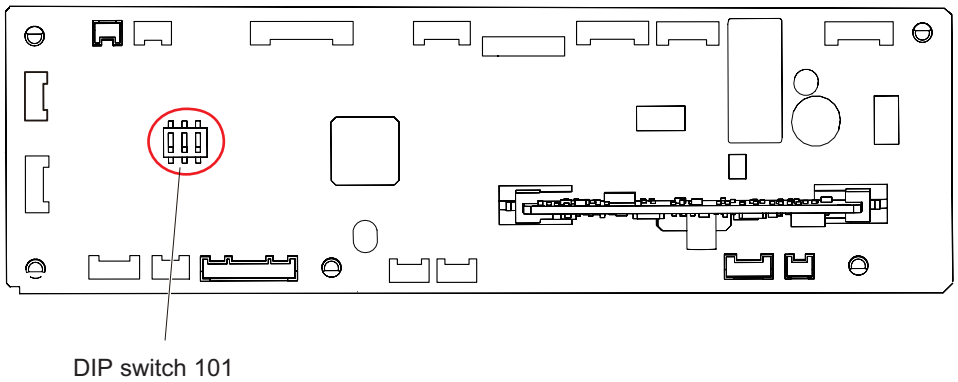


⚠ WARNING

- **DIP Switch 101-3 must be in the ON position when ducted electric heat application is being used.** DIP switch 101-3 is set in the OFF position by default from the factory. When DIP switch 101-3 is in the ON position and ducted electric heat application is not being used, cold draft occurs due to fan delay off operation.



Operation			Condition
Heater off	DIP-SW101-3 Indoor unit fan setting for external heater	On Enabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection
	DIP-SW101-3 Indoor unit fan setting for external heater	Off Disabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

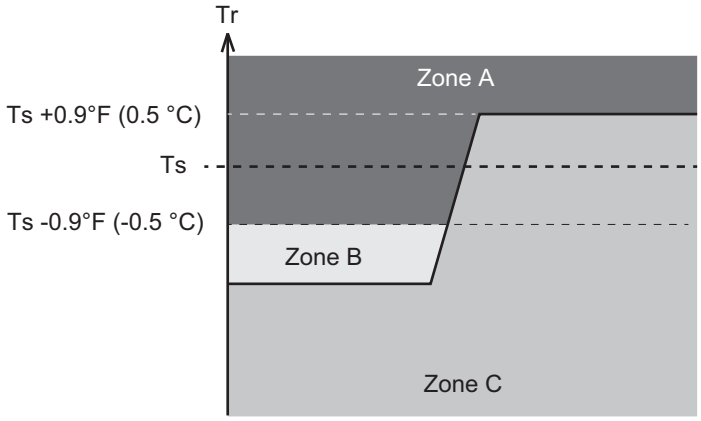


- Design and install an external heater appropriately, with consideration for its protection and local codes.
- Inappropriate designing and installation of external heater may cause a fire by emitted heat from the external heater.
- Fujitsu General Ltd. is not responsible for inappropriate designing or installation of external heating device.

DUCT ARUH12-48KUAS

● Auxiliary equipment control by room temperature

Auxiliary equipment control is switchable by room temperature. Auxiliary equipment switching is performed for each room temperature divided to following 3 zones.



Ts: Setting temperature
Tr: Room temperature

Zone	Application	When temperature dropping		When temperature rising	
		Primary	Auxiliary	Primary	Auxiliary
A	Both of primary and auxiliary equipment is unnecessary.	Off	Off	Off	Off
B	Primary heater only.When room temperature stays in zone B for a long time, auxiliary equipment also operates.	On	Off*1	—	—
C	Auxiliary equipment also operates.	On	On*2	On	On*2

*1: For standby time for auxiliary equipment operation, refer to indoor unit function number 71 in "Contents of function setting" on page 85.

*2: When indoor unit function number 61 is set to “00”, auxiliary equipment operates according to the following conditions.

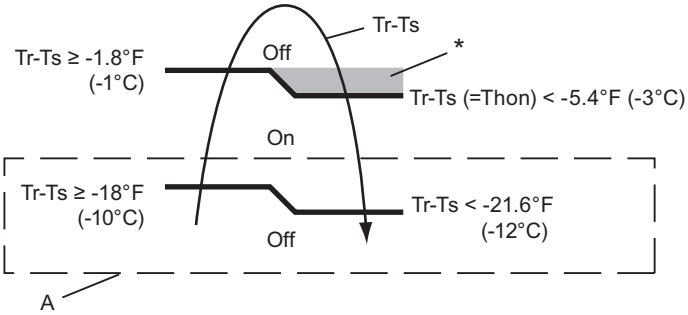
- Ts - Tr > 21.6 °F (-12.0 °C): Auxiliary equipment turn off.
- Ts - Tr > 18.0 °F (-10.0 °C): Auxiliary equipment turn on.

DUCT ARUH12-48KUAS

● Auxiliary heater control 1

Operation	Condition
Heater on	Heater is on as shown in following diagram of heating temperature.
Heater off	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

*: When room temperature stays in this zone for a specific time, auxiliary heater is turned on. For details, refer to function number 71.

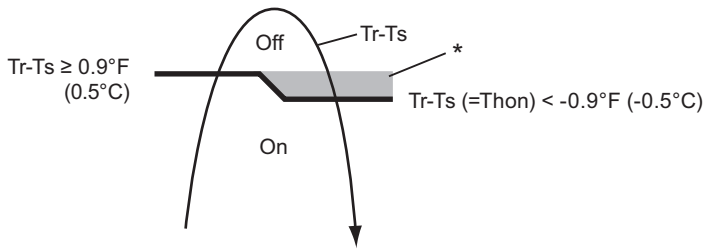
Example: When set temperature (Ts) is 72°F (22°C) (Factory setting),
- and room temperature (Tr) increases above 53.6°F (12°C), signal output is on.
- and room temperature (Tr) increases above 69.8°F (21°C), signal output is off.
- and room temperature (Tr) decreases below 66.2°F (19°C), signal output is on.
- and room temperature (Tr) decreases below 50°F (10°C), signal output is off.

● Auxiliary heater control 2

Control that excludes “A” from "Auxiliary heater control 1" on page 67.

Operation	Condition
Heater on	Heater is on as shown in following diagram of heating temperature.
Heater off	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

*: When room temperature stays in this zone for a specific time, auxiliary heater is turned on. For details, refer to function number 71.

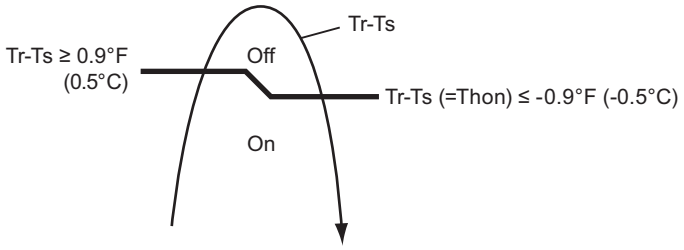
DUCT
ARUH12-48KUAS

● Heat pump prohibition control

Perform heating by external heater only. Indoor unit is continuous thermostat off.

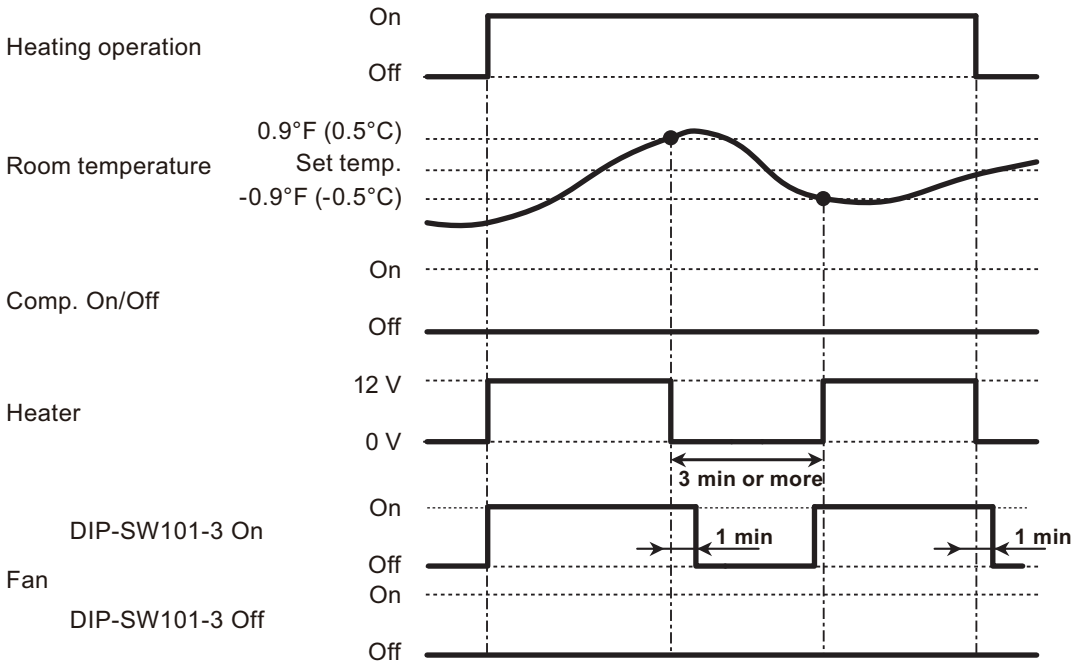
Operation			Condition
Heater on			Heater is on as shown in following diagram of heating temperature.
Heater off	DIP-SW101-3 Indoor unit fan setting for external heater	On Enabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection
	DIP-SW101-3 Indoor unit fan setting for external heater	Off Disabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

- **Operation status**



NOTE: In following operations, compressor will be on.

- Other than heating
- Test run

DUCT ARUH12-48KUAS

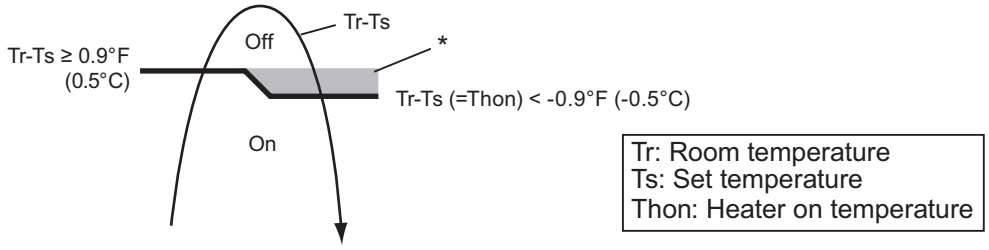
● Auxiliary heater control by outdoor temperature 1

This control selects heat pump or external heater according to the outdoor temperature. When outdoor temperature is high, the heating is performed by using heat pump only.

Operation			Condition
Heater on			Heater is on as shown in following diagram of heating temperature.
Heater off	DIP-SW101-3 Indoor unit fan setting for external heater	On Enabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Heat pump only zone • Fan stop protection
	DIP-SW101-3 Indoor unit fan setting for external heater	Off Disabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Heat pump only zone

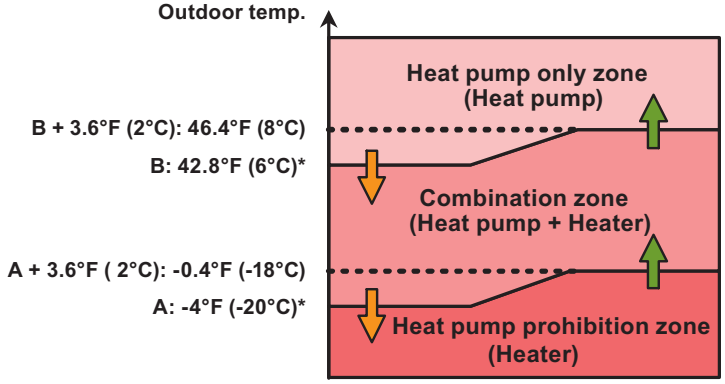
- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.
- Outdoor temperature zone boundary A and B: Adjustable individually by function setting number 66 and 67.

- **External heater output**



*: When room temperature stays in this zone for a specific time, auxiliary heater is turned on. For details, refer to function number 71.

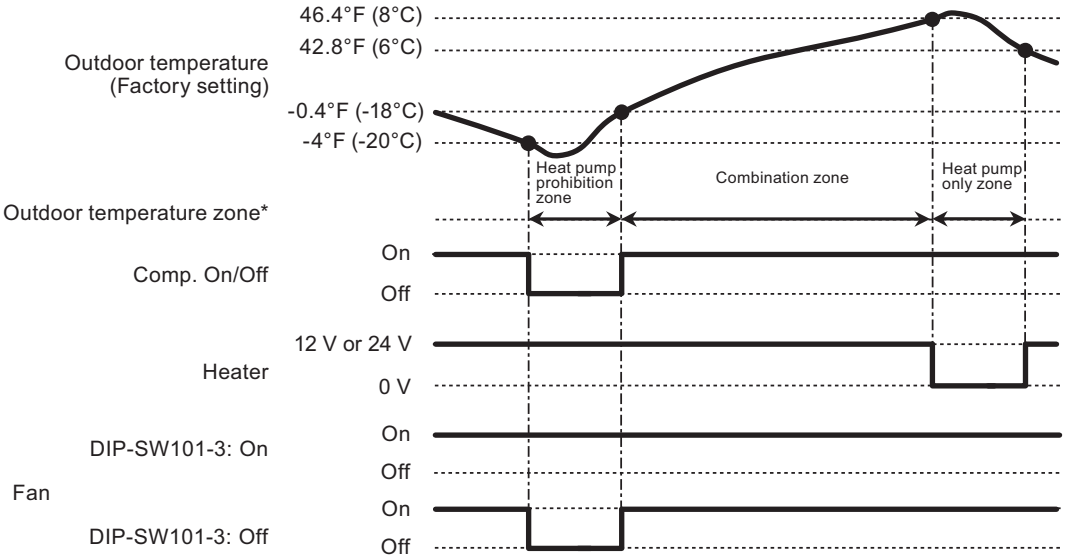
- **Outdoor temperature zone**



*: Adjustable by function setting 66 and 67

DUCT
ARUH12-48KUAS

- **Operation status**



*: The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

DUCT
ARUH12-48KUAS

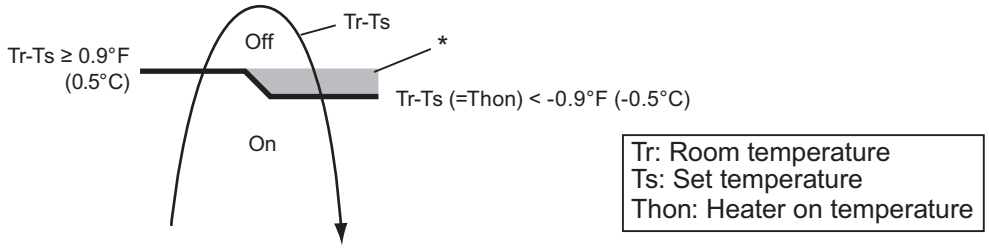
● Auxiliary heater control by outdoor temperature 2

This control selects heat pump or external heater according to the outdoor temperature. Even when outdoor temperature is high, the heating is performed by using both of heat pump and external heater.

Operation			Condition
Heater on			Heater is on as shown in following diagram of heating temperature.
Heater off	DIP-SW101-3 Indoor unit fan setting for external heater	On Enabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection
	DIP-SW101-3 Indoor unit fan setting for external heater	Off Disabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

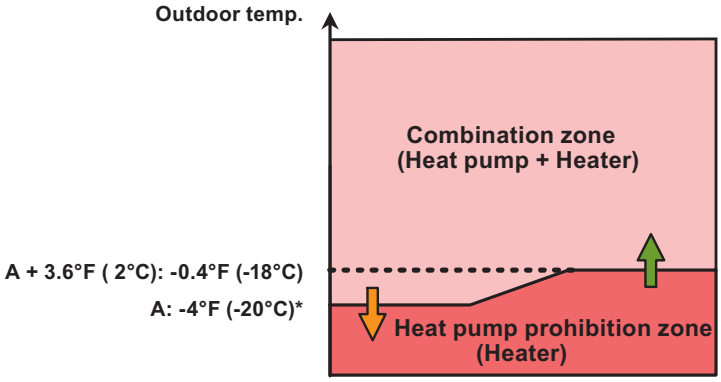
- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.
- Outdoor temperature zone boundary A: Adjustable by function setting number 66.

- **External heater output**



*: When room temperature stays in this zone for a specific time, auxiliary heater is turned on. For details, refer to function number 71.

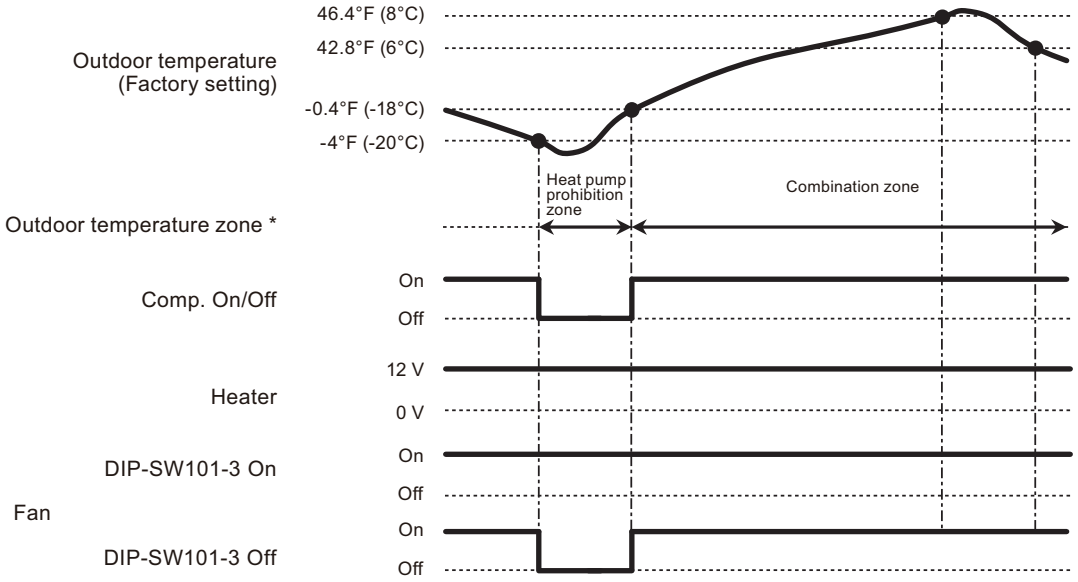
- **Outdoor temperature zone**



*: Adjustable by function setting 66

DUCT
ARUH12-48KUAS

- **Operation status**



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

DUCT ARUH12-48KUAS

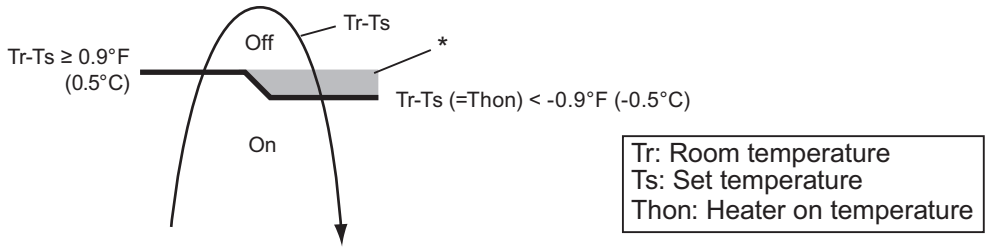
● Auxiliary heater control by outdoor temperature 3

This control selects heat pump or external heater according to the outdoor temperature. Even when outdoor temperature is high, the heating is performed by using both of heat pump and external heater.

Operation			Condition
Heater on			Heater is on as shown in following diagram of heating temperature.
Heater off	DIP-SW101-3 Indoor unit fan setting for external heater	On Enabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection
	DIP-SW101-3 Indoor unit fan setting for external heater	Off Disabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

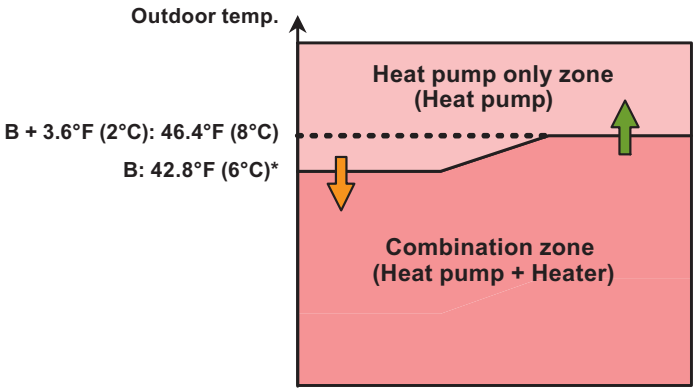
- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.
- Outdoor temperature zone boundary B: Adjustable by function setting number 67.

- **External heater output**



*: When room temperature stays in this zone for a specific time, auxiliary heater is turned on. For details, refer to function number 71.

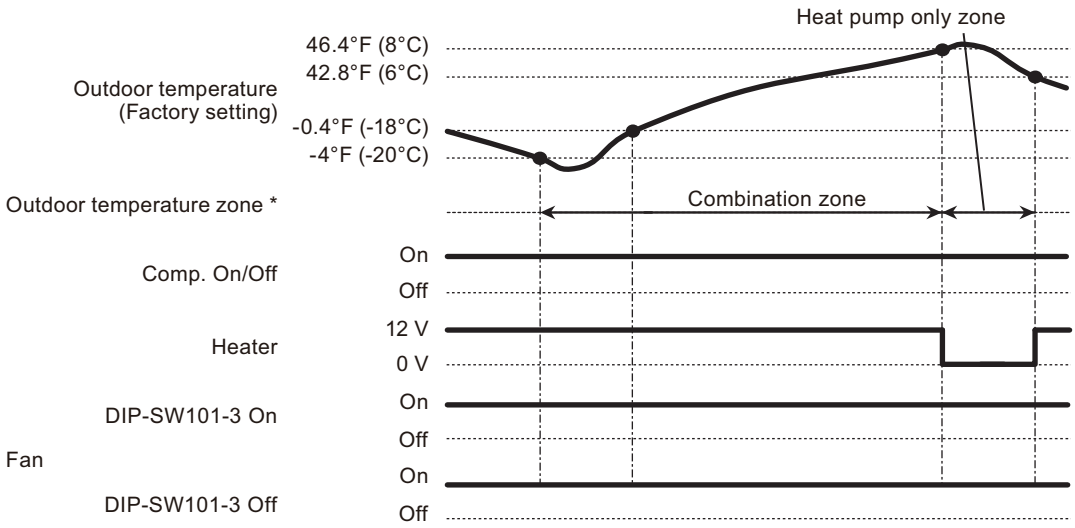
- **Outdoor temperature zone**



*: Adjustable by function setting 67

DUCT
ARUH12-48KUAS

- **Operation status**



*: The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

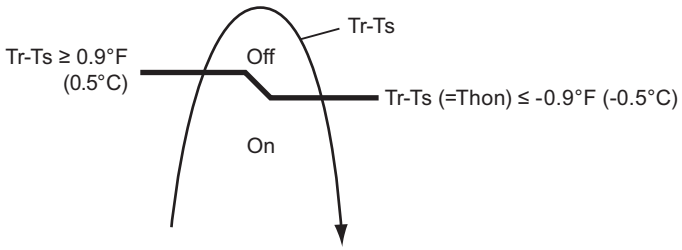
DUCT
ARUH12-48KUAS

● Auxiliary heat pump control

- **External heater output**

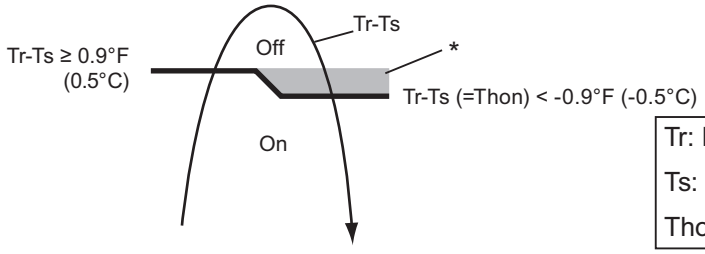
Operation			Condition
Heater on			Heater is on as shown in following diagram of heating temperature.
Heater off	DIP-SW101-3 Indoor unit fan setting for external heater	On Enabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection
	DIP-SW101-3 Indoor unit fan setting for external heater	Off Disabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

– Temperature of heater on (Thon): Set temperature (Ts) -0.9°F (-0.5°C)
– Temperature of heater off: Set temperature (Ts) +0.9°F (+0.5°C)



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

- **Auxiliary heat pump On/Off**
  – Temperature of heat pump on (Thon): Adjustable by function number 62 (Operating temperature switching of heat pump).
  – All control temperatures will shift by adjusting “Thon”.



Tr: Room temperature
Ts: Set temperature
Thon: Heat pump on temperature

*: When room temperature stays in this zone for a specific time, auxiliary heater is turned on. For details, refer to function number 71.

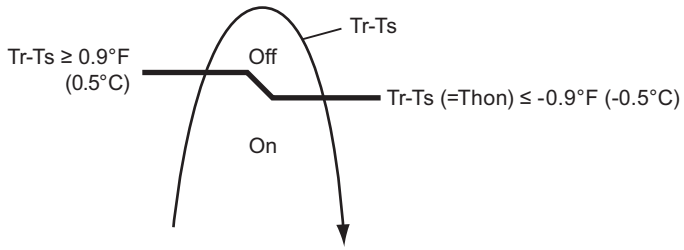
DUCT ARUH12-48KUAS

● Auxiliary heat pump control by outdoor temperature 1

- **External heater output**

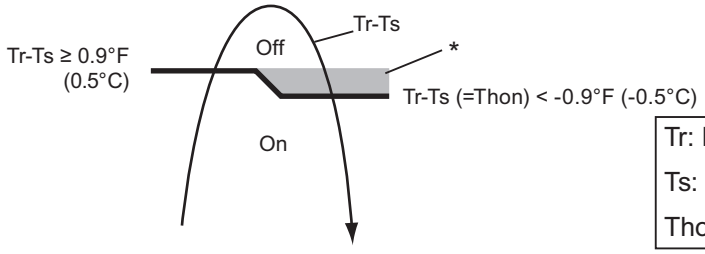
Operation			Condition
Heater on			Heater is on as shown in following diagram of heating temperature.
Heater off	DIP-SW101-3 Indoor unit fan setting for external heater	On Enabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection
	DIP-SW101-3 Indoor unit fan setting for external heater	Off Disabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

– Temperature of heater on (Thon): Set temperature (Ts) -0.9°F (-0.5°C)
– Temperature of heater off: Set temperature (Ts) +0.9°F (+0.5°C)



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

- **Auxiliary heat pump On/Off**
  – Temperature of heat pump on (Thon): Adjustable by function number 62 (Operating temperature switching of heat pump).
  – All control temperatures will shift by adjusting “Thon”.



Tr: Room temperature
Ts: Set temperature
Thon: Heat pump on temperature

*: When room temperature stays in this zone for a specific time, auxiliary heater is turned on. For details, refer to function number 71.

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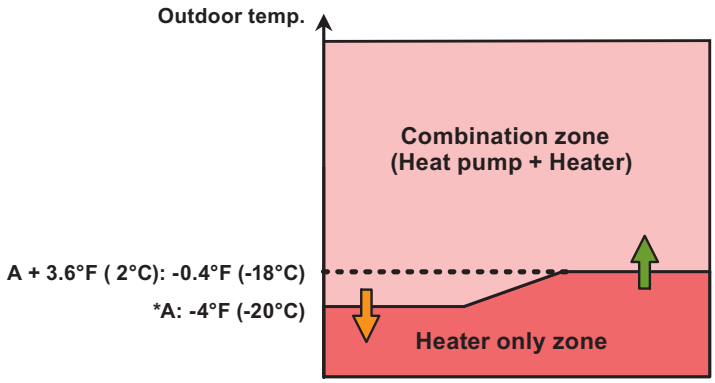
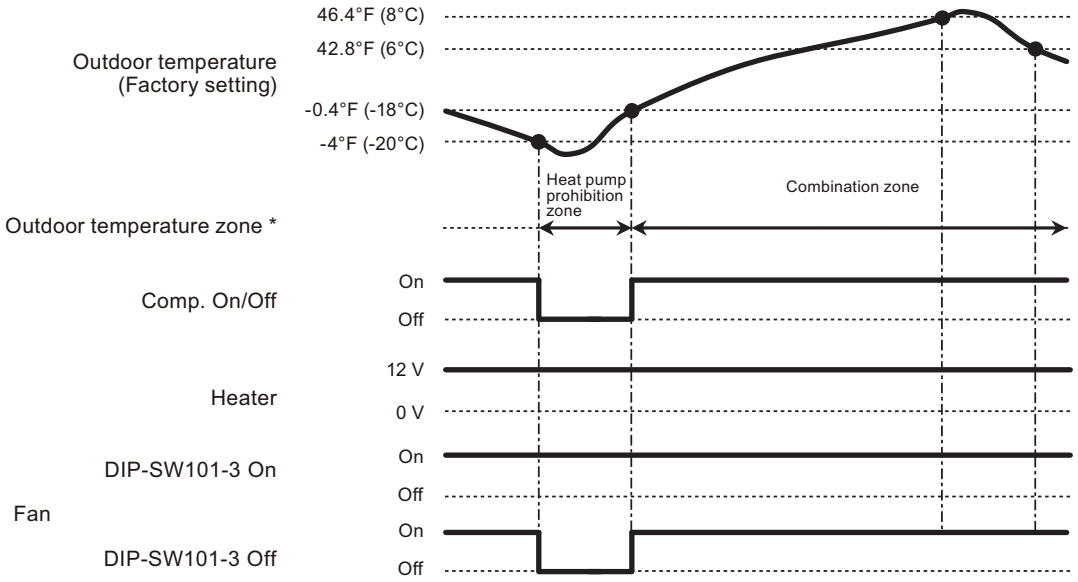
- **Outdoor temperature zone**



*: Adjustable by function setting 66

- **Operation status**



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

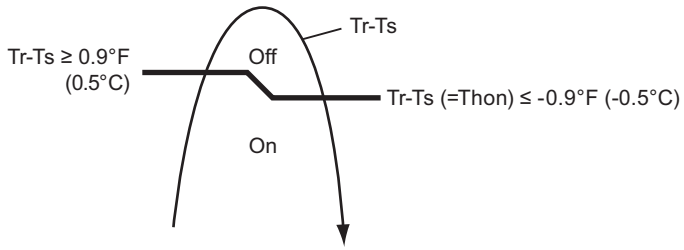
DUCT
ARUH12-48KUAS

● Auxiliary heat pump control by outdoor temperature 2

- **External heater output**

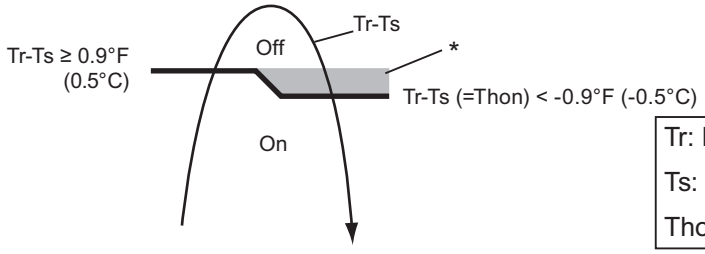
Operation			Condition
Heater on			Heater is on as shown in following diagram of heating temperature.
Heater off	DIP-SW101-3 Indoor unit fan setting for external heater	On Enabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection
	DIP-SW101-3 Indoor unit fan setting for external heater	Off Disabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

– Temperature of heater on (Thon): Set temperature (Ts) -0.9°F (-0.5°C)
– Temperature of heater off: Set temperature (Ts) +0.9°F (+0.5°C)



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

- **Auxiliary heat pump On/Off**
  – Temperature of heat pump on (Thon): Adjustable by function number 62 (Operating temperature switching of heat pump).
  – All control temperatures will shift by adjusting “Thon”.

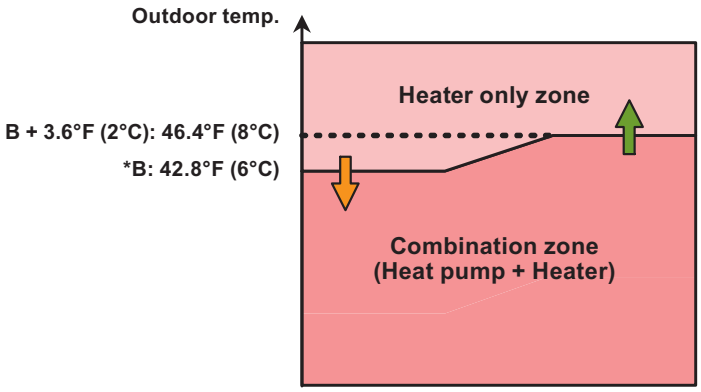


Tr: Room temperature
Ts: Set temperature
Thon: Heat pump on temperature

*: When room temperature stays in this zone for a specific time, auxiliary heater is turned on. For details, refer to function number 71.

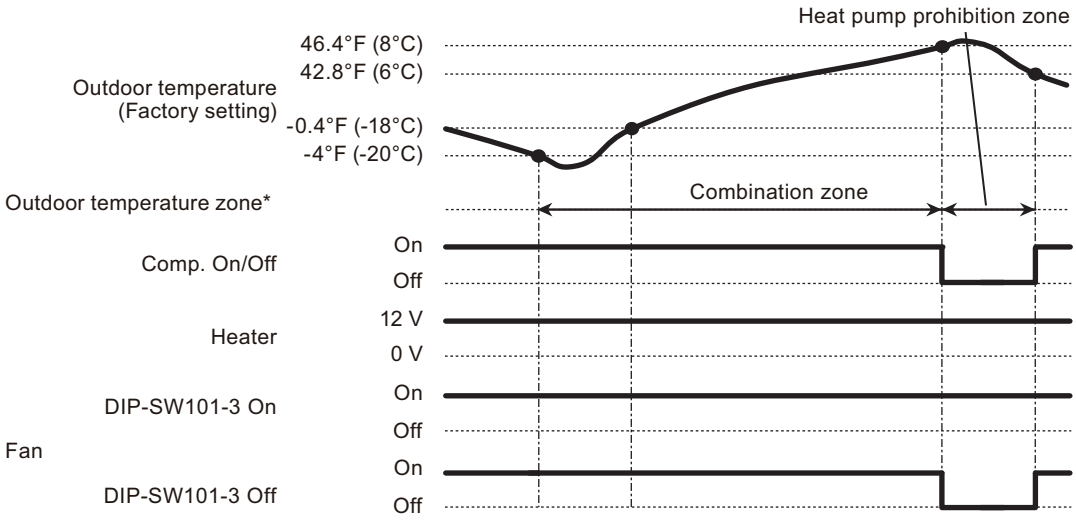
DUCT ARUH12-48KUAS

- **Outdoor temperature zone**



*: Adjustable by function setting 67

- **Operation status**



*: The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

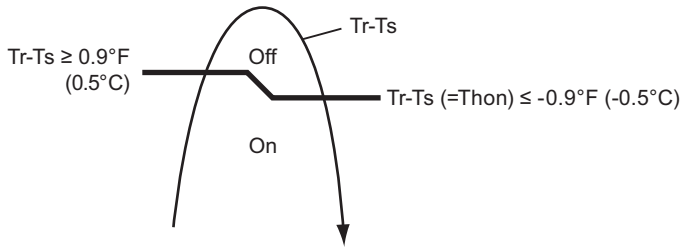
DUCT ARUH12-48KUAS

● Auxiliary heat pump control by outdoor temperature 3

- **External heater output**

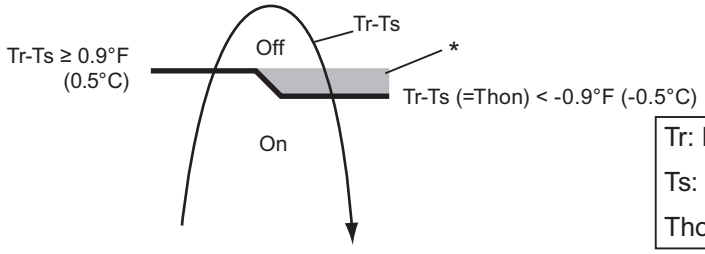
Operation			Condition
Heater on			Heater is on as shown in following diagram of heating temperature.
Heater off	DIP-SW101-3 Indoor unit fan setting for external heater	On Enabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection
	DIP-SW101-3 Indoor unit fan setting for external heater	Off Disabled	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

– Temperature of heater on (Thon): Set temperature (Ts) -0.9°F (-0.5°C)
– Temperature of heater off: Set temperature (Ts) +0.9°F (+0.5°C)



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

- **Auxiliary heat pump On/Off**
  – Temperature of heat pump on (Thon): Adjustable by function number 62 (Operating temperature switching of heat pump).
  – All control temperatures will shift by adjusting “Thon”.



Tr: Room temperature
Ts: Set temperature
Thon: Heat pump on temperature

*: When room temperature stays in this zone for a specific time, auxiliary heater is turned on. For details, refer to function number 71.

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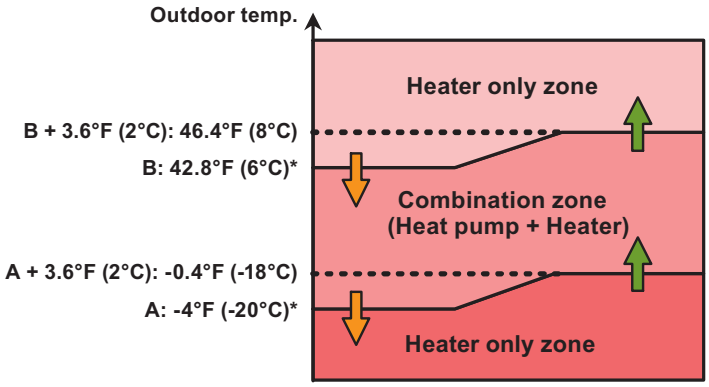
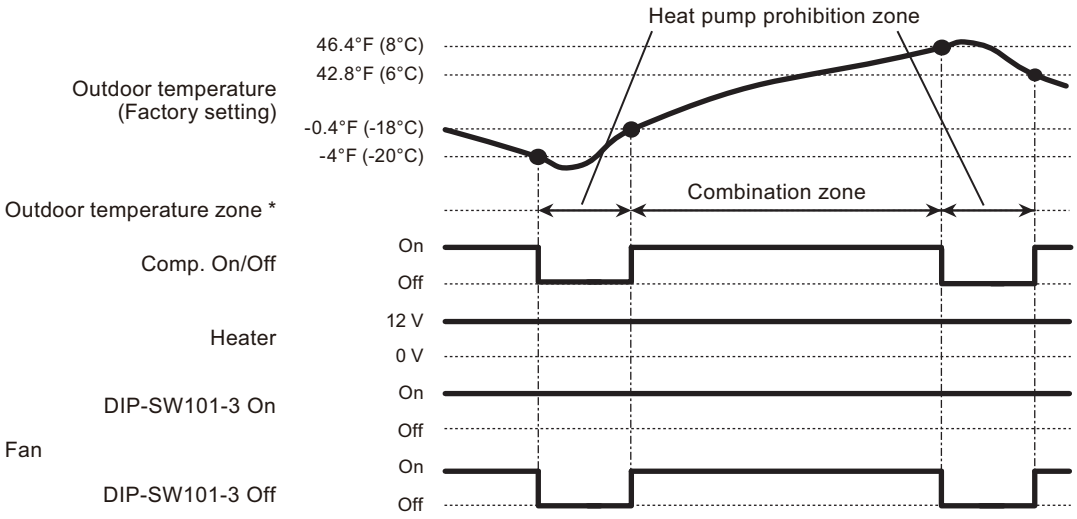
- **Outdoor temperature zone**



*: Adjustable by function setting 66 and 67

- **Operation status**



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

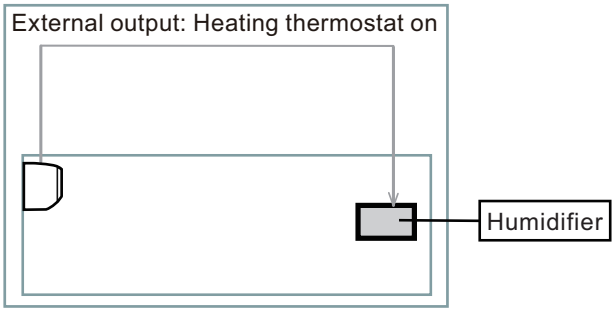
- Other than heating
- Test run

DUCT ARUH12-48KUAS

■ Heating thermostat on for humidifier

Situation	Indoor unit				
	Mode	Function setting	Rotary SW	External output	
		Heating thermostat on no. 60		Heating thermostat on	Indoor unit fan operation status
Example of individual connection	5	60-05	7	CN47	Not used
	6	60-06	8	Output 3	
	7	60-07	9	Output 2	
	8	60-08	A	Output 1	

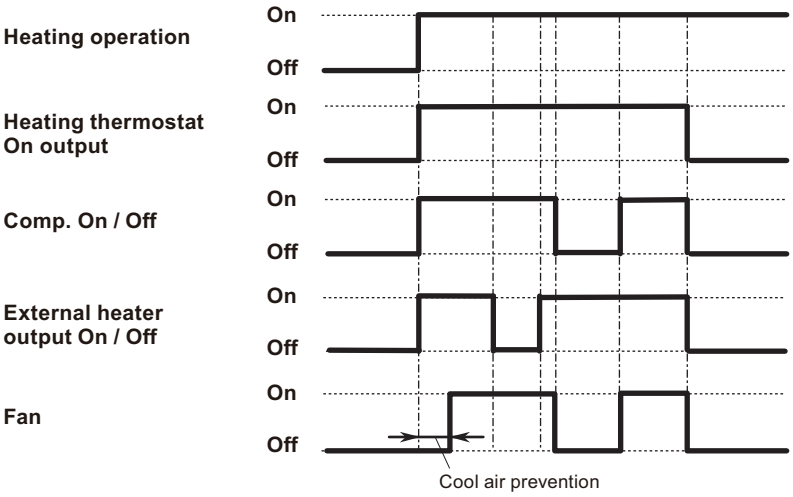
- **Example of individual connection**



- **Operation status**

  The heating thermostat output for CN47, Output 1, Output 2, or Output 3 will be on when comp on or external heater on.

  The heating thermostat output will be off when comp off and external heater off.



DUCT
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9. Group connection

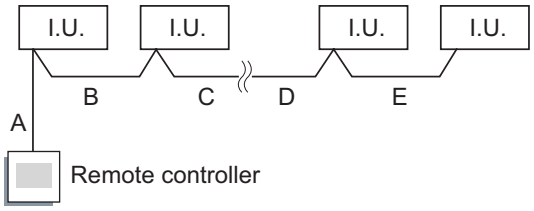
NOTE: Group control cannot be used together with WLAN Adapter.

Installation procedure for group control system:

A number of indoor units can be operated at the same time using a single remote controller.

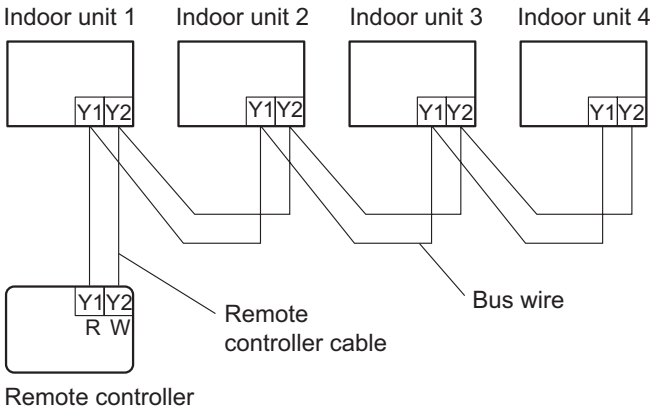
NOTE: When different type of indoor units (such as wall-mounted type and cassette type, cassette type and duct type, or other combinations) are connected using group control system, some functions may no longer be available.

1. Connect up to 16 indoor units in a system.



A, B, C, D, E: Remote controller cable		
Wiring length limitation	UTY-RVRU	A + B + C + D + E ≤ 76.5 yd (70 m)
	Other than UTY-RVRU	A + B + C + D + E ≤ 546.8 yd (500 m)

Example of wiring method



2. Automatic address setting
   After the remote controller connection in the system, the automatic address setting runs in the initial starting up. Do not change the remote controller address for the indoor unit.

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10. 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.

10-1. Function settings on indoor unit

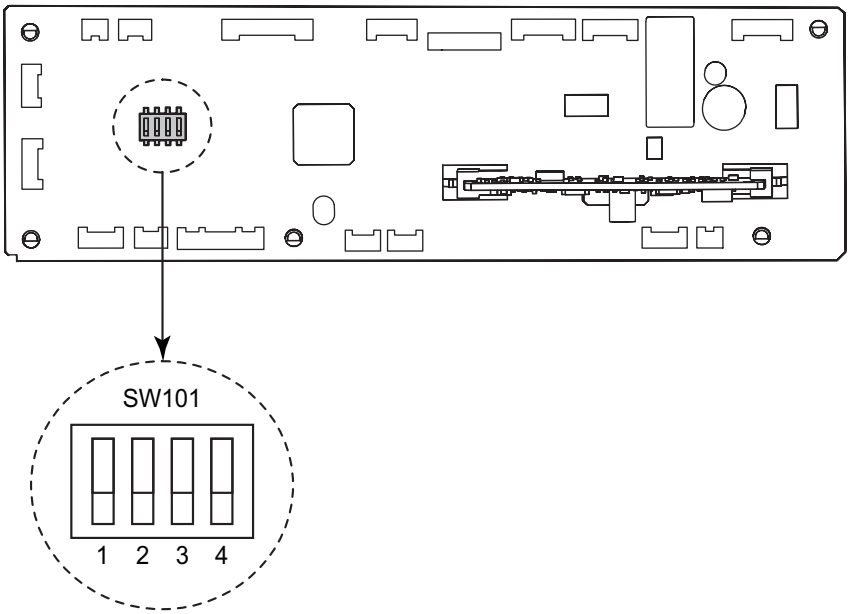
By using some components on the PCB, you can change the function settings.

Related components on the PCB and the applicable settings

Component		Setting content
DIP switch101	1	Setting change prohibited
	2	Setting change prohibited
	3	Fan delay setting
	4	Setting change prohibited

● Component location

Components on the indoor unit main PCB used for the function settings are located as shown in the following figure.



● DIP switch setting

- **Switch 1: Setting change prohibited (SW101)**
- **Switch 2: Setting change prohibited (SW101)**
- **Switch 3: Fan delay setting (SW101)**
  When the indoor unit is stopped while operating in conjunction with auxiliary heater, the indoor unit fan operation will continue for 1 minute.

Switch 3	Fan delay	Factory setting
ON	Enabled	
OFF	Disabled	♦

- **Switch 4: Setting change prohibited (SW101)**

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10-2. 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 remote controller

Remote controller is not attached for this product. For details of the installing remote controller, refer to following information.

- Overview information: Operating manual of the remote controller
- Setting procedure: Installation manual of the remote controller

■ 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)	26	Static pressure
3)	30/31	Room temperature control for indoor unit sensor
4)	35/36	Room temperature control for wired remote controller sensor
5)	40	Auto restart
6)	42	Room temperature sensor switching
7)	43	Cold air prevention
8)	46	External input control
9)	48	Room temperature sensor switching (Aux.)
10)	49	Indoor unit fan control for energy saving for cooling
11)	60	Switching functions for external output terminal
12)	61	Control switching of external heaters
13)	62	Operating temperature switching of external heaters
14)	66	Outdoor temperature zone boundary temperature A
15)	67	Outdoor temperature zone boundary temperature B
16)	68	Auto mode type
17)	69	Deadband value
18)	71	Standby time for auxiliary equipment operation
19)	72	Heat pump backup setting
20)	73	Emergency heat for external output terminal
21)	74	Fan delay time
22)	75	External heater use in defrosting
23)	81	Safety measures setting for refrigerant leakage
24)	94	Fixed operation mode switching

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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 (2,500 hours)	
	01	Long interval (4,400 hours)	
	02	Short interval (1,250 hours)	
	03	No indication	♦

2) Static pressure

Select the appropriate static pressure according to the installation conditions.

Function number	Setting value	Setting description	Factory setting
26	03	0.12 inWG (30 Pa)	
	04	0.16 inWG (40 Pa)	
	05	0.20 inWG (50 Pa)	
	06	0.24 inWG (60 Pa)	
	07	0.28 inWG (70 Pa)	
	08	0.32 inWG (80 Pa)	
	09	0.36 inWG (90 Pa)	
	10	0.40 inWG (100 Pa)	
	11	0.44 inWG (110 Pa)	
	12	0.48 inWG (120 Pa)	
	13	0.52 inWG (130 Pa)	
	14	0.56 inWG (140 Pa)	
	15	0.60 inWG (150 Pa)	
	16	0.64 inWG (160 Pa)	
	17	0.68 inWG (170 Pa)	
	18	0.72 inWG (180 Pa)	
	19	0.76 inWG (190 Pa)	
	20	0.80 inWG (200 Pa)	
	31	Standard 12-24 model: 0.18 inWG (45 Pa) 30-42 model: 0.23 inWG (57 Pa) 48 model: 0.28 inWG (70 Pa)	♦
	32	Automatic airflow adjustment	

NOTE: Range of static pressure is different by model.
If the static pressure is set above maximum range, the setting is same as the maximum.

Type name	Setting of static pressure range
12-36 model	0.12 to 0.80 inWG (30 to 200 Pa)
42-48 model	0.12 to 0.72 inWG (30 to 180 Pa)

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3) Room temperature control for indoor unit sensor

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).

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)		

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4) Room temperature control for wired remote controller sensor

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

To change this setting, set Function 42 to “Both” (01).

Ensure that the Thermo Sensor icon is displayed on the remote controller screen.

Function number		Setting value	Setting description		Factory setting
35 (For cooling)	36 (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)		

5) 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.

6) Room temperature sensor switching

(Only for wired remote controller)

When using the wired remote controller temperature sensor, change the setting to “Both” (01).

Function number	Setting value	Setting description	Factory setting
42	00	Indoor unit	♦
	01	Both	

00: Sensor on the indoor unit is active.

01: Sensors on both indoor unit and wired remote controller are active.

NOTE: Remote controller sensor must be turned on by using the remote controller.

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7) Cold air prevention

This setting is to disable the cold air prevention function during heating operation. When disabled, the fan setting will always follow the setting on the remote controller. (Excluding defrost mode)

Function number	Setting value	Setting description	Factory setting
43	00	Enable	♦
	01	Disable	

NOTE: Flexible multi-split type cannot set this function.

8) External input control

“Operation/Stop” mode or “Forced stop” mode can be selected.

Function number	Setting value	Setting description	Factory setting
46	00	Operation/Stop mode 1 (Remote controller enabled)	♦
	01	(Setting prohibited)	
	02	Forced stop mode	
	03	Operation/Stop mode 2 (Remote controller disabled)	

9) Room temperature sensor switching (Aux.)

To use the temperature sensor on the wired remote controller only, change the setting to “Wired remote controller” (01).

This function will only work if the function setting 42 is set at “Both” (01).

When the setting value is set to “Both” (00), more suitable control of the room temperature is possible by setting function setting 30 and 31 too.

Function number	Setting value	Setting description	Factory setting
48	00	Both	♦
	01	Wired remote controller	

10) 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.

NOTE: Set to “00” or “01” when connecting a remote controller that cannot set the Fan control for energy saving function or connecting a network converter. To confirm if the remote controller has this setting, refer to the operating manual of each remote controller.

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11) Switching functions for external output terminal

Functions of the external output terminal can be switched. For details, refer to “External input and output”.

Function number	Setting value	Setting description	Factory setting
60	00	Operation status	♦
	01—04	Cooling thermostat On	
	05	Heating operation	
	06	Operation/Stop	
	07—08	Cooling thermostat On	
	09	Error status	
	10	Fresh air control	
	11	External heater	

12) Control switching of external heaters

Sets the control method for external heater to be used.

For details, refer to “External heater output” in "Details of control output function" on page 62.

Function number	Setting value	Setting description	Factory setting
61	00	Auxiliary heater control 1	♦
	01	Auxiliary heater control 2	
	02	Heat pump prohibition control	
	03	Auxiliary heater control by outdoor temperature 1	
	04	Auxiliary heater control by outdoor temperature 2	
	05	Auxiliary heater control by outdoor temperature 3	
	06	Auxiliary heat pump control	
	07	Auxiliary heat pump control by outdoor temperature 1	
	08	Auxiliary heat pump control by outdoor temperature 2	
	09	Auxiliary heat pump control by outdoor temperature 3	

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13) Operating temperature switching of external heaters

Sets the temperature conditions when the external heater is ON.

For details, refer to “External heater output” in "Details of control output function" on page 62.

Function number	Setting value	Setting description				Factory setting
		Setting value of function 61:				
		00		01 to 09		
		Heater: On	Heater: Off	Heater: On	Heater: Off	
62	00	-5.4 °F (-3 °C)	-1.8 °F (-1 °C)	-0.9 °F (-0.5 °C)	0.9 °F (0.5 °C)	♦
	01	-3.6 °F (-2 °C)	-1.8 °F (-1 °C)	-1.8 °F (-1 °C)	0.9 °F (0.5 °C)	
	02	-3.6 °F (-2 °C)	-1.8 °F (-1 °C)	-3.6 °F (-2 °C)	0.9 °F (0.5 °C)	
	03	-5.4 °F (-3 °C)	-1.8 °F (-1 °C)	-5.4 °F (-3 °C)	0.9 °F (0.5 °C)	
	04	-7.2 °F (-4 °C)	-1.8 °F (-1 °C)	-7.2 °F (-4 °C)	0.9 °F (0.5 °C)	
	05	-9.0 °F (-5 °C)	-1.8 °F (-1 °C)	-9.0 °F (-5 °C)	0.9 °F (0.5 °C)	
	06	-5.4 °F (-3 °C)	-0.9 °F (-0.5 °C)	-0.9 °F (-0.5 °C)	0 °F (0 °C)	
	07	-3.6 °F (-2 °C)	-0.9 °F (-0.5 °C)	-1.8 °F (-1 °C)	0 °F (0 °C)	
	08	-3.6 °F (-2 °C)	-0.9 °F (-0.5 °C)	-3.6 °F (-2 °C)	0 °F (0 °C)	
	09	-5.4 °F (-3 °C)	-0.9 °F (-0.5 °C)	-5.4 °F (-3 °C)	0 °F (0 °C)	
	10	-7.2 °F (-4 °C)	-0.9 °F (-0.5 °C)	-7.2 °F (-4 °C)	0 °F (0 °C)	
	11	-9.0 °F (-5 °C)	-0.9 °F (-0.5 °C)	-9.0 °F (-5 °C)	0 °F (0 °C)	
	12	-5.4 °F (-3 °C)	0 °F (0 °C)	-0.9 °F (-0.5 °C)	-0.9 °F (-0.5 °C)	
	13	-3.6 °F (-2 °C)	0 °F (0 °C)	-1.8 °F (-1 °C)	-0.9 °F (-0.5 °C)	
	14	-3.6 °F (-2 °C)	0 °F (0 °C)	-3.6 °F (-2 °C)	-0.9 °F (-0.5 °C)	
	15	-5.4 °F (-3 °C)	0 °F (0 °C)	-5.4 °F (-3 °C)	-0.9 °F (-0.5 °C)	
	16	-7.2 °F (-4 °C)	0 °F (0 °C)	-7.2 °F (-4 °C)	-0.9 °F (-0.5 °C)	
	17	-9.0 °F (-5 °C)	0 °F (0 °C)	-9.0 °F (-5 °C)	-0.9 °F (-0.5 °C)	

14) Outdoor temperature zone boundary temperature A

Setting required if changing of the outdoor temperature setting for heat pump prohibition zone is required when auxiliary heater control by outdoor temperature 1 and 2 are performed on the indoor unit.

For details, refer to “External heater output” in "Details of control output function" on page 62.

Function number	Setting value	Setting description	Factory setting
66	00	-4.0°F (-20°C)	♦
	01	-0.4°F (-18°C)	
	02	3.2°F (-16°C)	
	03	6.8°F (-14°C)	
	04	10.4°F (-12°C)	
	05	14.0°F (-10°C)	
	06	17.6°F (-8°C)	
	07	21.2°F (-6°C)	
	08	24.8°F (-4°C)	

DUCT ARUH12-48KUAS

15) Outdoor temperature zone boundary temperature B

Setting required if changing of the outdoor temperature setting for heat pump only zone is required when auxiliary heater control by outdoor temperature 1 and 3 is performed on the indoor unit.

For details, refer to “External heater output” in "Details of control output function" on page 62.

Function number	Setting value	Setting description	Factory setting
67	00	42.8°F (6°C)	♦
	01	14.0°F (-10°C)	
	02	17.6°F (-8°C)	
	03	21.2°F (-6°C)	
	04	24.8°F (-4°C)	
	05	28.4°F (-2°C)	
	06	32.0°F (0°C)	
	07	35.6°F (2°C)	
	08	39.2°F (4°C)	
	09	42.8°F (6°C)	
	10	46.4°F (8°C)	
	11	50.0°F (10°C)	
	12	53.6°F (12°C)	
	13	57.2°F (14°C)	
	14	60.8°F (16°C)	
	15	64.4°F (18°C)	

16) Auto mode type

Switches the setting method of the auto mode between single or dual (cooling and heating.)

Set the primary indoor unit using a wired remote controller for heat pump systems.

Function number	Setting value	Setting description	Factory setting
68	00	Single setpoint auto mode	♦
	01	Dual setpoint auto mode	

NOTE: The auto mode type setting is available only if a compatible operating device is connected.

17) Deadband value

Sets the minimum temperature of the deadband in the dual setpoint auto mode (the setting value 01 of the function setting number 68: Auto mode type.)

Function number	Setting value	Setting description	Factory setting
69	00	0°F (0°C)	♦
	01	0.9°F (0.5°C)	
	02	1.8°F (1.0°C)	
	03	2.7°F (1.5°C)	
	04	3.6°F (2.0°C)	
	05	4.5°F (2.5°C)	
	06	5.4°F (3.0°C)	
	07	6.3°F (3.5°C)	
	08	7.2°F (4.0°C)	
	09	8.1°F (4.5°C)	

NOTE: The deadband setting is available only if a compatible operating device is connected.

DUCT ARUH12-48KUAS

18) Standby time for auxiliary equipment operation

Sets the standby time until the auxiliary equipment operation starts during primary equipment operation.

For details, refer to "Details of control output function" on page 62.

Function number	Setting value	Setting description	Factory setting
71	00	Disable	♦
	01	1 minute	
	02	2 minutes	
	•	•	
	•	•	
	•	•	
	98	98 minutes	
	99	99 minutes	

19) Heat pump backup setting

Enables or disables the heat pump backup operation.

Function number	Setting value	Setting description	Factory setting
72	00	Disable	♦
	01	Enable	

20) Emergency heat for external output terminal

Enables or disables emergency heat input.

Function number	Setting value	Setting description	Factory setting
73	00	Disable	♦
	01	Enable	

NOTE: When this function is used, IR Receiver Unit or Wired Remote Controller is necessary.

21) Fan delay time

Sets the fan delay time when the heater is turned off.

Function number	Setting value	Setting description	Factory setting
74	00	1 minute	♦
	01	50 seconds	
	02	40 seconds	
	03	30 seconds	

22) External heater use in defrosting

Enables or disables external heater use in defrosting.

NOTE: Inappropriate heater selection may cause cold air in defrosting.

Function number	Setting value	Setting description	Factory setting
75	00	Disable	♦
	01	Enable	

DUCT
ARUH12-48KUAS

23) Safety measures setting for refrigerant leakage

Sets the safety measures operation in case of refrigerant leakage.

Function number	Setting value	Setting description	Factory setting
81	00	No safety measures	♦
	01	Air circulation	

To activate the safety measures operation for the indoor unit in case of refrigerant leakage, set the setting value to “01” (Air circulation). When the indoor unit detects refrigerant leakage or the refrigerant leakage sensor failure, the indoor unit operates as follows.

- The indoor unit operates the fan at high speed to diffuse the refrigerant, according to *UL60335-2-40*.

NOTE: Remote controller cannot stop this fan operation for safety reasons.

- The indoor unit stops cooling or heating operation. Also, Forced cooling operation is not allowed.
- The indoor unit or remote controller indicates error code 45 or A8.

24) Fixed operation mode switching

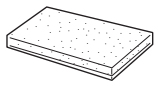
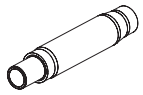
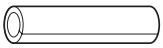
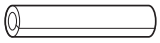
Sets the operation mode to heat pump, heating only, or cooling only.

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

DUCT
ARUH12-48KUAS

11. Accessories

11-1. Models: ARUH12KUAS, ARUH18KUAS, ARUH24KUAS, ARUH30KUAS, ARUH36KUAS, ARUH42KUAS, and ARUH48KUAS

Part name	Exterior	Qty	Part name	Exterior	Qty
Operation manual		1	Cable tie (large)		4
Installation manual		1	Cable tie (medium)		1
Washer A (with insulation)		4	Drain hose insulation		1
Washer B		4	Drain hose		1
Coupler heat insulation (large)		1	Hose band		1
Coupler heat insulation (small)		1			

DUCT
ARUH12-48KUAS

12. Optional parts

12-1. Controllers

Exterior	Part name	Model name	Summary
	Wired Remote Controller (Touch Panel)	UTY-RVRU	Remote controller that provides the functions you need in a sleek design that uniquely transforms itself to blend with any interior. Connecting point: Terminal block (Y1 and Y2)
	Wired Remote Controller (Touch Panel)	UTY-RNRUZ∗	Easy finger touch operation with LCD panel. Backlit LCD enables easy operation in a dark room. Connecting point: Terminal block (Y1 and Y2)
	Simple Remote Controller	UTY-RSRY	Compact remote controller concentrates on the basic functions such as Start/ Stop, fan control, temperature setting, and operation mode. Connecting point: Terminal block (Y1 and Y2)
	Simple Remote Controller	UTY-RHRY	Compact remote controller concentrates on the basic functions such as Start/ Stop, fan control, and temperature setting. Connecting point: Terminal block (Y1 and Y2)
	IR Receiver Kit with Wireless Remote Controller	UTY-LBTUM	Unit control is performed by Wireless Remote Controller Connecting point: CN48 on Main PCB

NOTES:

- Available functions may differ by the remote controller. For details, refer to the operation manual.
- When using the group controlling system of the Wired Remote Controller, using WLAN Adapter is prohibited.

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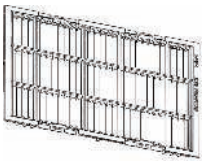
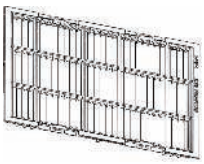
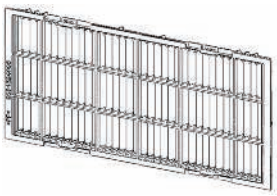
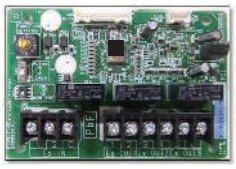
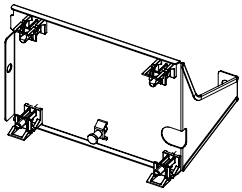
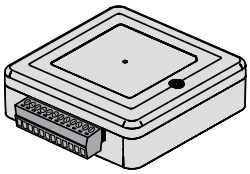
12-2. Others

Exterior	Part name	Model name	Summary
	Remote Sensor Unit	UTY-XSZXZ∗	Thermo-sensor for sensing the temperature of arbitrary place in the room. Connecting point: CN8 on Main PCB
	Long-life Filter	UTD-LFNC	Long-life Filter can be mounted to the indoor unit. (For 12 model)
	Long-life Filter	UTD-LFNB	Long-life Filter can be mounted to the indoor unit. (For 18-30 model)
	Long-life Filter	UTD-LFNA	Long-life Filter can be mounted to the indoor unit. (For 36-48 model)
	External Connect Kit	UTY-XWZXZG	Use to connect with various peripheral devices and air conditioner PCB. For control output port. Connecting point: CN47 on Main PCB
	External Input and Output PCB	UTY-XCSX	Use to connect with external devices and air conditioner PCB. Connecting point: CN65 or CN75 on Main PCB
	External Input and Output PCB Bracket	UTZ-GXNA	For installing the External input and output PCB.
	WLAN Adapter	UTY-TFSXJ∗	Remotely manage an air conditioning system using mobile devices such as smartphones and tablets. For connection indoor unit with UART interface. Appropriate application for each region is required to use this option. For details, contact FGL sales company. Connecting point: CN75 on Main PCB
	Modbus Converter	UTY-VMSX	For connection between indoor unit with UART interface and a Modbus open network. Connecting point: CN65 or CN75 on Main PCB

DUCT
ARUH12-48KUAS

Exterior	Part name	Model name	Summary
	Thermostat Converter	UTY-TTRXZ∗	This converter can control Fujitsu General products using a third-party thermostat controller. Connecting point: Terminal block (Y1 and Y2)
	Network Converter	UTY-VTGX	This converter is required when connecting single split system to VRF network system. Connecting point: Terminal block (Y1 and Y2)
	External Switch Controller	UTY-TERX	Air conditioner switching can be controlled by connecting other external sensor switches. Connecting point: Terminal block (Y1 and Y2)

Part 2. OUTDOOR UNIT

SINGLE TYPE:

AOUH12KUAS1
AOUH18KUAS1
AOUH24KUAS1
AOUH30KUAS1
AOUH36KUAS1
AOUH42KUAS1
AOUH48KUAS1

1. Specifications

1-1. Models: AOUH12KUAS1 and AOUH18KUAS1

Type				Inverter, Heat pump	
Model name				**AOUH12KUAS1**	**AOUH18KUAS1**
Power supply				208/230 V~ 60 Hz	
Power supply intake				Outdoor unit	
Available voltage range				187—253 V	
Starting current			A	5.5	7.6
Fan	Airflow rate	Cooling	CFM (m^3/h)	1,171 (1,990)	1,318 (2,240)
		Heating		1,089 (1,850)	1,154 (1,960)
	Type × Qty			Propeller fan × 1	
	Motor output		W	49	
Sound pressure level*1		Cooling	dB (A)	48	52
		Heating		49	55
Heat exchanger type		Dimensions (H × W × D)	in (mm)	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 × 28 Main 2: 1 × 28	
		Pipe type		Copper tube	
		Fin type	Type (Material)	Aluminum	
			Surface treatment	PC fin	
Compressor		Type		DC twin rotary	
		Motor output	W	900	1,030
Refrigerant		Type		R32	
		Charge	lb oz	2 lb 4 oz	2 lb 12 oz
			g	1,020	1,250
Refrigerant oil		Type		RmM68AF	
		Amount	in^3 (cm^3)	24.4 (400)	
Enclosure		Material		Steel sheet	
		Color		Beige Approximate color of Munsell 10YR 7.5/1.0	
Dimensions (H × W × D)		Net	in (mm)	24-7/8 × 31-7/16 × 11-7/16 (632 × 799 × 290)	
		Gross		27-1/4 × 37 × 14-3/4 (692 × 940 × 375)	
Weight		Net	lb (kg)	84 (38)	
		Gross		93 (42)	
Connection pipe	Size	Liquid	in (mm)	Ø1/4 (Ø6.35)	
		Gas		Ø3/8 (Ø9.52)	Ø1/2 (Ø12.70)
	Method			Flare	
	Pre-charge length		ft (m)	66 (20)	
	Min. length			16 (5)	
	Max. length			98 (30)	
	Max. height difference			49 (15)	
Operation range		Cooling	°F (°C)	-5 to 122*2 (-21 to 50*2)	
		Heating		-5 to 75 (-21 to 24)	
Drain hose		Material		Low-density polyethylene	
		Tip diameter	in (mm)	Ø1/2 (Ø13.0) (I.D.), Ø5/8 to Ø11/16 (Ø16.0 to Ø16.7) (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.
- *1: 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: Suction temperature of the outdoor unit

1-2. Model: AOUH24KUAS1

Type				Inverter, Heat pump
Model name				**AOUH24KUAS1**
Power supply				208/230 V~ 60 Hz
Power supply intake				Outdoor unit
Available voltage range				187—253 V
Starting current			A	9.6
Fan	Airflow rate	Cooling	CFM (m^3/h)	2,187 (3,715)
		Heating		2,187 (3,715)
	Type × Qty			Propeller fan × 1
	Motor output		W	100
Sound pressure level*1		Cooling	dB (A)	52
		Heating		54
Heat exchanger type		Dimensions (H × W × D)	in (mm)	Main 1: 29-3/4 × 35-5/8 × 11/16 (756 × 905 × 18.19) Main 2: 29-3/4 × 35-5/8 × 11/16 (756 × 905 × 18.19)
		Fin pitch	FPI	Main 1: 18 Main 2: 18
		Rows × Stages		Main 1: 1 × 36 Main 2: 1 × 36
		Pipe type		Copper tube
		Fin type	Type (Material)	Aluminum
			Surface treatment	Blue fin
Compressor		Type		DC twin rotary
		Motor output	W	1,360
Refrigerant		Type		R32
		Charge	lb oz	3 lb 5 oz
			g	1,500
Refrigerant oil		Type		RmM68AF
		Amount	in^3 (cm^3)	48.8 (800)
Enclosure		Material		Steel sheet
		Color		Beige Approximate color of Munsell 10YR 7.5/1.0
Dimensions (H × W × D)		Net	in (mm)	31 × 37 × 12-5/8 (788 × 940 × 320)
		Gross		38-1/16 × 40-7/16 × 17-1/2 (966 × 1,027 × 445)
Weight		Net	lb (kg)	115 (52)
		Gross		132 (60)
Connection pipe	Size	Liquid	in (mm)	Ø1/4 (Ø6.35)
		Gas		Ø1/2 (Ø12.70)
	Method			Flare
	Pre-charge length		ft (m)	66 (20)
	Min. length			16 (5)
	Max. length			164 (50)
	Max. height difference			98 (30)
Operation range		Cooling	°F (°C)	-5 to 122*2 (-21 to 50*2)
		Heating		-5 to 75 (-21 to 24)
Drain hose		Material		Low-density polyethylene
		Tip diameter	in (mm)	Ø1/2 (Ø13.0) (I.D.), Ø5/8 to Ø11/16 (Ø16.0 to Ø16.7) (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.
- *1: 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: Suction temperature of the outdoor unit

1-3. Models: AOUH30KUAS1, AOUH36KUAS1, AOUH42KUAS1, and AOUH48KUAS1

OUTDOOR UNIT
AOUH12-48KUAS1

Type				Inverter, Heat pump	
Model name				**AOUH30KUAS1**	**AOUH36KUAS1**
Power supply				208/230 V~ 60 Hz	
Power supply intake				Outdoor unit	
Available voltage range				187—253 V	
Starting current			A	12.0	15.2
Fan	Airflow rate	Cooling	CFM (m^3/h)	2,301 (3,910)	2,502 (4,250)
		Heating		2,219 (3,770)	2,431 (4,130)
	Type × Qty			Propeller fan × 1	
	Motor output		W	120	
Sound pressure level*2		Cooling	dB (A)	53	54
		Heating		55	56
Heat exchanger type		Dimensions (H × W × D)	in (mm)	Main 1: 38-1/16 × 35-5/8 × 11/16 (966 × 905 × 18.19) Main 2: 38-1/16 × 35-5/8 × 11/16 (966 × 905 × 18.19)	
		Fin pitch	FPI	Main 1: 18 Main 2: 18	
		Rows × Stages		Main 1: 1 × 46 Main 2: 1 × 46	
		Pipe type		Copper tube	
		Fin type	Type (Material)	Aluminum	
			Surface treatment	Blue fin	
Compressor		Type		DC twin rotary	
		Motor output	W	1,830	
Refrigerant		Type		R32	
		Charge	lb oz	4 lb 7 oz	
			g	2,000	
Refrigerant oil		Type		RmM68AF	
		Amount	in^3 (cm^3)	48.8 (800)	
Enclosure		Material		Steel sheet	
		Color		Beige Approximate color of Munsell 10YR 7.5/1.0	
Dimensions (H × W × D)		Net	in (mm)	39-5/16 × 37 × 12-5/8 (998 × 940 × 320)	
		Gross		46-5/16 × 40-7/16 × 17-1/2 (1,176 × 1,027 × 445)	
Weight		Net	lb (kg)	137 (62)	
		Gross		157 (71)	
Connection pipe	Size	Liquid	in (mm)	Ø3/8 (Ø9.52)	
		Gas		Ø5/8 (Ø15.88)	
	Method			Flare	
	Pre-charge length		ft (m)	66 (20)	
	Min. length			16 (5)	
	Max. length			164 (50)	
	Max. height difference			98 (30)	
Operation range		Cooling	°F (°C)	-5 to 122*2 (-21 to 50*2)	
		Heating		-5 to 75 (-21 to 24)	
Drain hose		Material		Low-density polyethylene	
		Tip diameter	in (mm)	Ø1/2 (Ø13.0) (I.D.), Ø5/8 to Ø11/16 (Ø16.0 to Ø16.7) (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.
- *1: 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: Suction temperature of the outdoor unit

OUTDOOR UNIT
AOUH12-48KUAS1

Type				Inverter, Heat pump	
Model name				**AOUH42KUAS1**	**AOUH48KUAS1**
Power supply				208/230 V~ 60 Hz	
Power supply intake				Outdoor unit	
Available voltage range				187—253 V	
Starting current			A	17.9	20.6
Fan	Airflow rate	Cooling	CFM (m^3/h)	2,443 (4,150)	2,619 (4,450)
		Heating		2,619 (4,450)	
	Type × Qty			Propeller fan × 1	
	Motor output		W	120	
Sound pressure level*1		Cooling	dB (A)	55	57
		Heating		57	59
Heat exchanger type		Dimensions (H × W × D)	in (mm)	Main 1: 38-1/16 × 35-5/8 × 11/16 (966 × 905 × 18.19) Main 2: 38-1/16 × 35-5/8 × 11/16 (966 × 905 × 18.19) Sub: 38-1/16 × 21-3/8 × 11/16 (966 × 543 × 18.19)	
		Fin pitch	FPI	Main 1: 18 Main 2: 18 Sub: 18	
		Rows × Stages		Main 1: 1 × 46 Main 2: 1 × 46 Sub: 1 × 46	
		Pipe type		Copper tube	
		Fin type	Type (Material)	Aluminum	
			Surface treatment	Blue fin	
Compressor		Type		DC twin rotary	
		Motor output	W	2,550	
Refrigerant		Type		R32	
		Charge	lb oz	5 lb 15 oz	
			g	2,700	
Refrigerant oil		Type		RmM68AF	
		Amount	in^3 (cm^3)	70.2 (1,150)	
Enclosure		Material		Steel sheet	
		Color		Beige Approximate color of Munsell 10YR 7.5/1.0	
Dimensions (H × W × D)		Net	in (mm)	39-5/16 × 37 × 12-5/8 (998 × 940 × 320)	
		Gross		46-5/16 × 40-7/16 × 17-1/2 (1,176 × 1,027 × 445)	
Weight		Net	lb (kg)	157 (71)	
		Gross		176 (80)	
Connection pipe	Size	Liquid	in (mm)	Ø3/8 (Ø9.52)	
		Gas		Ø5/8 (Ø15.88)	
	Method			Flare	
	Pre-charge length		ft (m)	98 (30)	
	Min. length			16 (5)	
	Max. length			246 (75)	
	Max. height difference			98 (30)	
Operation range		Cooling	°F (°C)	-5 to 122*2 (-21 to 50*2)	
		Heating		-5 to 75 (-21 to 24)	
Drain hose		Material		Low-density polyethylene	
		Tip diameter	in (mm)	Ø1/2 (Ø13.0) (I.D.), Ø5/8 to Ø11/16 (Ø16.0 to Ø16.7) (O.D.)	

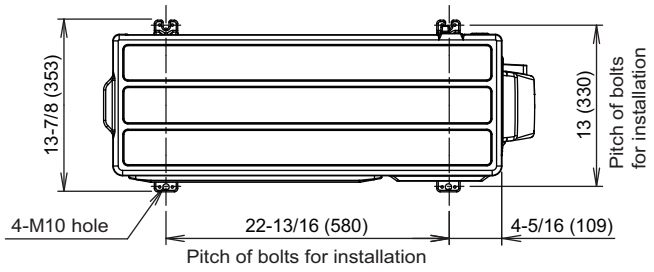
NOTES:

- 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.
- *1: 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: Suction temperature of the outdoor unit

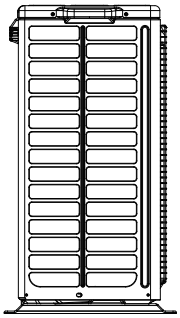
2. Dimensions

2-1. Models: AOUH12KUAS1 and AOUH18KUAS1

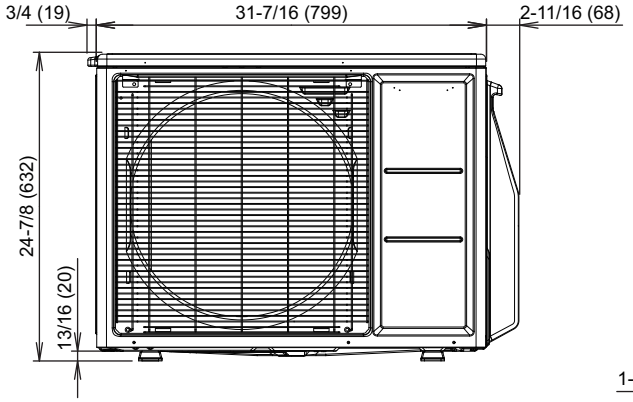
Unit: in (mm)



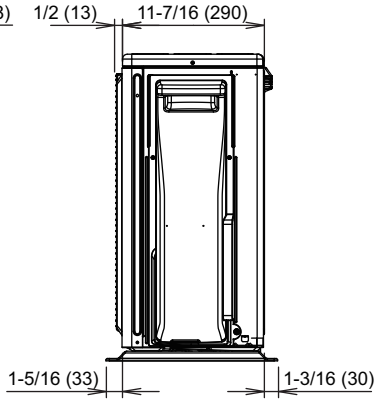
Top view



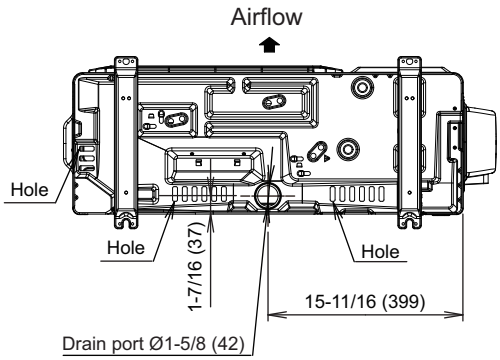
Side view



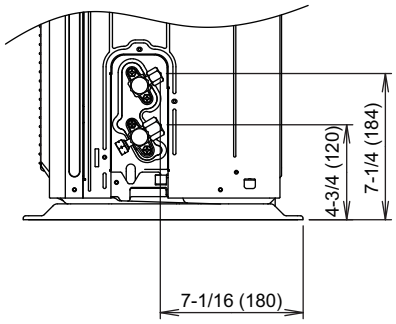
Front view



Side view



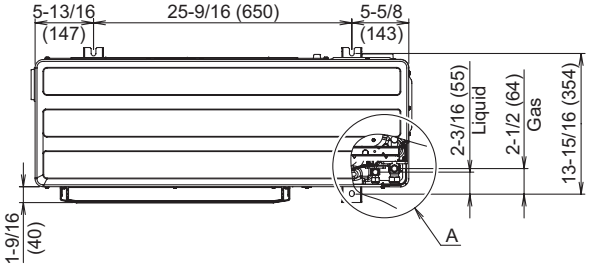
Bottom view



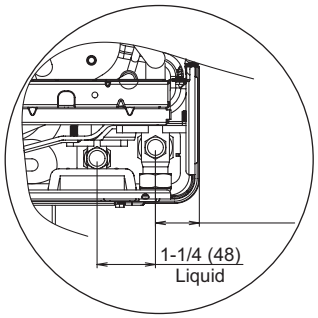
Side view (Valve part)

2-2. Model: AOUH24KUAS1

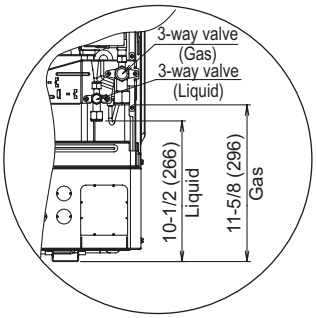
Unit: in (mm)



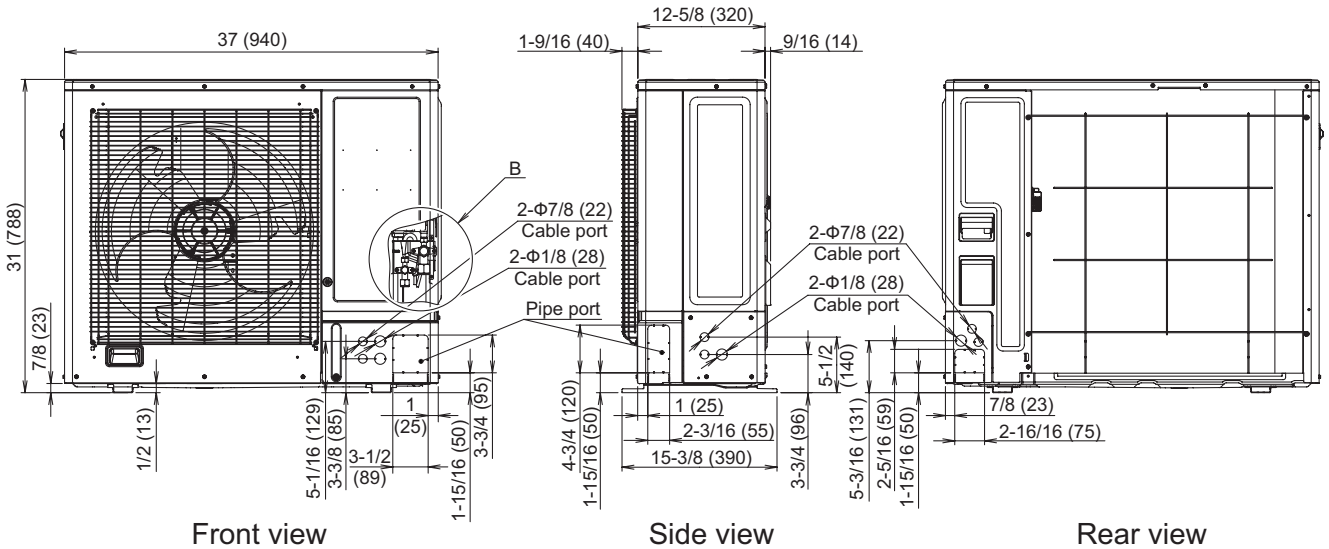
Top view



Detail A



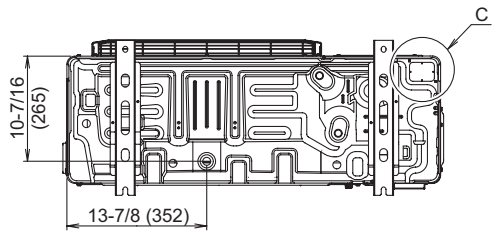
Detail B



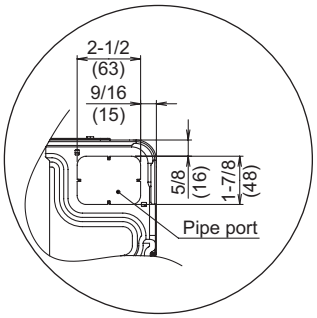
Front view

Side view

Rear view



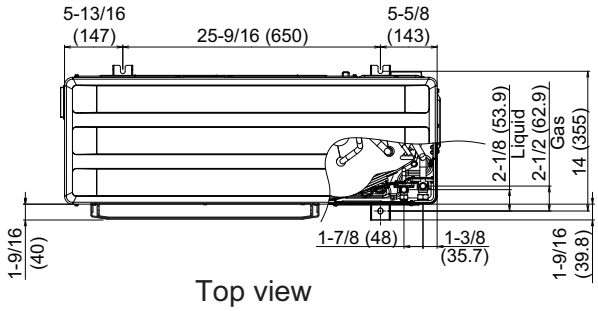
Bottom view



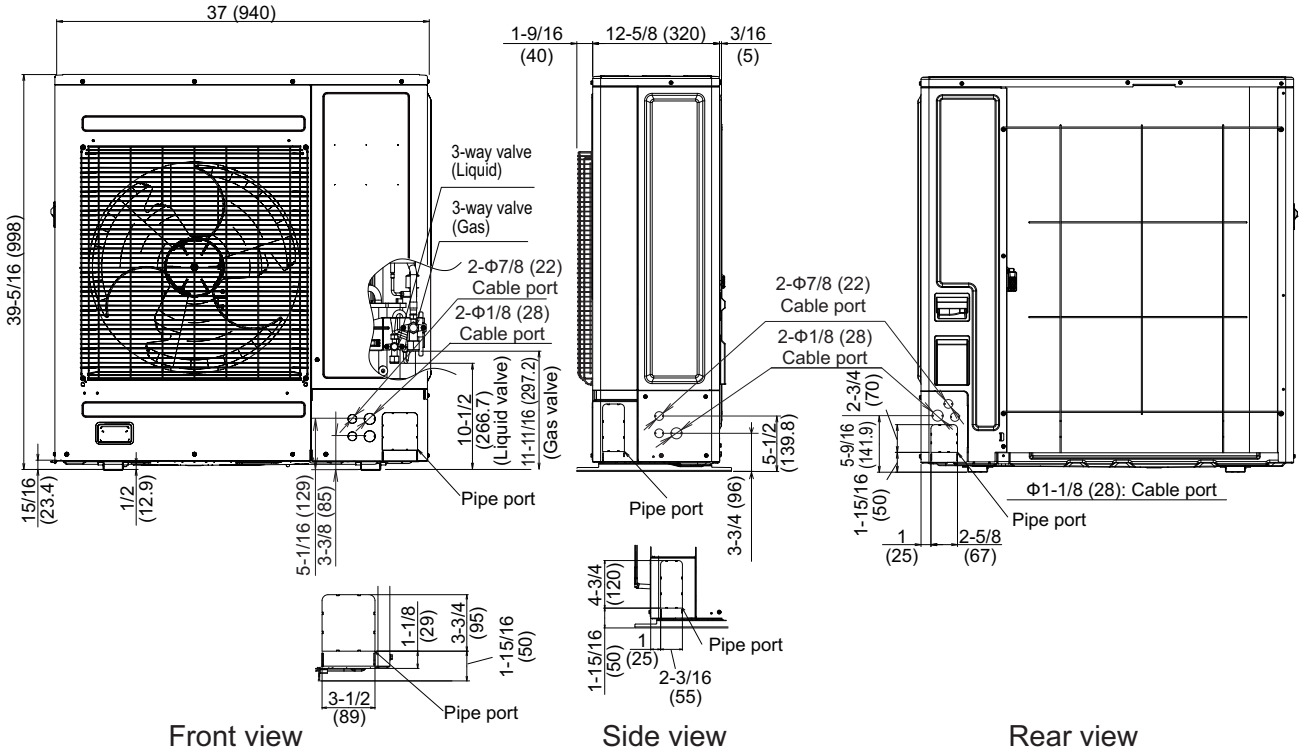
Detail C

2-3. Models: AOUH30KUAS1, AOUH36KUAS1, AOUH42KUAS1, and AOUH48KUAS1

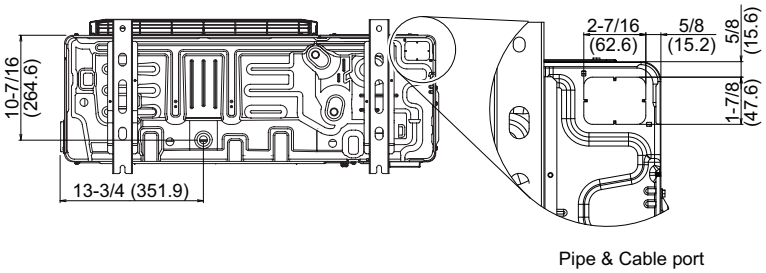
Unit: in (mm)



Top view



Front view Side view Rear view



Bottom view

OUTDOOR UNIT
AOUH12-48KUAS1

3. Installation space

3-1. Models: AOUH12KUAS1 and AOUH18KUAS1

■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

Keep the space shown in the installation examples.

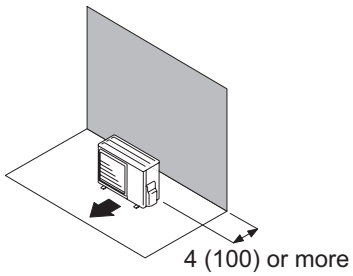
If the installation is not performed accordingly, it could cause a short circuit and result in a lack of operating performance.

● Single outdoor unit installation

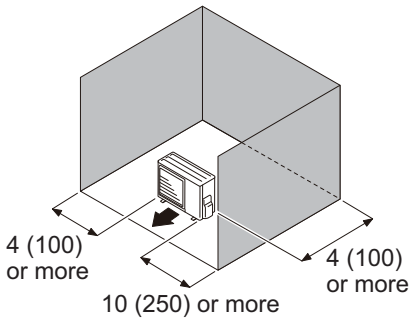
- **When the upper space is open:**

Unit: in (mm)

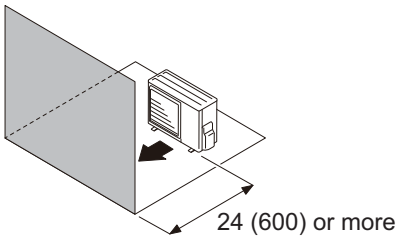
Obstacles at rear only



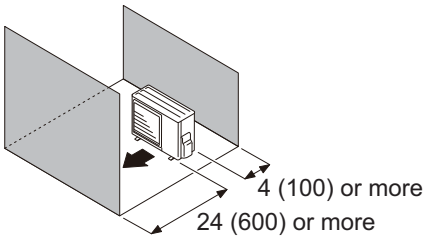
Obstacles at rear and sides



Obstacles at front



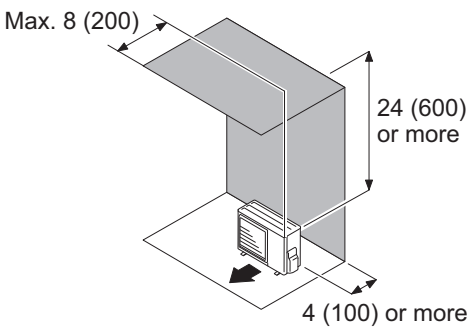
Obstacles at front and rear



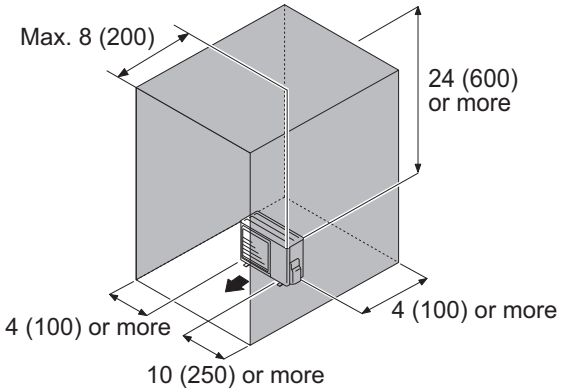
- **When an obstruction in the upper space:**

Unit: in (mm)

Obstacles at rear and above



Obstacles at rear, sides, and above



OUTDOOR UNIT
AOUH12-48KUAS1

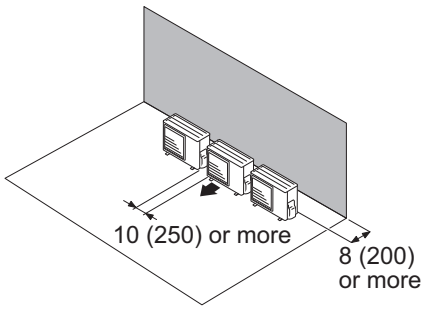
● Multiple outdoor unit installation

- 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:**".

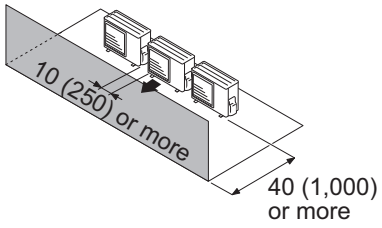
- **When the upper space is open:**

Unit: in (mm)

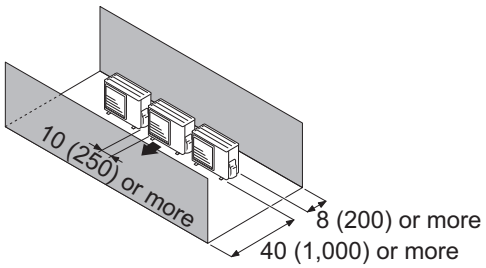
Obstacles at rear only



Obstacles at front only



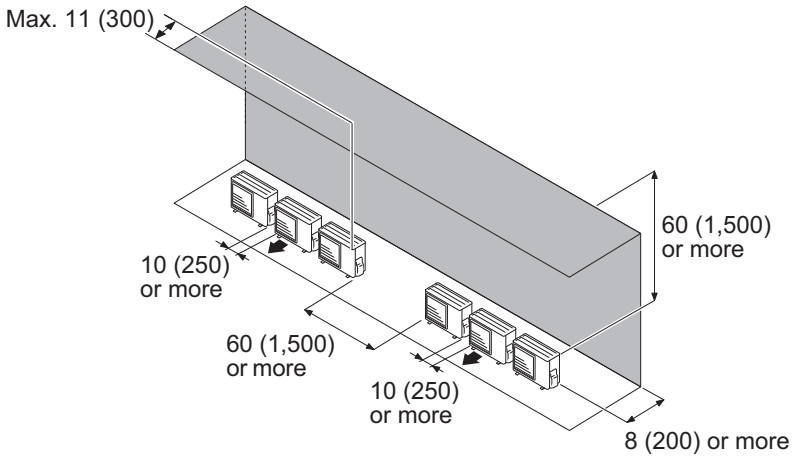
Obstacles at front and rear



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

Unit: in (mm)

Obstacles at rear and above.

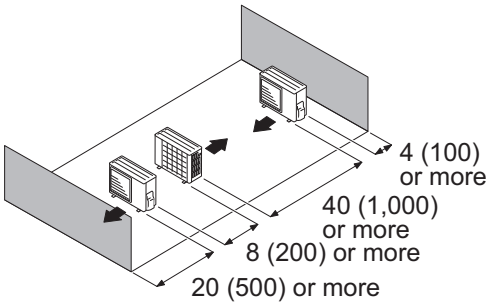


OUTDOOR UNIT
AOUH12-48KUAS1

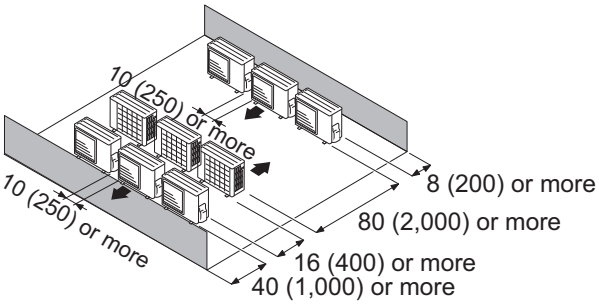
● Outdoor units installation in multi-row

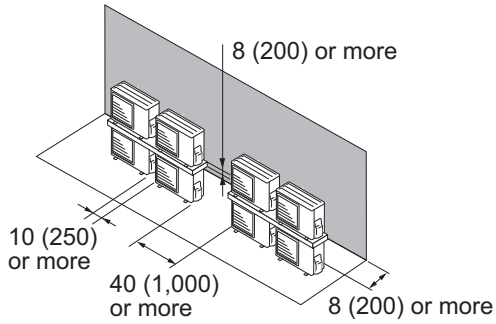
Unit: in (mm)

Single parallel unit arrangement



Multiple parallel unit arrangement



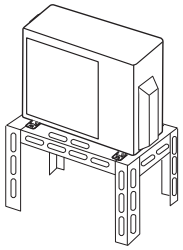


NOTES:

- 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.



3-2. Models: AOUH24KUAS1, AOUH30KUAS1, AOUH36KUAS1, AOUH42KUAS1, and AOUH48KUAS1

OUTDOOR UNIT
AOUH12-48KUAS1

■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

Keep the space shown in the installation examples.

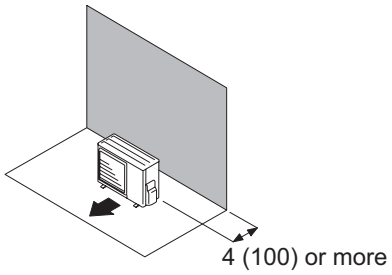
If the installation is not performed accordingly, it could cause a short circuit and result in a lack of operating performance.

● Single outdoor unit installation

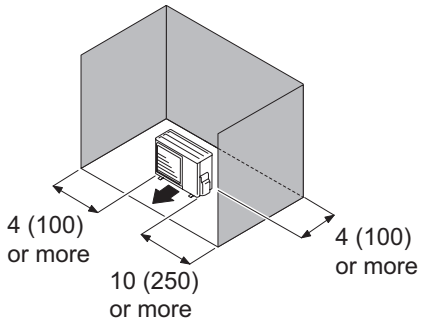
- **When the upper space is open:**

Unit: in (mm)

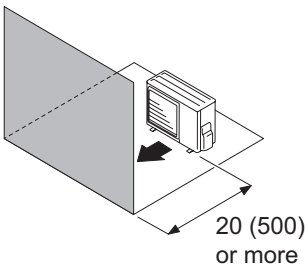
When there are obstacles at the rear only.



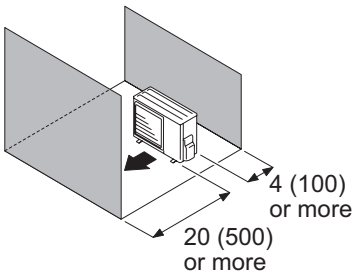
When there are obstacles at the rear and sides.



When there are obstacles at the front only.



When there are obstacles at the front and rear.

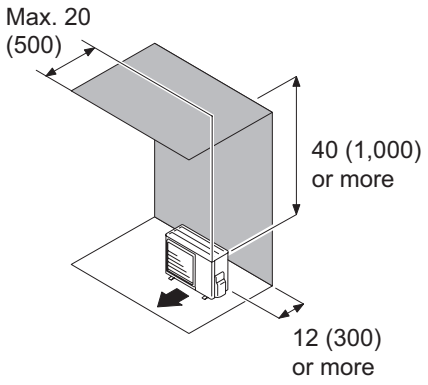


OUTDOOR UNIT
AOUH12-48KUAS1

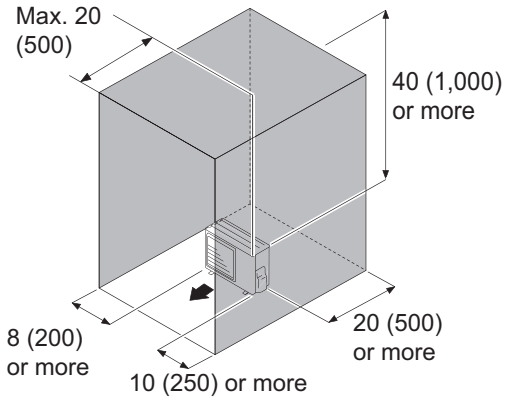
- **When an obstruction in the upper space:**

Unit: in (mm)

When there are obstacles at the rear and above.



When there are obstacles at the rear, sides, and above.



OUTDOOR UNIT
AOUH12-48KUAS1

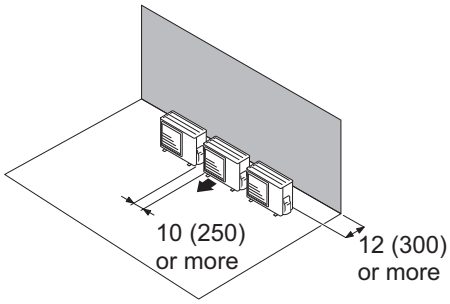
● Multiple outdoor unit installation

- Provide at least 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:**".

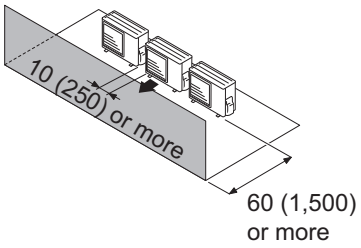
- **When the upper space is open:**

Unit: in (mm)

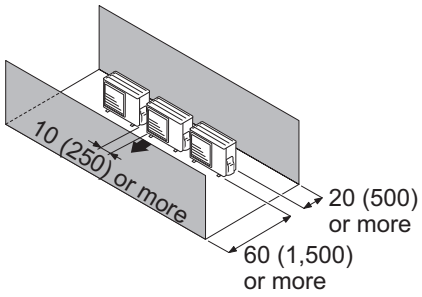
When there are obstacles at the rear only.



When there are obstacles at the front only.



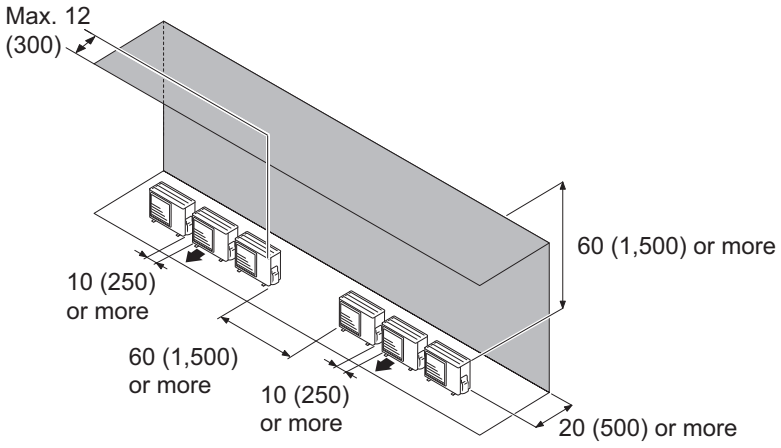
When there are obstacles at the front and rear.



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

Unit: in (mm)

When there are obstacles at the rear and above.

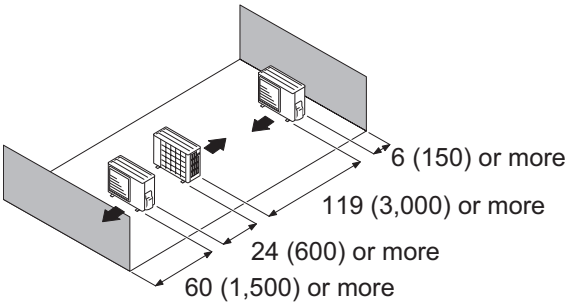


OUTDOOR UNIT
AOUH12-48KUAS1

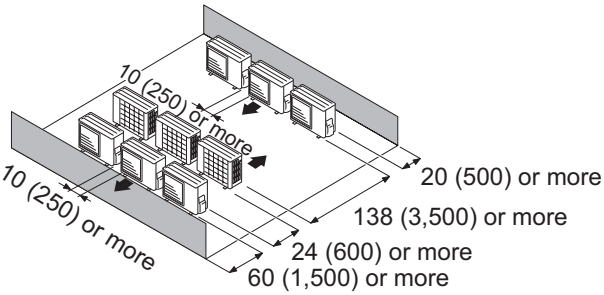
● Outdoor unit installation in multi-row

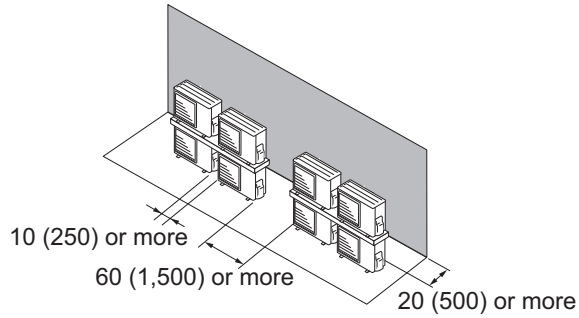
Unit: in (mm)

Single parallel unit arrangement



Multiple parallel unit arrangement



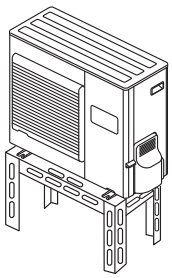


NOTES:

- If the space is larger than stated above, the condition will be the same as when there is no obstacle.
- Height above the floor level should be 2 in (50 mm) or more.
- When installing the outdoor unit, be sure to open the front and left side to obtain better operation efficiency.

⚠ CAUTION

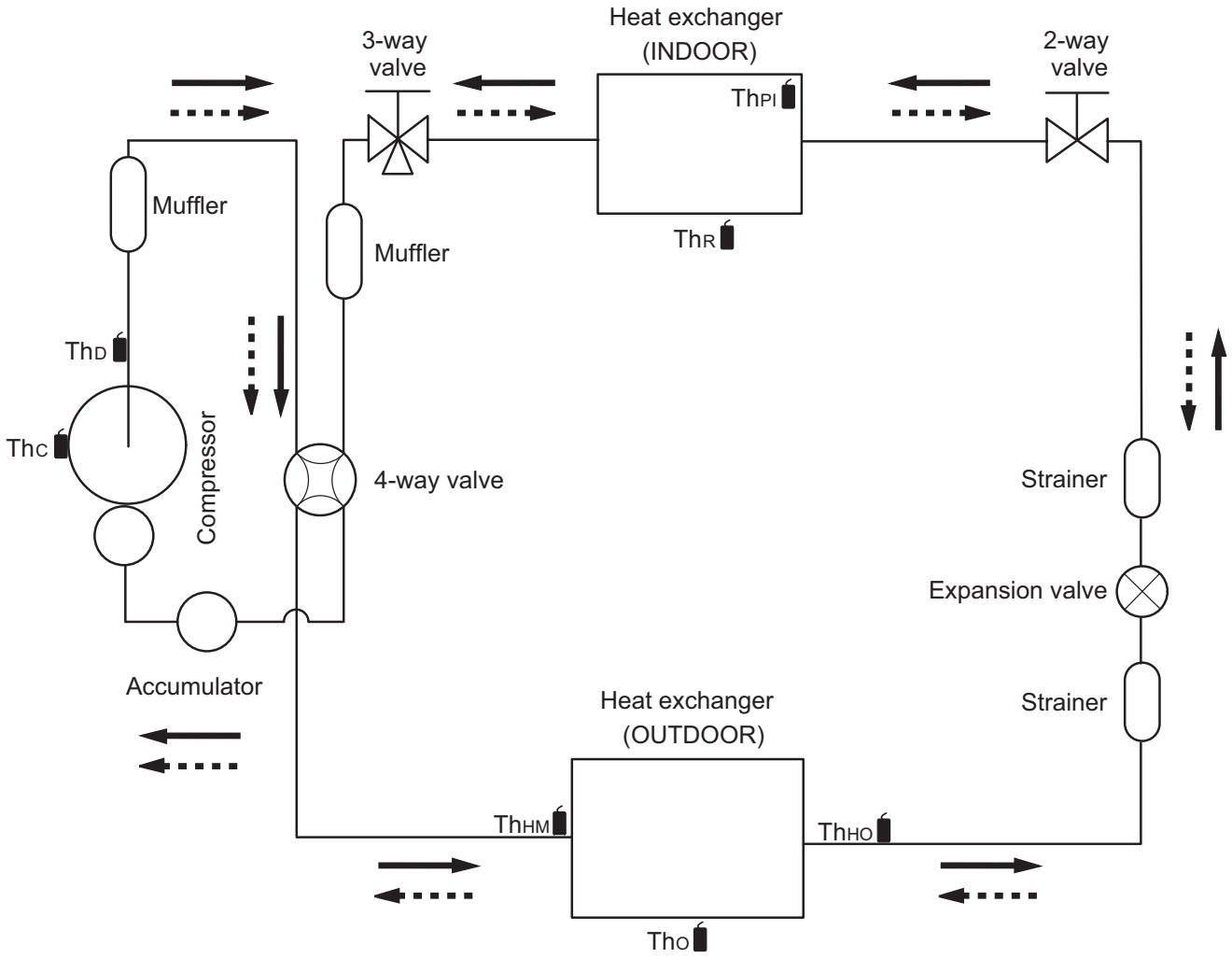
- Do not install the outdoor unit in two-stage where the drain water could freeze. Otherwise the drainage from the upper unit may form ice and cause a malfunction of the lower unit.
- When the outdoor temperature is 32 °F (0 °C) or less, do not use the accessory drain pipe and drain cap. If the drain 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.



OUTDOOR UNIT
AOUH12-48KUAS1

4. Refrigerant circuit

4-1. Models: AOUH12KUAS1 and AOUH18KUAS1



ThC : Thermistor (Compressor temperature)

ThD : Thermistor (Discharge temperature)

ThHM : Thermistor (Heat exchanger middle temperature)

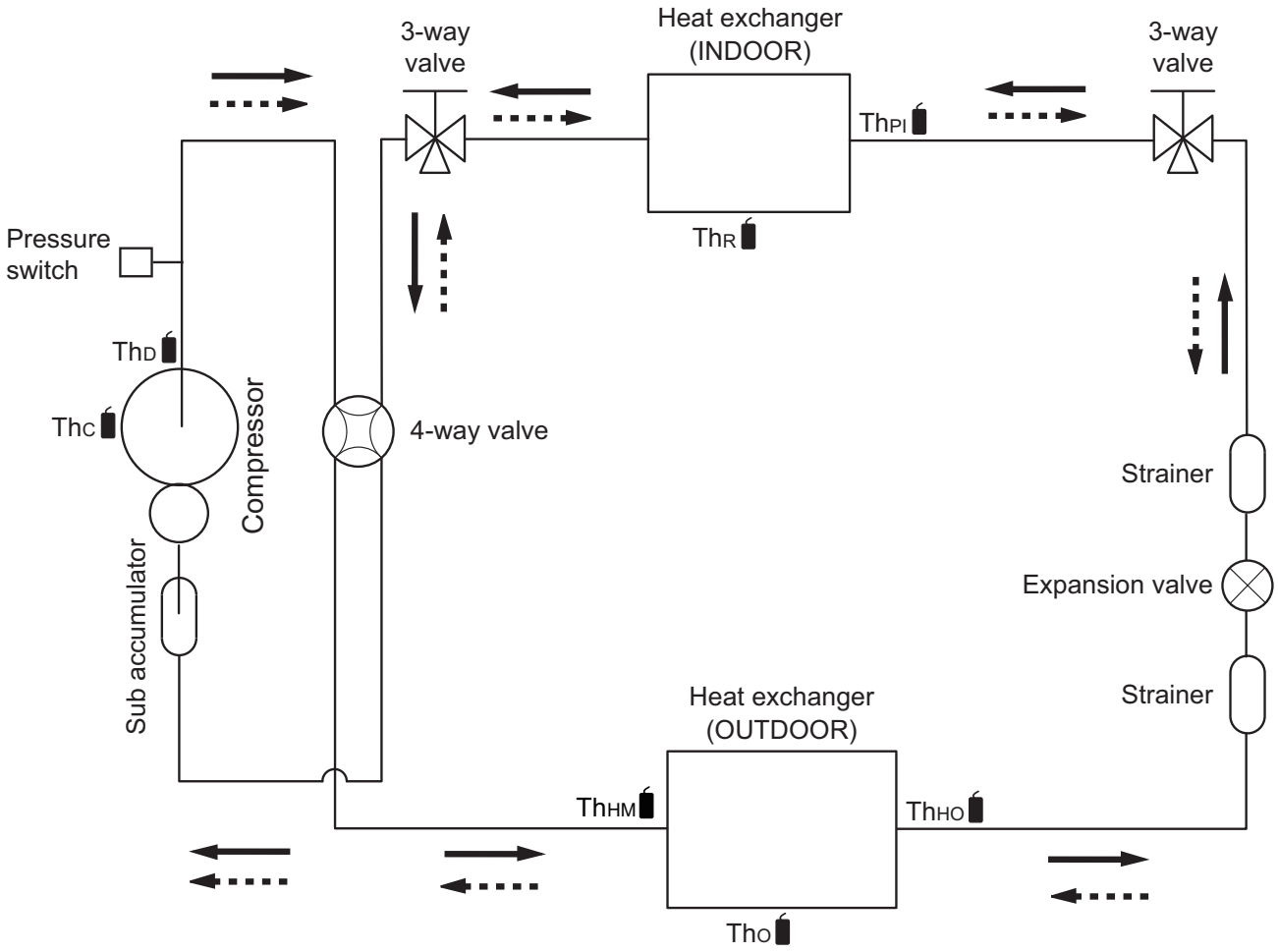
ThO : Thermistor (Outdoor temperature)

ThHO : Thermistor (Heat exchanger out temperature)

ThPI : Thermistor (Pipe temperature)

ThR : Thermistor (Room temperature)

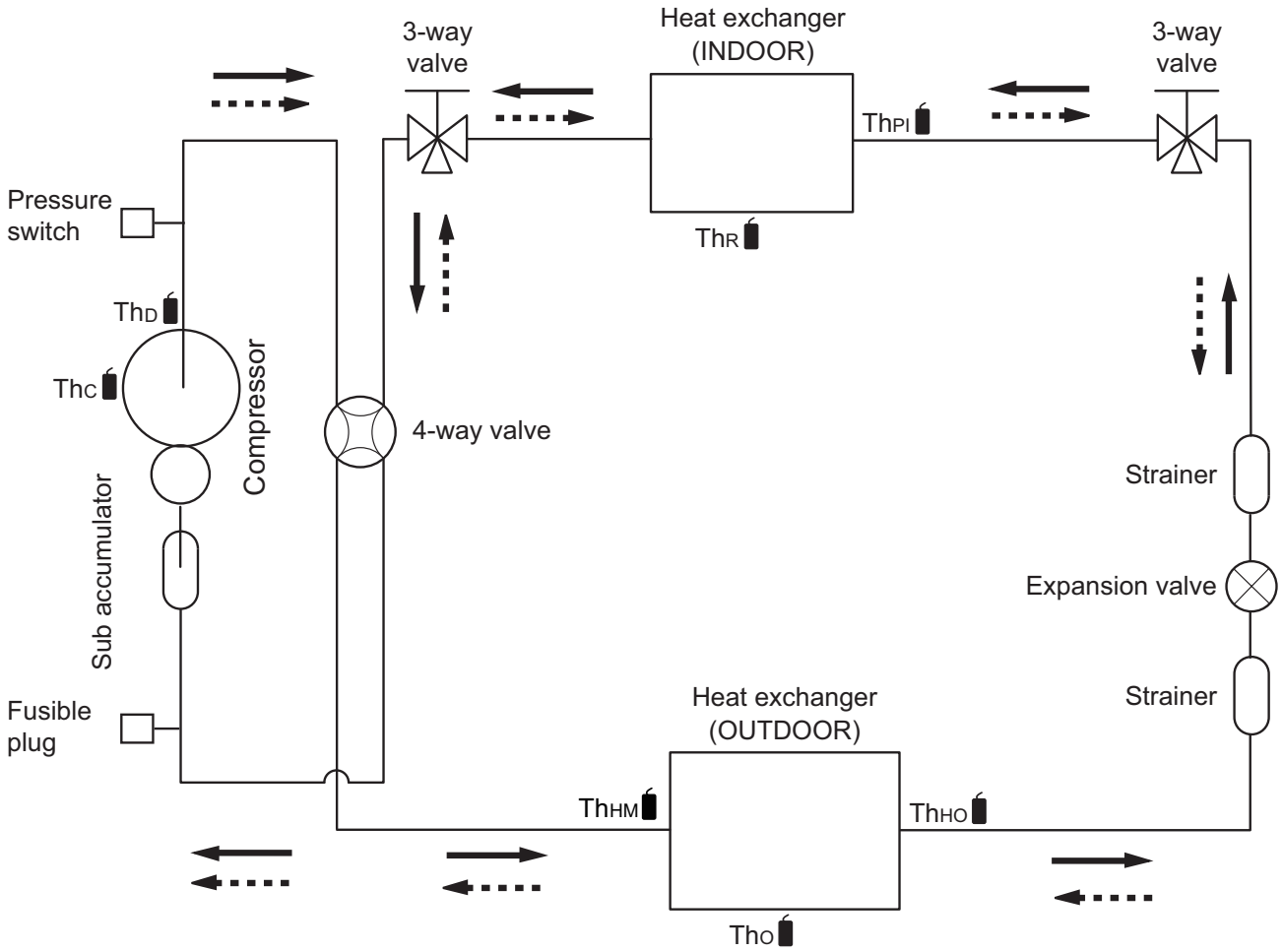
4-2. Models: AOUH24KUAS1, AOUH30KUAS1, and AOUH36KUAS1



: Cooling
: Heating

ThC : Thermistor (Compressor temperature)
ThD : Thermistor (Discharge temperature)
ThHM : Thermistor (Heat exchanger middle temperature)
ThO : Thermistor (Outdoor temperature)
ThHO : Thermistor (Heat exchanger out temperature)
ThPI : Thermistor (Pipe temperature)
ThR : Thermistor (Room temperature)

4-3. Models: AOUH42KUAS1 and AOUH48KUAS1

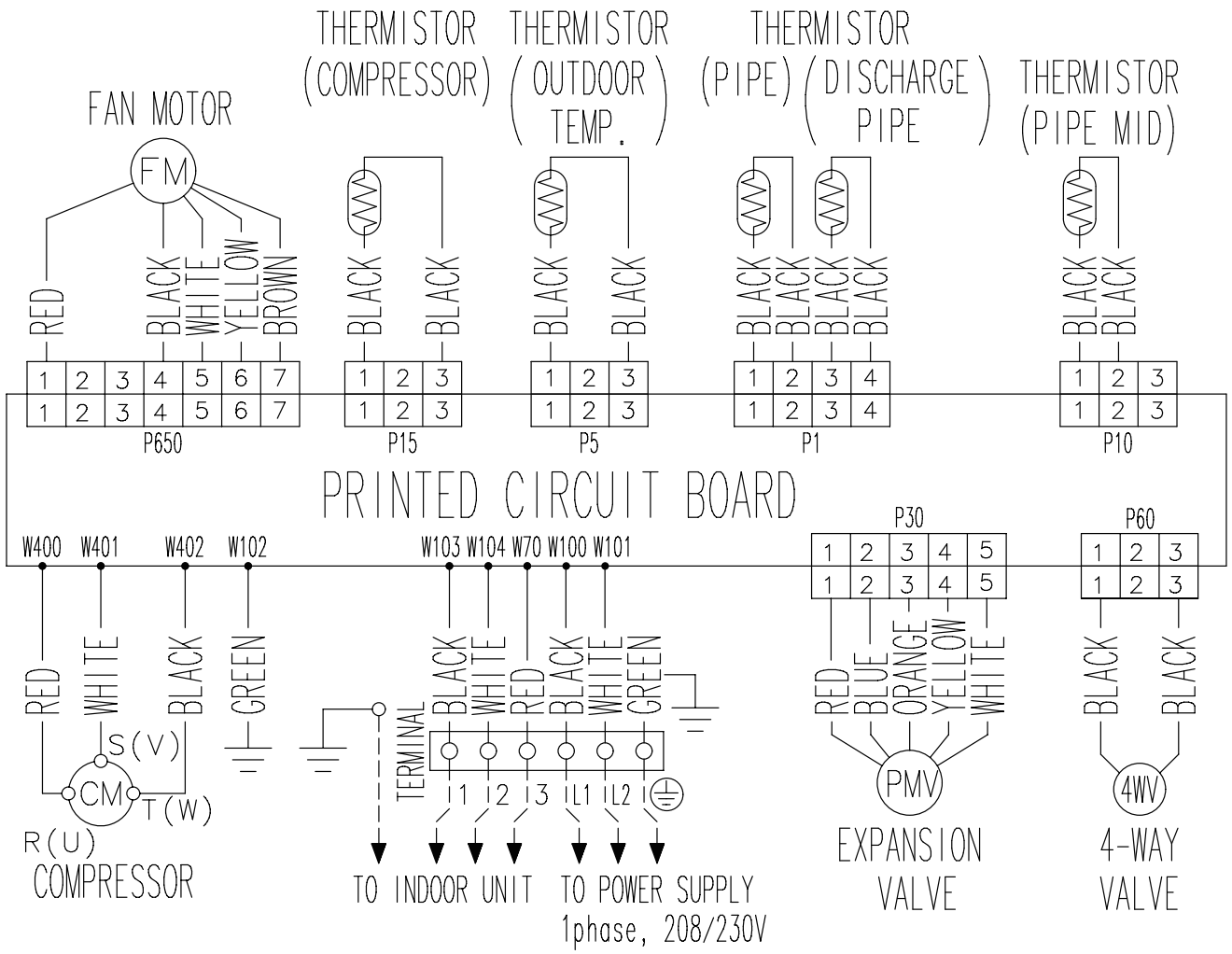


: Cooling
: Heating

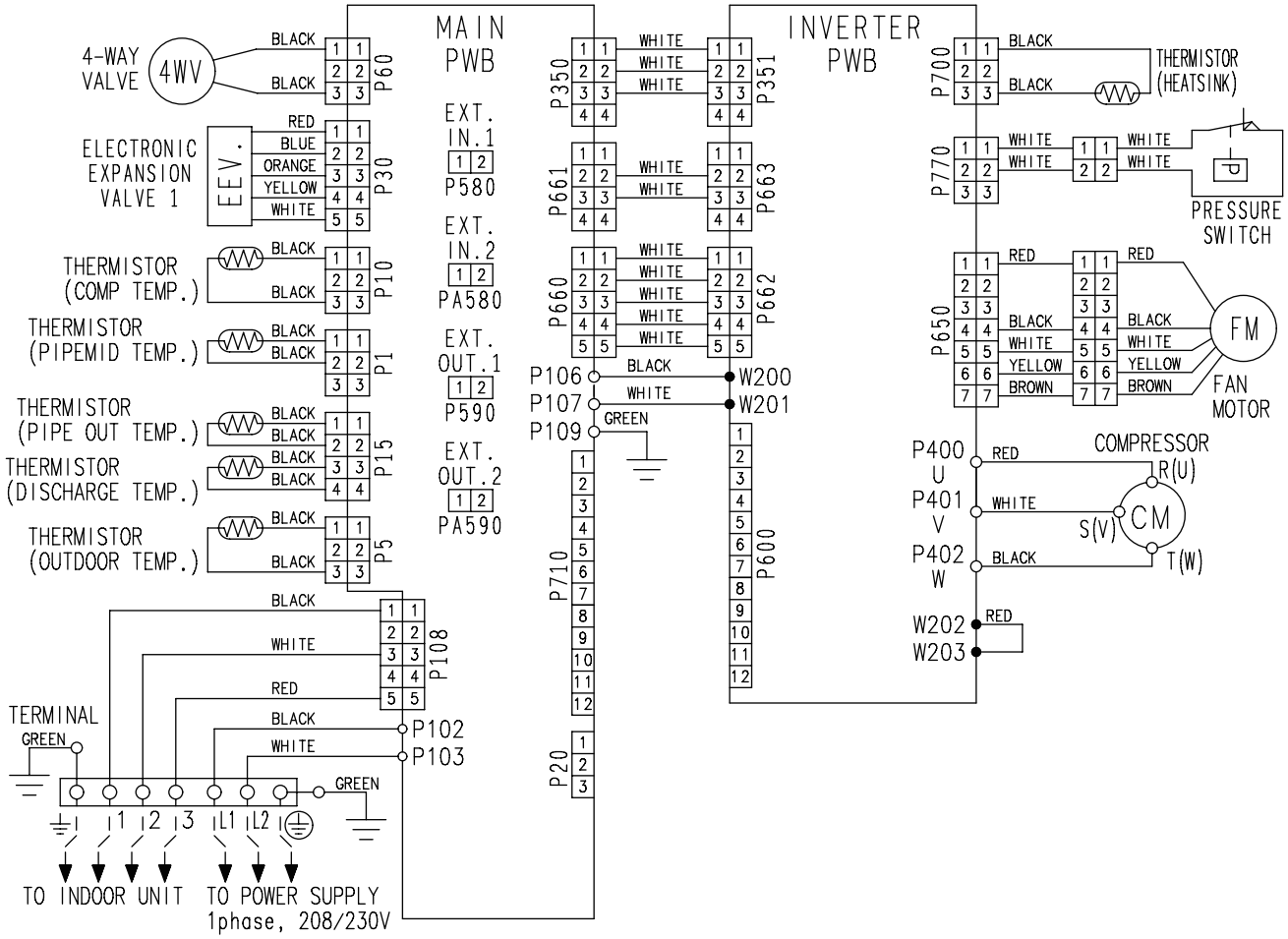
ThC : Thermistor (Compressor temperature)
ThD : Thermistor (Discharge temperature)
ThHM : Thermistor (Heat exchanger middle temperature)
ThO : Thermistor (Outdoor temperature)
ThHO : Thermistor (Heat exchanger out temperature)
ThPI : Thermistor (Pipe temperature)
ThR : Thermistor (Room temperature)

5. Wiring diagrams

5-1. Models: AOUH12KUAS1 and AOUH18KUAS1



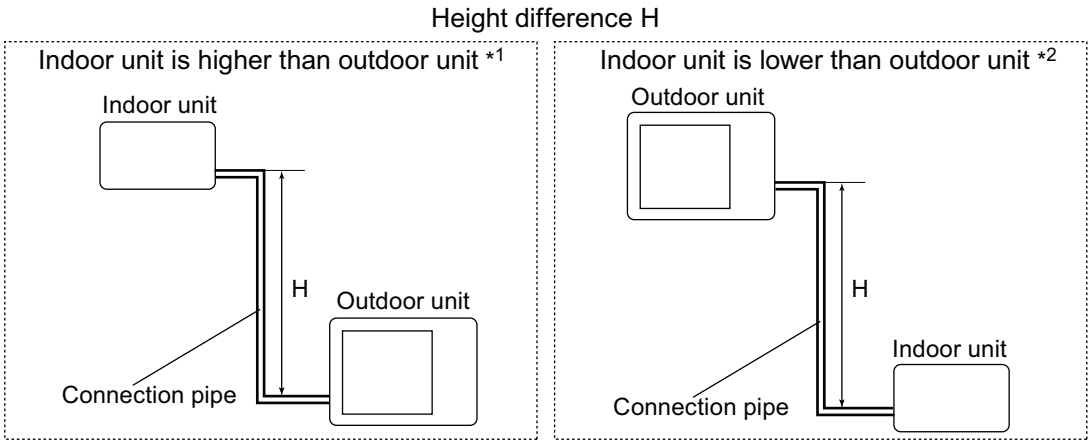
5-2. Models: AOUH24KUAS1, AOUH30KUAS1, AOUH36KUAS1, AOUH42KUAS1, and AOUH48KUAS1



OUTDOOR UNIT
AOUH12-48KUAS1

OUTDOOR UNIT
AOUH12-48KUAS1

6. Capacity compensation rate for pipe length and height difference



6-1. Model: AOUH12KUAS1

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

COOLING		Pipe length								
		m		5	7.5	10	15	20	25	30
			ft	16	25	33	49	66	82	98
Height difference H	Indoor unit is higher than outdoor unit *1	15	49	—	—	—	0.877	0.815	0.811	0.807
		10	33	—	—	0.956	0.891	0.828	0.824	0.820
		7.5	25	—	0.988	0.960	0.895	0.832	0.828	0.824
		5	16	1.017	0.992	0.964	0.899	0.834	0.831	0.827
		0	0	1.025	1.000	0.971	0.906	0.841	0.837	0.833
	Indoor unit is lower than outdoor unit *2	-5	-16	1.025	1.000	0.971	0.906	0.841	0.837	0.833
		-7.5	-25	—	1.000	0.971	0.906	0.841	0.837	0.833
		-10	-33	—	—	0.971	0.906	0.841	0.837	0.833
		-15	-49	—	—	—	0.906	0.841	0.837	0.833

HEATING		Pipe length								
		m		5	7.5	10	15	20	25	30
			ft	16	25	33	49	66	82	98
Height difference H	Indoor unit is higher than outdoor unit *1	15	49	—	—	—	0.933	0.885	0.877	0.869
		10	33	—	—	0.981	0.933	0.885	0.877	0.869
		7.5	25	—	1.000	0.981	0.933	0.885	0.877	0.869
		5	16	1.017	1.000	0.981	0.933	0.885	0.877	0.869
		0	0	1.017	1.000	0.981	0.933	0.885	0.877	0.869
	Indoor unit is lower than outdoor unit *2	-5	-16	1.012	0.995	0.976	0.928	0.880	0.872	0.864
		-7.5	-25	—	0.993	0.974	0.926	0.878	0.870	0.862
		-10	-33	—	—	0.971	0.923	0.876	0.868	0.861
		-15	-49	—	—	—	0.914	0.867	0.859	0.851

6-2. Model: AOUH18KUAS1

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

COOLING		Pipe length							
		m		5	7.5	10	15	20	25	30
			ft	16	25	33	49	66	82	98
Height difference H	Indoor unit is higher than outdoor unit *1	15	49	—	—	—	0.951	0.950	0.947	0.941
		10	33	—	—	0.979	0.967	0.966	0.962	0.956
		7.5	25	—	0.988	0.983	0.971	0.970	0.966	0.960
		5	16	0.994	0.992	0.987	0.975	0.974	0.970	0.964
		0	0	1.002	1.000	0.995	0.983	0.982	0.978	0.972
	Indoor unit is lower than outdoor unit *2	-5	-16	1.002	1.000	0.995	0.983	0.982	0.978	0.972
		-7.5	-25	—	1.000	0.995	0.983	0.982	0.978	0.972
		-10	-33	—	—	0.995	0.983	0.982	0.978	0.972
		-15	-49	—	—	—	0.983	0.982	0.978	0.972

HEATING		Pipe length							
		m		5	7.5	10	15	20	25	30
			ft	16	25	33	49	66	82	98
Height difference H	Indoor unit is higher than outdoor unit *1	15	49	—	—	—	0.994	0.979	0.949	0.919
		10	33	—	—	1.012	0.994	0.979	0.949	0.919
		7.5	25	—	1.000	1.012	0.994	0.979	0.949	0.919
		5	16	0.969	1.000	1.012	0.994	0.979	0.949	0.919
		0	0	0.969	1.000	1.012	0.994	0.979	0.949	0.919
	Indoor unit is lower than outdoor unit *2	-5	-16	0.964	0.995	1.007	0.989	0.974	0.944	0.915
		-7.5	-25	—	0.993	1.004	0.986	0.972	0.942	0.911
		-10	-33	—	—	1.002	0.984	0.969	0.940	0.909
		-15	-49	—	—	—	0.974	0.959	0.930	0.899

6-3. Models: AOUH24KUAS1, AOUH30KUAS1, and AOUH36KUAS1

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

COOLING		Pipe length								
		m		5	7.5	10	20	30	40	50
			ft	16	24	32	65	98	131	164
Height difference H	Indoor unit is higher than outdoor unit *1	30	98	—	—	—	—	0.913	0.899	0.881
		20	65	—	—	—	0.941	0.929	0.914	0.896
		10	32	—	—	0.974	0.957	0.944	0.930	0.911
		7.5	24	—	0.988	0.978	0.960	0.948	0.934	0.914
		5	16	0.998	0.992	0.982	0.964	0.952	0.938	0.919
		0	0	1.000	1.000	0.989	0.972	0.960	0.945	0.926
	Indoor unit is lower than outdoor unit *2	-5	-16	1.000	1.000	0.989	0.972	0.960	0.945	0.926
		-7.5	-24	—	1.000	0.989	0.972	0.960	0.945	0.926
		-10	-32	—	—	0.989	0.972	0.960	0.945	0.926
		-20	-65	—	—	—	0.972	0.960	0.945	0.926
		-30	-98	—	—	—	—	0.960	0.945	0.926

HEATING		Pipe length								
		m		5	7.5	10	20	30	40	50
			ft	16	24	32	65	98	131	164
Height difference H	Indoor unit is higher than outdoor unit *1	30	98	—	—	—	—	0.939	0.922	0.907
		20	65	—	—	—	0.963	0.939	0.922	0.907
		10	32	—	—	0.999	0.963	0.939	0.922	0.907
		7.5	24	—	1.000	0.999	0.963	0.939	0.922	0.907
		5	16	1.000	1.000	0.999	0.963	0.939	0.922	0.907
		0	0	1.000	1.000	0.999	0.963	0.939	0.922	0.907
	Indoor unit is lower than outdoor unit *2	-5	-16	1.000	0.995	0.995	0.958	0.934	0.917	0.903
		-7.5	-24	—	0.983	0.992	0.955	0.932	0.915	0.900
		-10	-32	—	—	0.990	0.953	0.929	0.912	0.898
		-20	-65	—	—	—	0.943	0.920	0.903	0.889
		-30	-98	—	—	—	—	0.911	0.894	0.880

6-4. Models: AOUH42KUAS1 and AOUH48KUAS1

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

COOLING		Pipe length									
		m		5	7.5	10	20	30	40	50	60	75
			ft	16	24	32	65	98	131	164	196	246
Height difference H	Indoor unit is higher than outdoor unit *1	30	98	—	—	—	—	0.900	0.879	0.858	0.837	0.803
		20	65	—	—	—	0.937	0.915	0.894	0.872	0.851	0.816
		10	32	—	—	0.973	0.952	0.931	0.908	0.887	0.865	0.830
		7.5	24	—	0.988	0.977	0.956	0.934	0.913	0.891	0.869	0.833
		5	16	0.992	0.992	0.981	0.960	0.938	0.916	0.894	0.873	0.836
		0	0	1.000	1.000	0.989	0.967	0.945	0.923	0.901	0.879	0.843
	Indoor unit is lower than outdoor unit *2	-5	-16	1.000	1.000	0.989	0.967	0.945	0.923	0.901	0.879	0.843
		-7.5	-24	—	1.000	0.989	0.967	0.945	0.923	0.901	0.879	0.843
		-10	-32	—	—	0.989	0.967	0.945	0.923	0.901	0.879	0.843
		-20	-65	—	—	—	0.967	0.945	0.923	0.901	0.879	0.843
		-30	-98	—	—	—	—	0.945	0.923	0.901	0.879	0.843

HEATING		Pipe length									
		m		5	7.5	10	20	30	40	50	60	75
			ft	16	24	32	65	98	131	164	196	246
Height difference H	Indoor unit is higher than outdoor unit *1	30	98	—	—	—	—	0.978	0.968	0.958	0.948	0.935
		20	65	—	—	—	0.988	0.978	0.968	0.958	0.948	0.935
		10	32	—	—	0.998	0.988	0.978	0.968	0.958	0.948	0.935
		7.5	24	—	1.000	0.998	0.988	0.978	0.968	0.958	0.948	0.935
		5	16	1.000	1.000	0.998	0.988	0.978	0.968	0.958	0.948	0.935
		0	0	1.000	1.000	0.998	0.988	0.978	0.968	0.958	0.948	0.935
	Indoor unit is lower than outdoor unit *2	-5	-16	0.995	0.995	0.993	0.983	0.973	0.963	0.953	0.943	0.930
		-7.5	-24	—	0.993	0.990	0.980	0.970	0.960	0.950	0.940	0.928
		-10	-32	—	—	0.988	0.978	0.968	0.958	0.948	0.938	0.926
		-20	-65	—	—	—	0.968	0.958	0.948	0.938	0.929	0.916
		-30	-98	—	—	—	—	0.948	0.939	0.929	0.919	0.907

OUTDOOR UNIT
AOUH12-48KUAS1

7. Additional charge calculation

7-1. Model: AOUH12KUAS1

Refrigerant type		R32
Factory charge amount	lb oz	2 lb 4 oz
	g	1,020

■ Refrigerant charge

Total pipe length	ft	66 or less	82	98 (Max.)	0.22 oz/ft (20 g/m)
	m	20 or less	25	30 (Max.)	
Additional charge amount	oz	0	3.5	7	
	g	0	100	200	

7-2. Model: AOUH18KUAS1

Refrigerant type		R32
Factory charge amount	lb oz	2 lb 12 oz
	g	1,250

■ Refrigerant charge

Total pipe length	ft	66 or less	82	98 (Max.)	0.22 oz/ft (20 g/m)
	m	20 or less	25	30 (Max.)	
Additional charge amount	oz	0	3.5	7	
	g	0	100	200	

7-3. Model: AOUH24KUAS1

Refrigerant type		R32
Factory charge amount	lb oz	3 lb 5 oz
	g	1,500

■ Refrigerant charge

Total pipe length	ft	65 or less	82	98	114	131	147	164 (Max.)	0.22 oz/ft (20 g/m)
	m	20 or less	25	30	35	40	45	50 (Max.)	
Additional charge amount	oz	0	3.5	7	10.5	14	17.5	21	
	g	0	100	200	300	400	500	600	

OUTDOOR UNIT
AOUH12-48KUAS1

7-4. Model: AOUH30KUAS1

Refrigerant type		R32
Factory charge amount	lb oz	4 lb 7 oz
	g	2,000

■ Refrigerant charge

Total pipe length	ft	66 or less	82	98	114	131	147	164 (Max.)	0.43 oz/ft (40 g/m)
	m	20 or less	25	30	35	40	45	50 (Max.)	
Additional charge amount	oz	0	7	14	21	28	35	42	
	g	0	200	400	600	800	1,000	1,200	

7-5. Model: AOUH36KUAS1

Refrigerant type		R32
Factory charge amount	lb oz	4 lb 7 oz
	g	2,000

■ Refrigerant charge

Total pipe length	ft	66 or less	82	98	114	131	147	164 (Max.)	0.43 oz/ft (40 g/m)
	m	20 or less	25	30	35	40	45	50 (Max.)	
Additional charge amount	oz	0	7	14	21	28	35	42	
	g	0	200	400	600	800	1,000	1,200	

7-6. Model: AOUH42KUAS1

Refrigerant type		R32
Factory charge amount	lb oz	5 lb 15 oz
	g	2,700

■ Refrigerant charge

Total pipe length	ft	98 or less	131	164	196	246 (Max.)	0.43 oz/ft (40 g/m)
	m	30 or less	40	50	60	75 (Max.)	
Additional charge amount	oz	0	14	28	42	63	
	g	0	400	800	1,200	1,800	

7-7. Model: AOUH48KUAS1

Refrigerant type		R32
Factory charge amount	lb oz	5 lb 15 oz
	g	2,700

■ Refrigerant charge

Total pipe length	ft	98 or less	131	164	196	246 (Max.)	0.43 oz/ft (40 g/m)
	m	30 or less	40	50	60	75 (Max.)	
Additional charge amount	oz	0	14	28	42	63	
	g	0	400	800	1,200	1,800	

OUTDOOR UNIT
AOUH12-48KUAS1

OUTDOOR UNIT
AOUH12-48KUAS1

8. Airflow

8-1. Model: AOUH12KUAS1

● Cooling

m^3/h	1,990
l/s	553
CFM	1,171

● Heating

m^3/h	1,850
l/s	514
CFM	1,089

8-2. Model: AOUH18KUAS1

● Cooling

m^3/h	2,240
l/s	622
CFM	1,318

● Heating

m^3/h	1,960
l/s	544
CFM	1,154

8-3. Model: AOUH24KUAS1

● Cooling

m^3/h	3,715
l/s	1,032
CFM	2,187

● Heating

m^3/h	3,715
l/s	1,032
CFM	2,187

OUTDOOR UNIT
AOUH12-48KUAS1

8-4. Model: AOUH30KUAS1

● Cooling

m^3/h	3,910
l/s	1,086
CFM	2,301

● Heating

m^3/h	3,770
l/s	1,047
CFM	2,219

8-5. Model: AOUH36KUAS1

● Cooling

m^3/h	4,250
l/s	1,181
CFM	2,502

● Heating

m^3/h	4,130
l/s	1,147
CFM	2,431

8-6. Model: AOUH42KUAS1

● Cooling

m^3/h	4,150
l/s	1,153
CFM	2,443

● Heating

m^3/h	4,450
l/s	1,236
CFM	2,619

8-7. Model: AOUH48KUAS1

OUTDOOR UNIT
AOUH12-48KUAS1

● Cooling

m^3/h	4,450
l/s	1,236
CFM	2,619

● Heating

m^3/h	4,450
l/s	1,236
CFM	2,619

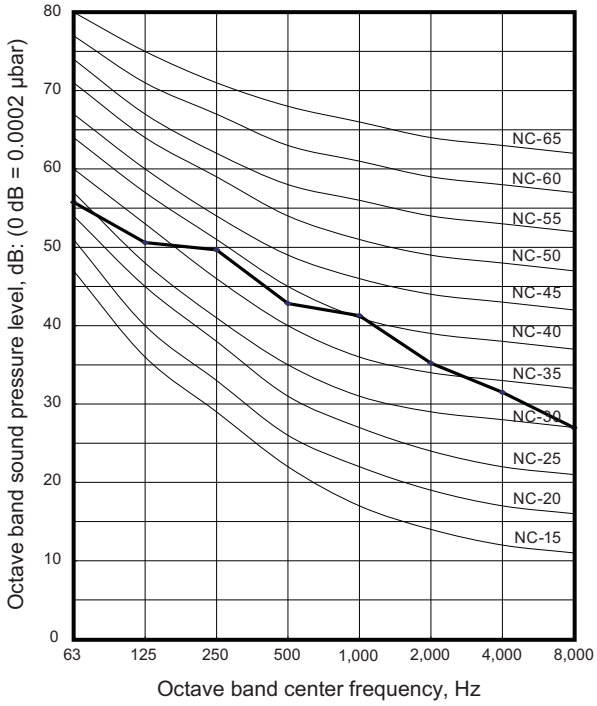
OUTDOOR UNIT
AOUH12-48KUAS1

9. Operation noise (sound pressure)

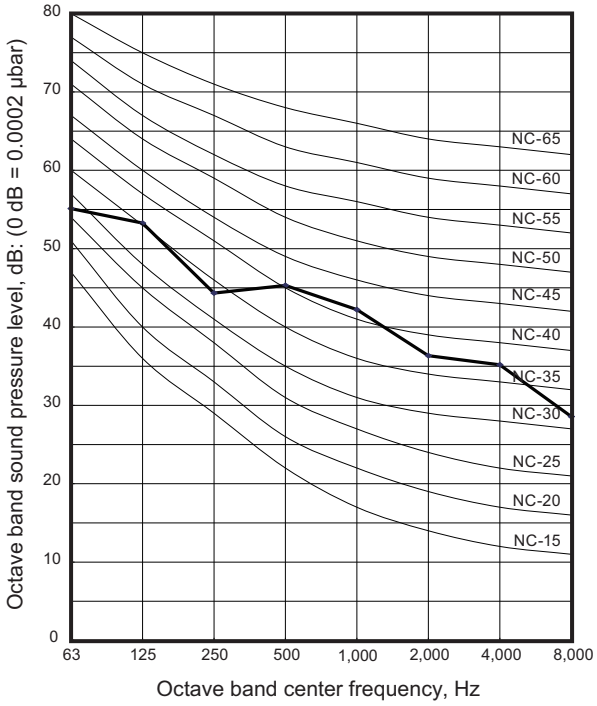
9-1. Noise level curve

■ Model: AOUH12KUAS1

● Cooling

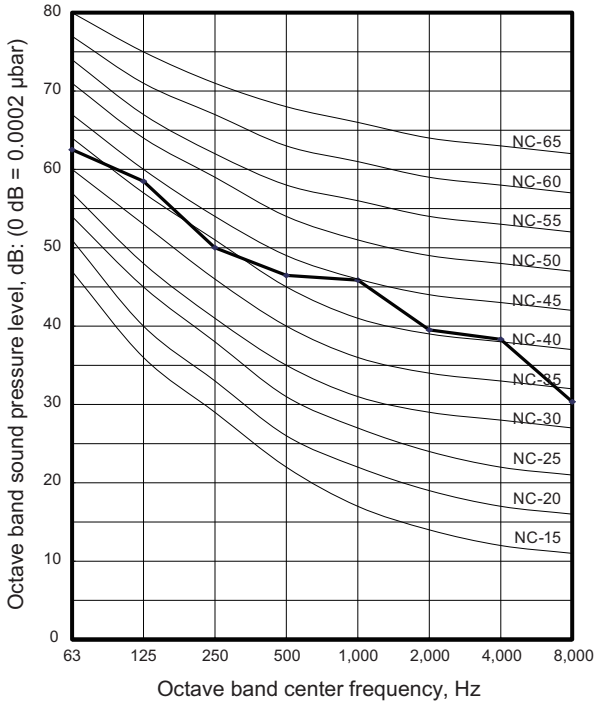


● Heating

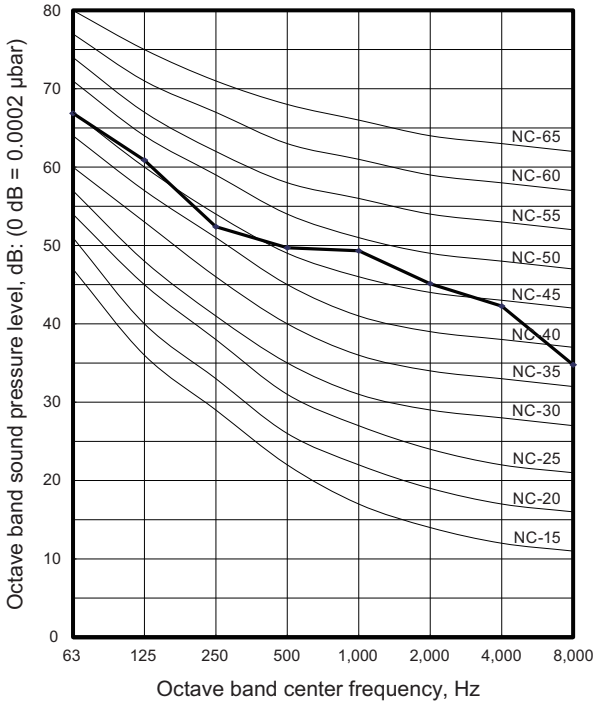


■ Model: AOUH18KUAS1

● Cooling



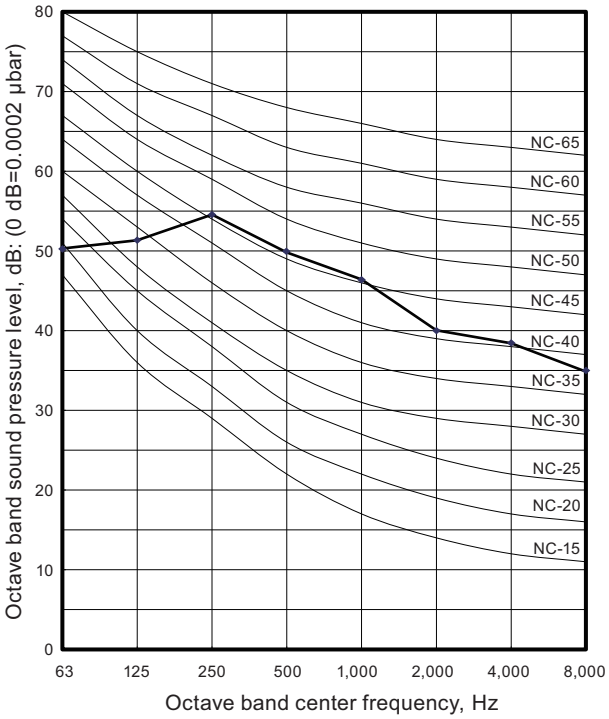
● Heating



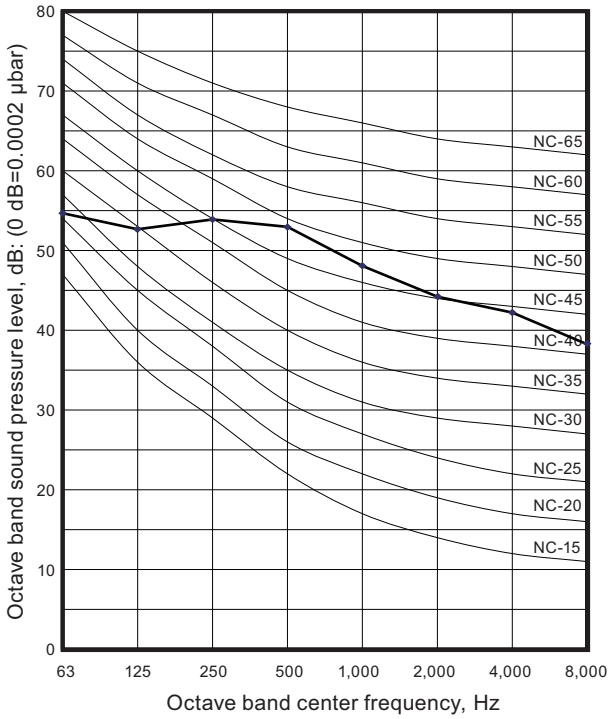
OUTDOOR UNIT
AOUH12-48KUAS1

■ Model: AOUH24KUAS1

● Cooling

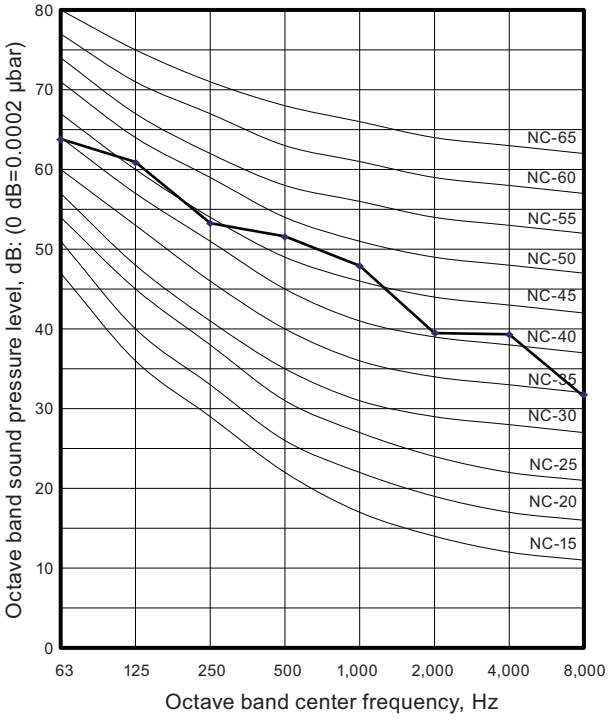


● Heating

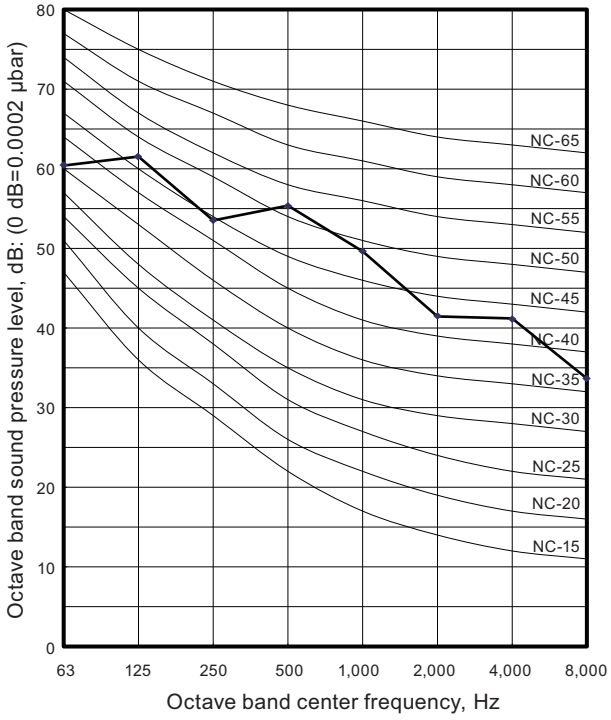


■ Model: AOUH30KUAS1

● Cooling



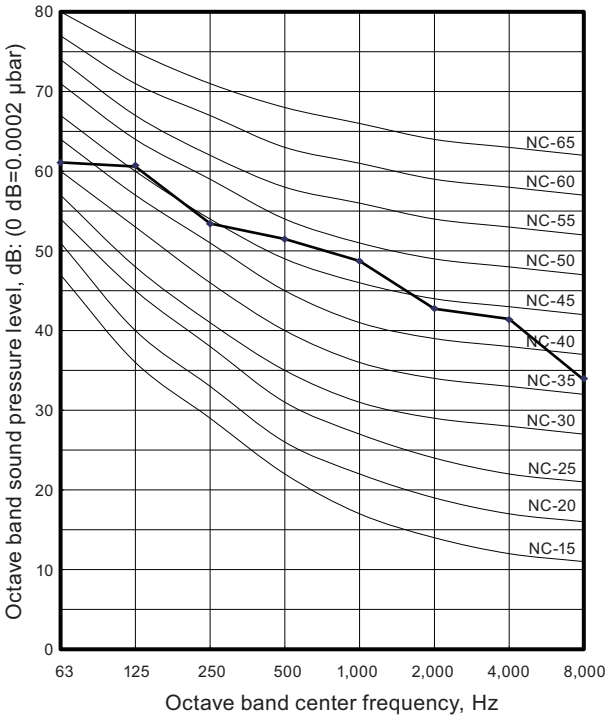
● Heating



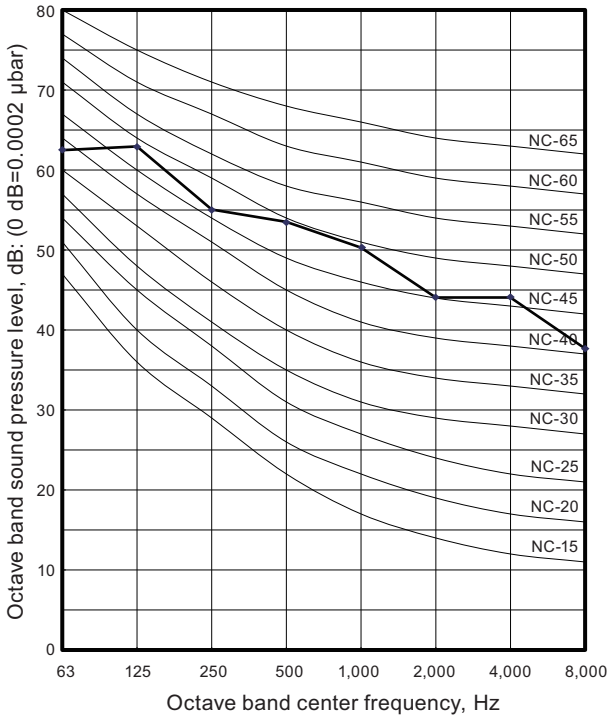
OUTDOOR UNIT
AOUH12-48KUAS1

■ Model: AOUH36KUAS1

● Cooling

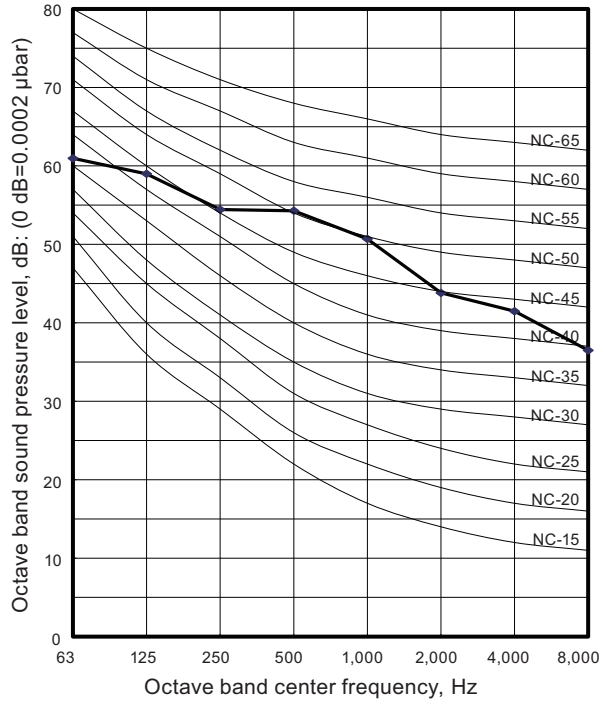


● Heating

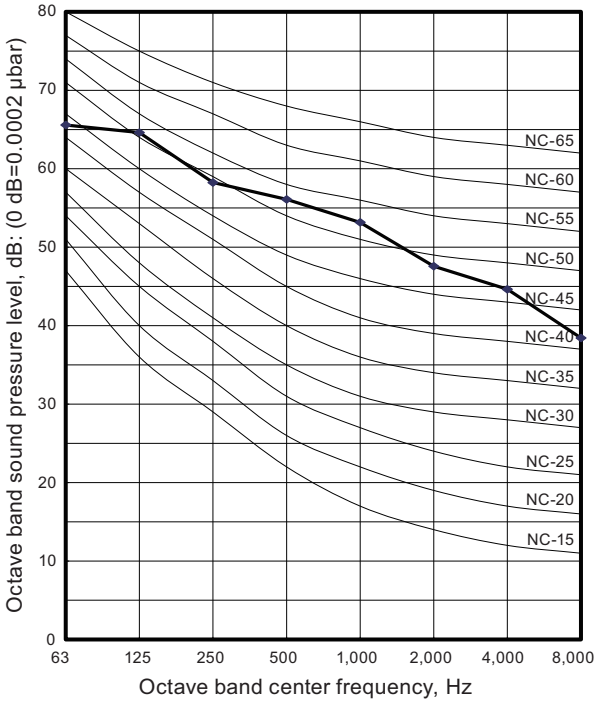


■ Model: AOUH42KUAS1

● Cooling



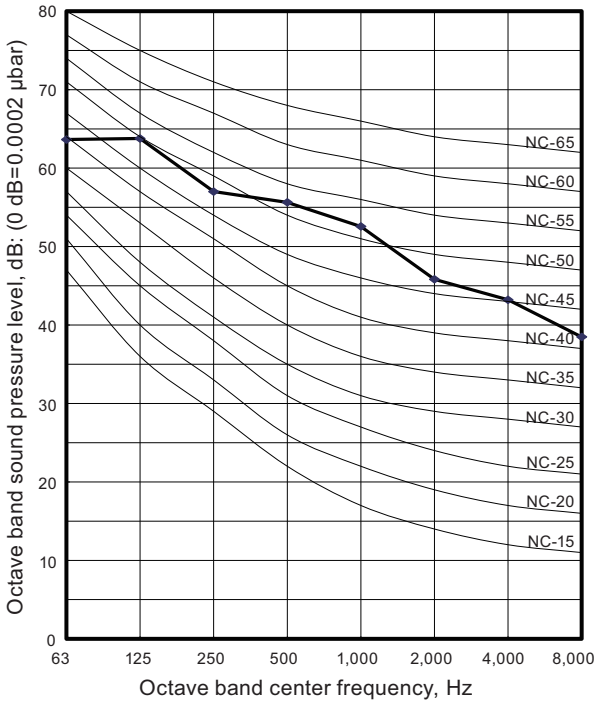
● Heating



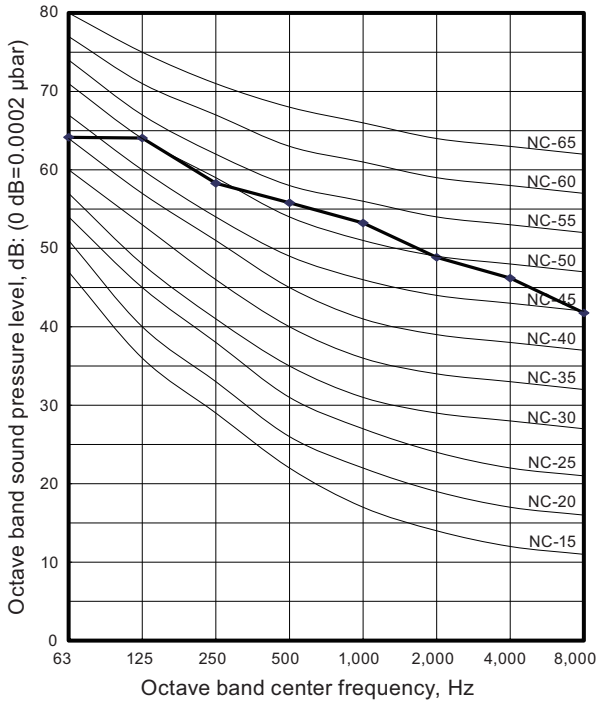
OUTDOOR UNIT
AOUH12-48KUAS1

■ Model: AOUH48KUAS1

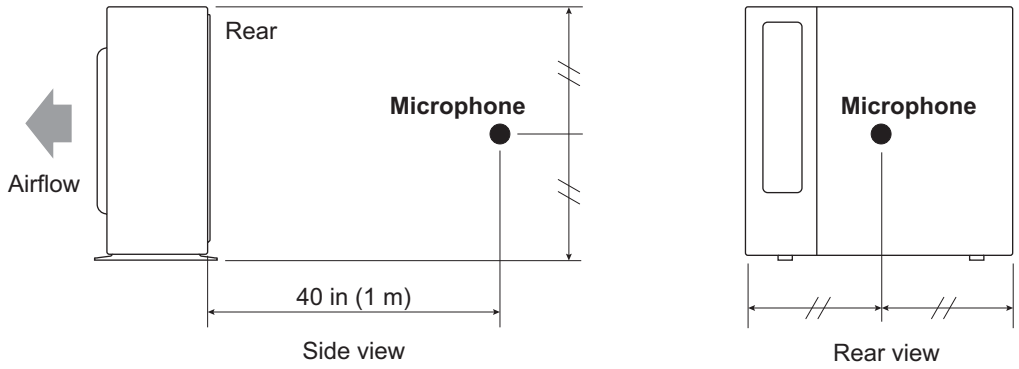
● Cooling



● Heating



9-2. Sound level check point



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

10. Electrical characteristics

Model name				AOUH12KUAS1
Power supply	Voltage		V	208/230
	Frequency		Hz	60
MCA*1			A	14.2
Starting current			A	5.5
Wiring spec.*2	MAX. CKT. BKR*3		A	15
	Power cable		AWG	14
	Connection cable*3	Size	AWG	14
		Limited wiring length	ft (m)	102 (31)

Model name				AOUH18KUAS1	AOUH24KUAS1
Power supply	Voltage		V	208/230	
	Frequency		Hz	60	
MCA *1			A	17.9	19.2
Starting current			A	7.6	9.6
Wiring spec.*2	MAX. CKT. BKR*3		A	20	
	Power cable		AWG	12	
	Connection cable*4	Size	AWG	14	
		Limited wiring length	ft (m)	102 (31)	167 (51)

Model name				AOUH30KUAS1	AOUH36KUAS1
Power supply	Voltage		V	208/230	
	Frequency		Hz	60	
MCA*1			A	23.7	24.9
Starting current			A	12.0	15.2
Wiring spec.*2	MAX. CKT. BKR*3		A	25	
	Power cable		AWG	12	
	Connection cable*4	Size	AWG	14	
		Limited wiring length	ft (m)	167 (51)	

Model name				AOUH42KUAS1	AOUH48KUAS1
Power supply	Voltage		V	208/230	
	Frequency		Hz	60	
MCA*1			A	28.7	29.9
Starting current			A	17.9	20.6
Wiring spec.*2	MAX. CKT. BKR*3		A	30	
	Power cable		AWG	10	
	Connection cable*4	Size	AWG	14	
		Limited wiring length	ft (m)	249 (76)	

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.

OUTDOOR UNIT
AOUH12-48KUAS1

11. Safety devices

Type of protection	Protection form		Model	
			AOUH12KUAS1	AOUH18KUAS1
Circuit protection	Current fuse (PCB*)		250 V, 25 A	
			250 V, 5 A	
Fan motor protection	Thermal protection program	Activate	257 ±18°F (125 ±10°C) Fan motor stop	
		Reset	248 ±18°F (120 ±10°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	
	Thermal 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	-13°F (-25°C) Compressor stop	
		Reset	-4°F (-20°C) Compressor restart	

Type of protection	Protection form		Model
			AOUH24KUAS1
Circuit protection	Current fuse (PCB*)		250 V, 30 A or 35.5 A
			250 V, 3.15 A
			250 V, 10 A × 2
Fan motor protection	Thermal protection program	Activate	251.6 ±16.2°F (122 ±9°C) Fan motor stop
		Reset	$240.8\ ^{+18.0}_{-16.2}$°F ($116\ ^{+10}_{-9}$°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
	Thermal 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	-13°F (-25°C) Compressor stop
		Reset	-4°F (-20°C) Compressor restart

OUTDOOR UNIT
AOUH12-48KUAS1

Type of protection	Protection form		Model	
			AOUH30KUAS1	AOUH36KUAS1
Circuit protection	Current fuse (PCB*)		250 V, 30 A or 35.5 A	
			250 V, 3.15 A	
			250 V, 10 A × 2	
Fan motor protection	Thermal protection program	Activate	302 ±27°F (150 ±15°C) Fan motor stop	
		Reset	248 ±27°F (120 ±15°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	
	Thermal 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	-13°F (-25°C) Compressor stop	
		Reset	-4°F (-20°C) Compressor restart	

Type of protection	Protection form		Model	
			AOUH42KUAS1	AOUH48KUAS1
Circuit protection	Current fuse (PCB*)		250 V, 30 A or 35.5 A	
			250 V, 3.15 A	
			250 V, 10 A × 2	
Fan motor protection	Thermal protection program	Activate	302 ±27°F (150 ±15°C) Fan motor stop	
		Reset	248 ±27°F (120 ±15°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	
	Thermal 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	-13°F (-25°C) Compressor stop	
		Reset	-4°F (-20°C) Compressor restart	

*PCB: Printed Circuit Board

OUTDOOR UNIT
AOUH12-48KUAS1

12. External input and output (for 24–48 models)

With using external input and output functions, this product can be operated inter-connectedly with an external device.

Connector	Input	Output	Remarks
P580	Low noise mode	—	See external input/output settings for details.
PA580	Peak cut mode	—	
P590	—	Error status	
PA590	—	Compressor status	

12-1. External input

With using external input function, on/off status of “Low noise mode” and “Peak cut mode” can be specified by the external signal.

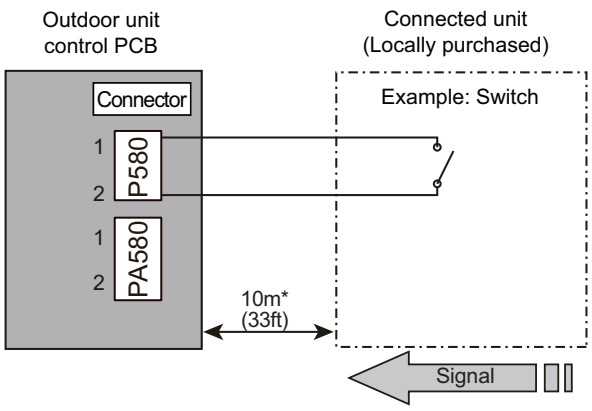
■ Low noise mode

In following condition, the operating noise of the outdoor unit reduces comparing from the one in normal operating condition:

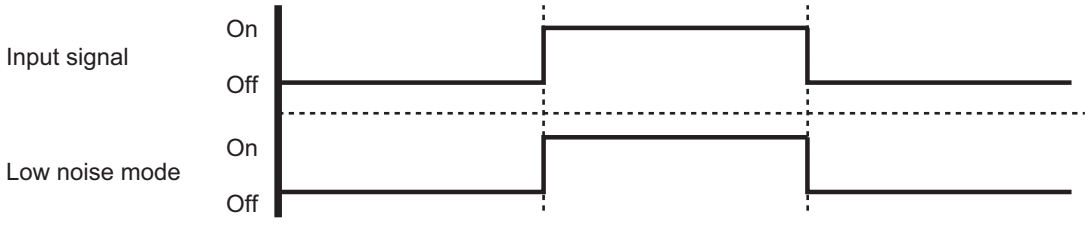
The air conditioner is set to the “Low noise mode” when closing the contact input of a commercial timer or on/off switch to a connector on the control PCB of the outdoor unit.

NOTE: Product performance may drop depending on some conditions such as the outdoor temperature.

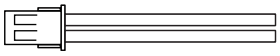
- **Circuit diagram example**



- Contact capacity: DC 24 V or more, 10 mA or more.
- *: Make the distance from the PCB to the connected unit within 33 ft (10 m).
- Construct a circuit as shown in this figure with using optional parts mentioned below.
- Input signal: On in “Low noise mode”
- Input signal: Off in normal operation
- To set the level of “Low noise mode,” refer to "Low noise mode" on page 142 (under “Local setting procedure”.)



- **Optional part**

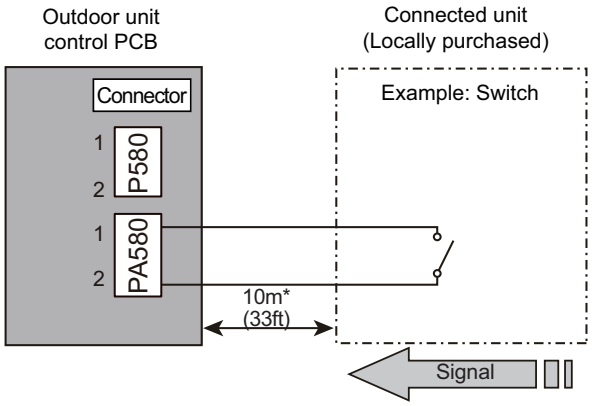
Part name	Model name	Exterior
External Connect Kit	UTY-XWZXZ3	External input wire 

OUTDOOR UNIT
AOUH12-48KUAS1

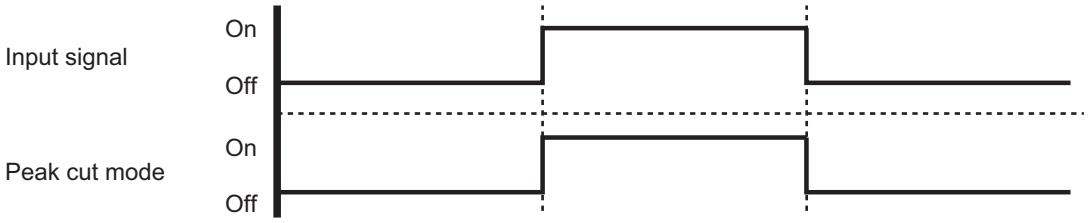
■ Peak cut mode

By performing following on-site work, operation that suppresses the current value can be enabled:
The air conditioner is set to the “Peak cut mode” when closing the contact input of a commercial timer or on/off switch to a connector on the control PCB of the outdoor unit.

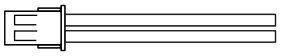
- **Circuit diagram example**



- Contact capacity: DC 24 V or more, 10 mA or more.
- *: Make the distance from the PCB to the connected unit within 33 ft (10 m).
- Construct a circuit as shown in this figure with using optional parts mentioned below.
- Input signal: On in “Peak cut mode”
- Input signal: Off in normal operation
- To set the level of “Peak cut mode,” refer to "Peak cut mode" on page 143 (under “Local setting procedure”.)



- **Optional part**

Part name	Model name	Exterior
External Connect Kit	UTY-XWZXZ3	External input wire 

OUTDOOR UNIT
AOUH12-48KUAS1

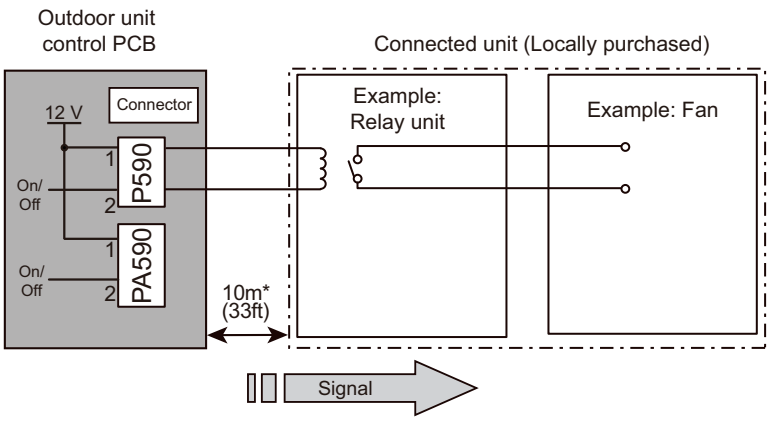
12-2. External output

With using external output function, some status signals are transmitted to the control PCB, and the related LED lamp indicates the status of this product.

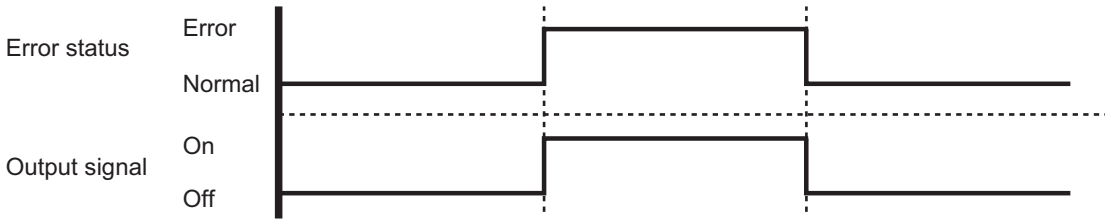
■ Error status output

Signal on air conditioner error status is generated when a malfunction occurs.

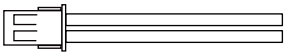
- **Circuit diagram example**



- Output voltage (Vcc): DC 12 V 50 mA or less
- *: Make the distance from the PCB to the connected unit within 33 ft (10 m).



- **Optional part**

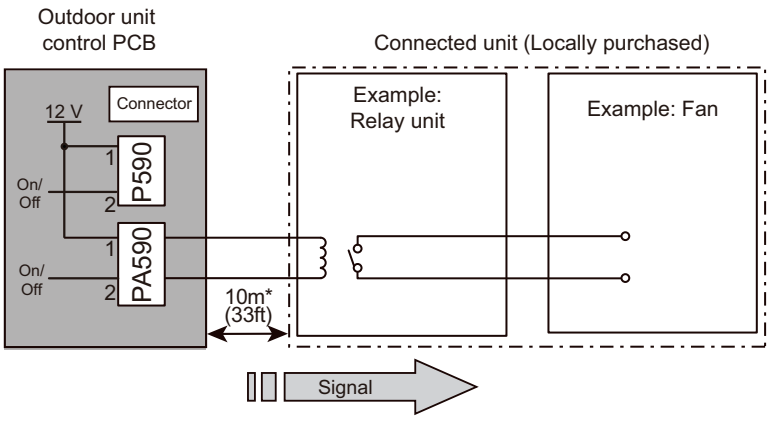
Part name	Model name	Exterior
External Connect Kit	UTY-XWZXZ3	External output wire 

OUTDOOR UNIT
AOUH12-48KUAS1

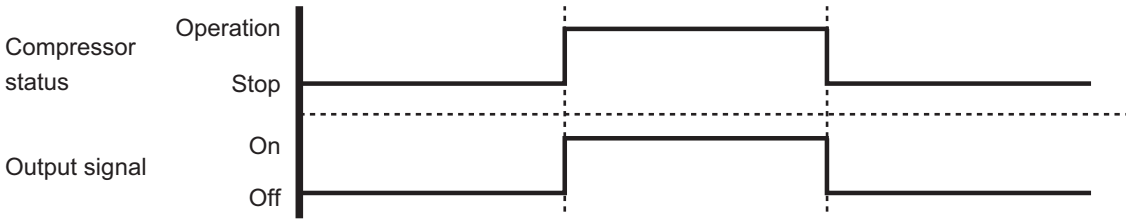
■ Compressor status output

Signal on compressor operation status is generated when the compressor is running.

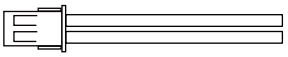
- **Circuit diagram example**



- Output voltage (Vcc): DC 12 V 50 mA or less
- *: Make the distance from the PCB to the connected unit within 33 ft (10 m).



- **Optional part**

Part name	Model name	Exterior
External Connect Kit	UTY-XWZXZ3	External output wire 

OUTDOOR UNIT
AOUH12-48KUAS1

13. Function settings (for 24–48 models)

Perform appropriate function setting locally according to the installation environment.

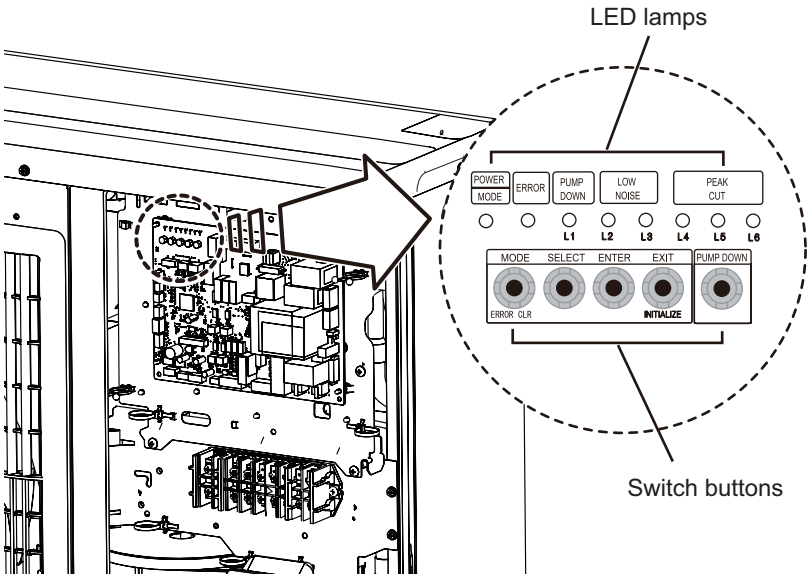
NOTE: Incorrect settings can cause a product malfunction.

⚠ CAUTION

- Before setting up the switch buttons, discharge the static electricity from your body.
- Never touch the terminals or the patterns on the parts that are mounted on the PCB.

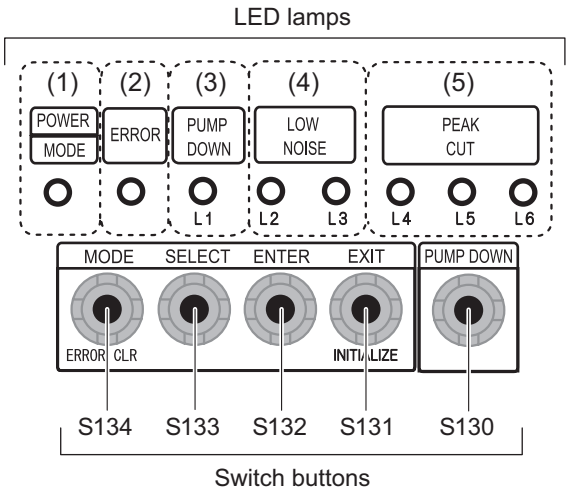
13-1. Control PCB and switch buttons location

Control PCB of the outdoor unit is located as shown in the following figure.



OUTDOOR UNIT
AOUH12-48KUAS1

■ Switch buttons and the functions



LED lamp			Function or operation method
(1)	POWER/MODE	Green	Lights on while power on. Blinks to show the local setting on the outdoor unit or the error code.
(2)	ERROR	Red	Blinks during error operation.
(3)	PUMP DOWN (L1)	Orange	Lights on during pump down operation.
(4)	LOW NOISE MODE (L2 and L3)	Orange	Lights on during “Low noise mode” when local setting is activated. (Light pattern of L2 and L3 indicates the low noise level.)
(5)	PEAK CUT MODE (L4, L5, and L6)	Orange	Lights on during “Peak cut mode” when local setting is activated. (Light pattern of L4, L5, and L6 indicates the peak cut level.)

Switch button		Function or operation method
S134	MODE	Switches between “Local setting” and “Error code display”.
S133	SELECT	Switches between the individual “Local settings” and the “Error code displays”.
S132	ENTER	Switches between the individual “Local settings” and the “Error code displays”.
S131	EXIT	Returns to “Operation status display”.
S130	PUMP DOWN	Starts the pump down operation.

OUTDOOR UNIT
AOUH12-48KUAS1

13-2. Local setting procedure

NOTE: Before performing the function setting, be sure to stop the operation of the air conditioner.

■ Low noise mode

1. Press the MODE switch button (S134) for 3 seconds or more to switch to “Local setting mode”.
2. After confirming the LED lamp of POWER/MODE blinks 9 times, press the ENTER switch button (S132).

POWER / MODE	ERROR	PUMP DOWN (L1)	LOW NOISE (L2)	LOW NOISE (L3)	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
Blinks (9 times)	○	○	○	○	○	○	○

Sign “ ○ ”: Lights off

3. Press the SELECT switch button (S133), and adjust the LED lamp as shown below. Then the LED lamp indicates the current setting.

	LOW NOISE (L2)	LOW NOISE (L3)
LOW NOISE MODE	○	Blink

4. Press the ENTER switch button (S132).

	LOW NOISE (L2)	LOW NOISE (L3)
LOW NOISE MODE	○	●

Sign “ ●”: Lights on

5. Press the SELECT switch button (S133), and adjust the LED lamps as shown below.

	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
MODE 1: Low	○	○	Blink
MODE 2: Lower	○	Blink	○

6. Press the ENTER switch button (S132) and fix it.

	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
MODE 1: Low	○	○	●
MODE 2: Lower	○	●	○

7. To return to “Operating status display (Normal operation)”, press the EXIT switch button (S131).

In case of missing how many times you pressed the SELECT and ENTER switch buttons:

1. To return to “Operation status display (Normal operation)”, press the EXIT switch button once.
2. Restart from the beginning of setting procedure.

OUTDOOR UNIT
AOUH12-48KUAS1

■ Peak cut mode

1. Press the MODE switch button (S134) for 3 seconds or more to switch to “Local setting mode”.
2. After confirming the LED lamp of POWER/MODE blinks 9 times, press the ENTER switch button (S132).

POWER / MODE	ERROR	PUMP DOWN (L1)	LOW NOISE (L2)	LOW NOISE (L3)	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
Blinks (9 times)	○	○	○	○	○	○	○

Sign “ ○ ”: Lights off

3. Press the SELECT switch button (S133), and adjust the LED lamp as shown below. Then the LED lamp indicates the current setting.

	LOW NOISE (L2)	LOW NOISE (L3)
PEAK CUT MODE	Blink	○

4. Press the ENTER switch button (S132).

	LOW NOISE (L2)	LOW NOISE (L3)
PEAK CUT MODE	●	○

Sign “ ● ”: Lights on

5. Press the SELECT switch button (S133), and adjust the LED lamps as shown below.

	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
0 % of rated input ratio	○	○	Blink
50 % of rated input ratio	○	Blink	○
75 % of rated input ratio	○	Blink	Blink
100 % of rated input ratio	Blink	○	○

6. Press the ENTER switch button (S132) and fix it.

	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
0 % of rated input ratio	○	○	●
50 % of rated input ratio	○	●	○
75 % of rated input ratio	○	●	●
100 % of rated input ratio	●	○	○

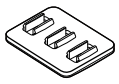
7. To return to “Operating status display (Normal operation)”, press the EXIT switch button (S131).

NOTE: When pressed number is lost during setting, you must redo the setting procedure. Return to “Operation status display (Normal operation)” by pressing the EXIT switch button once, and restart from the beginning of the setting procedure.

OUTDOOR UNIT
AOUH12-48KUAS1

14. Accessories

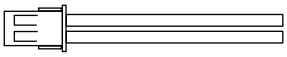
14-1. Models: AOUH12KUAS1 and AOUH18KUAS1

Part name	Exterior	Qty	Part name	Exterior	Qty
Installation manual		1	Cable tie		2
Drain pipe		1	Protection label		1
Drain cap		5			

14-2. Models: AOUH24KUAS1, AOUH30KUAS1, AOUH36KUAS1, AOUH42KUAS1, and AOUH48KUAS1

Part name	Exterior	Qty	Part name	Exterior	Qty
Installation manual		1	Drain pipe		1
Protection label		1	Drain cap		3

15. Optional parts (for 24–48 models)

Exterior	Part name	Model name	Summary
	External Connect Kit	UTY-XWZXZ3	Use to operate the external input and output functions of outdoor unit. (for 24–48 models)

OUTDOOR UNIT
AOUH12-48KUAS1