Contents

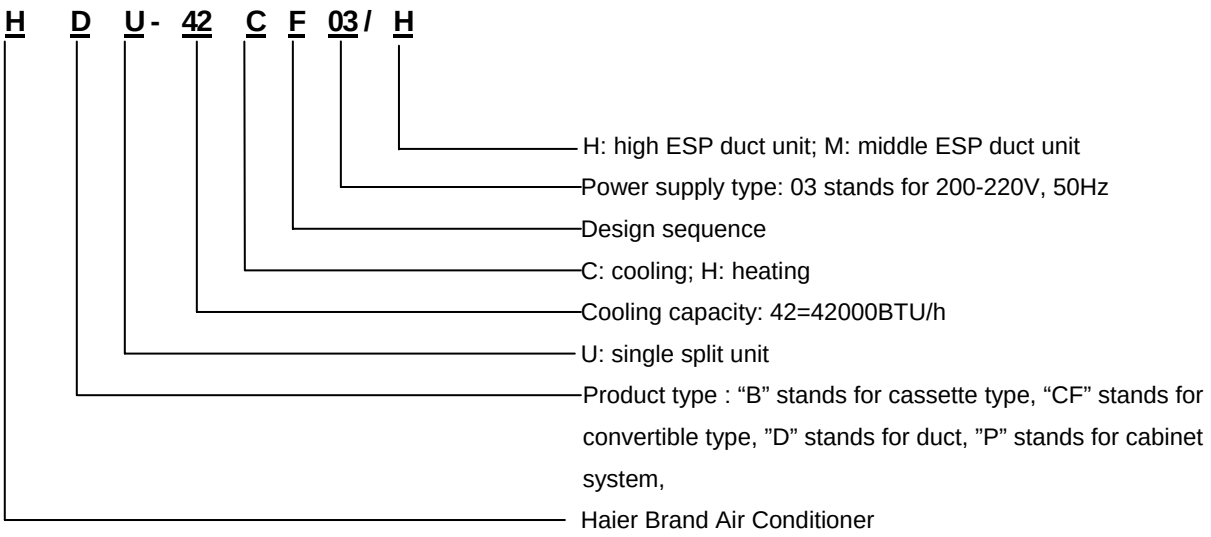
Part 1

General information

1. Nomenclature

code	A	B		18		2		A	
	1	2		3, 4		5		6	
	air conditioner	product type		product specification		voltage		combination type	
code and meaning	A	cassette type	B	cooling capacity	the valid number more than thousand digital	110-115V/50-60Hz	1	single split unit or packaged unit	A
		convertible type	C	dehumidifier	(litre or pint)the first two number	220-240V/50Hz	2	two by one	B
		duct type	D	air refresh capacity	the first two number	115-220V/50-60Hz	3	three by one	C
		ceiling concealed type	E			220-240V/60Hz	4	four by one	D
		window type	F			110V/50-60Hz	6	free combination (MRV series)	F
		cabinet type	P			220V/50Hz	8	multi series	X
		wall type	S			380-400V/50Hz	N	gas heat pump	G
						380-400V/60Hz	I		
						415V/50Hz	M		
		Outdoor Unit	U						

C	E			R		A	
7	8			9		10	
appearance	refrigerant			design series number		climate type	
	heating and cooling	R22	A	fixed frequency and little appliance	A-G	T1	A
		R407C	B	AC inverter type	H-Q	T3	B
		R123	C	DC inverter type	R-Z		
		R134a	D			T1,suitable for at -15 cooling (cooling, heat pump) or at -20 heating(heat pump)	C
		R410a	E				
	cooling only and dehumifier	R22	M				
		R407C	N				
		R123	O				
		R134a	P				
		R410a	Q				
	3-pipe	R410A	U				



2. External appearance

Horse power / Model		2HP	3HP	5HP	10HP
Indoor unit	4-way cassette type	HBU-18CF03 HBU-18HF03	HBU-28CF03 HBU-28HF03	HBU-42CF03 HBU-42HF03	
			HBU-28CH03 HBU-28HH03	HBU-42CH03 HBU-42CI03 HBU-42HI03	
	Convertible type	HCFU-18CF03 HCFU-18HF03	HCFU-28CF03 HCFU-28HF03	HCFU-42CF03 HCFU-42HF03	
				HCFU-42CH03 HCFU-42HK03	
	Duct type	HDU-18CF03 HDU-18HF03	HDU-28CF03 HDU-28HF03	HDU-42CF03/H HDU-42HF03/H	AD96NAHAEA
				HDU-42CH03/H HDU-42CI03/H HDU-42HK03/H HDU-50HT03/H	
	Cabinet type			HPU-42CF03 HPU-42HF03 HPU-42CH03 HPU-42HI03	
				HPU-42CV03 HPU-42HV03 HPU-48HV03	AP96NACAEA

Horse power / Model	2HP	3HP		5HP		10HP
Outdoor unit						
	HBU-18CF03 HBU-18HF03 HCFU-18CF03 HCFU-18HF03 HDU-18CF03 HDU-18HF03	HBU-28CF03 HBU-28CH03 HBU-28HH03 HCFU-28CF03 HCFU-28HF03	HBU-28HF03 HDU-28CF03 HDU-28HF03	HBU-42CF03 HBU-42HF03 HBU-42CH03 HCFU-42CF03 HCFU-42CH03 HPU-42CF03 HPU-42CH03 HDU-42CF03/H HDU-42CH03/H	HBU-42CI03 HBU-42HI03 HCFU-42HF03 HCFU-42HK03 HPU-42HF03 HPU-42CV03 HPU-42HV03 HPU-48HF03 HPU-42CH03 HDU-42CF03/H HDU-42CF03/H HPU-42HI03 HDU-42HF03/H HDU-42CI03/H HDU-42HK03/H HDU-50HT03/H	AU96NATAEA

3. Operating temperature range

3.1 For HDU-50HT03/H (T3 climate)

Temp. / Mode			Rated	Maximum	Minimum
Cooling	Indoor	DB ℃	29	32	18
		WB ℃	19	23	14
	Outdoor	DB ℃	46	52	10
		WB ℃	24	31	6
Heating	Indoor	DB ℃	20	27	15
		WB ℃	14.5	---	--
	Outdoor	DB ℃	7	24	-7
		WB ℃	6	18	---

3.2 For other units

Temp. / Mode			Rated	Maximum	Minimum
Cooling	Indoor	DB ℃	27	32	15
		WB ℃	19	23	14
	Outdoor	DB ℃	35	43	10
		WB ℃	24	26	6
Heating	Indoor	DB ℃	20	27	15
		WB ℃	14.5	---	--
	Outdoor	DB ℃	7	24	-7
		WB ℃	6	18	---

3.3 Brief Introduction for T1、T2、T3 working condition

Type of Air Conditioner	Climate type		
	T1	T2	T3
Cooling Only	18 ℃~43℃	10℃~35℃	21℃~52℃
Heat pump	-7℃~43℃	-7℃~35℃	-7℃~52℃
Electricity Heating	~43℃	~35℃	~52℃

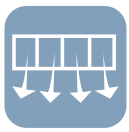
4. Functions

3 minutes protection

The 3 minutes protection of the compressor can avoid some damages to it and makes the compressor have a longer life.

4-way airflow

The front air deflectors are adjustable for horizontal or vertical air-conditioning, The airflow can be directed to air-condition the whole room or even a particular point.



Wide-angle airflow

Up-deflecting blades at the air-out provide wide-angle cold air to air-condition the entire room with room temperature difference hardly be felt.

Sleep mode

When the sleep mode is selected, the system regulates the airflow and temperature, gradually and eventually comes to a stop.

24 hours on/off timer

The appliance can be timed in actual hours and minutes as a clock.

Auto switchover

Auto swichover function between two systems with one detector.

Auto restart

In the event of power failure, the air conditioner restarts automatically when the power supply returns to normal.

Central controller (1:128)

One central controller can control Max. 128 indoor units by employing the centralized monitoring system which makes use of air conditioner's sectional interconnecting technology.

Wireless remote control

Newly developed mini controller for remote control and easy operation.

Wired remote controller

Only one wired remote controller can control Max. 16 indoor units making your operation easily.

Part 2

Indoor Units

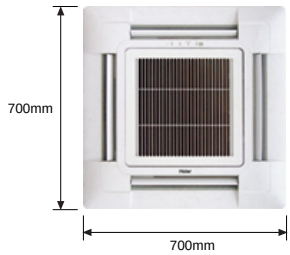
4-way Cassette
indoor unit (HBU-42~HBU-48)

1. Features

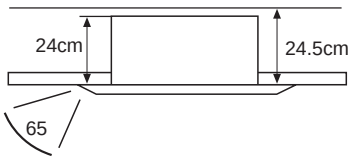
New particular design:

The new designed panel, smaller and universal. Harmony with the environment.

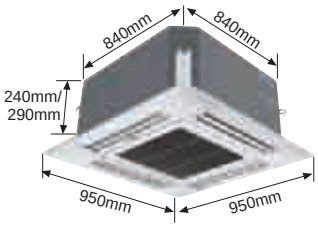
Both 700mm×700mm and 950mm×950mm panels have a uniform style and standard apperance.



For the unit with PB-700IA



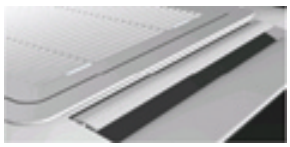
For the unit with PB-950IA



For the unit with PB-950JA

Quiet operation

Airflow pass through the outlet smoothly and fluently owing to the streamline air outlet, bring you a much more quiet space.



New fan blade dimension is bigger ,and has bigger air flow(23% more). Adopts newly-designed space navigation 3-dimensional irregular helix fan, more steady operation, much silencer, the min. noise level is only 36dBA.

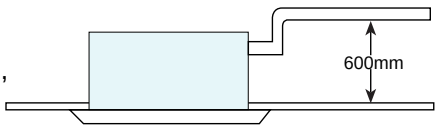
Fresh air outlet (for the unit with PB-700IA and PB-950JA panel)

Pre-set fresh air outlet, can introduce the outside fresh air into the room, greatly improve the indoor air quality. Be away from "air conditioner symptom"

Built-in High Head Drain Pump

Built-in Drain Pump drains water automatically.

A standard drain-head height of up to 600 mm is possible, creating the ideal solution for perfect water drainage.



*all models

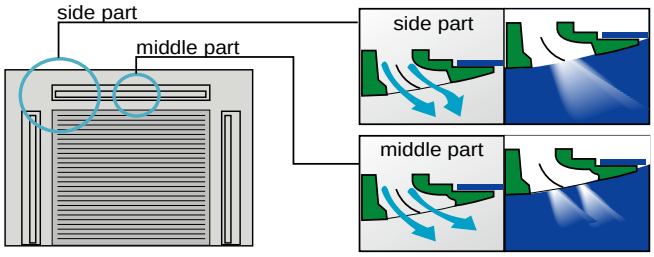
Comfortable temperature control system

3 types of swing operation for convenient in different space.

Pattern	Position	
Standard		
Direct blow prevention		When in beginning of heating mode to prevent the cool air blow onto people.
Automatical blow-angle setting		Memorize the latest setting to auto set the blow angle when starting the unit.

Antifouling and movable baffle

The movable baffle has antifouling design and can effectively control the airflow and air direction. It is clean to use without polluting the ceiling. It has standard long acting filter screen to make the cleaning time largely extended. When there are many units, the operation of cleaning and maintenance will be largely reduced.

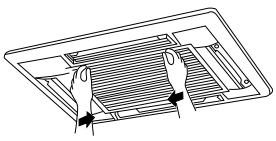


Efficient filter (option)

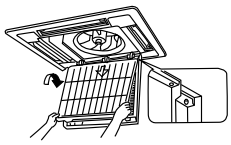
Efficient gray moire bactericidal filter,give you a healthy breath.

Advanced structure facilitating cleaning and installation

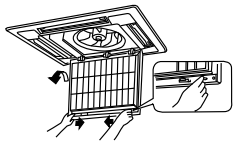
The suction grille can be rotated by 90 degree and its installation direction can be selected randomly.



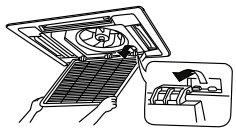
Press slightly, spring up automatically



Remove and install air filter screen



Remove and install air filter screen



Reinstall air filter screen after cleaning

2. Specifications

item				Model	HBU-18CF03	
Function					cooling	heating
Capacity				BTU/h	17000	/
Capacity				kW	5	/
Sensible heat ratio					75%	/
Total power input				W	1780	/
Max. power input				W	2400	/
EER or COP				W/W	2.81	/
Dehumidifying capacity				10 - ³×m³/h	1.6	
Power cable				section	3×2.5mm2	
Signal cable				section	3×2.0mm2	
Connecting cable				section		
Power source				N, V, Hz	1，220-230，50	
Running /Max.Running current				A / A	8.2/11.0	
Start Current				A	40	
Class of anti electric shock					I	/
Max. operating pressure of heat side				Mpa	2.94	
Max. operating pressure of cold side				Mpa	2.94	
Indoor unit	Unit model (color)				HBU-18CF03(INDOOR)（WHITE）	
	Fan	Type × Number			Centrifugal × 1	
		Speed(H-M-L)		r/min	750±20/650±30/520±30	
		Fan motor output power		kW	0.055	
		Air-flow(H-M-L)		m³/h	670	
	Heat exchanger	Type / Diameter		mm	/	
		Temp. scope		℃	cooling: 43~60 heating:6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	570×570×260	
		Package	（L×W×H）	mm×mm×mm	718×680×380	
	Control type (Remote /wired /model)				Remote	
	Noise level (H-M-L)			dB(A)	45/40/32	
	Weight (Net / Shipping)			kg / kg	19/23..5	
Panel	Dimension	External	（L×W×H）	mm×mm×mm	700×700×60	
		Package	（L×W×H）	mm×mm×mm	740×750×115	
	Weight (Net / Shipping)			kg / kg	3.5/4.5	
Outdoor unit	Unit model (color)				HBU-18CF03(OUTDOOR)（WHITE）	
	Compressor	Model / Manufacture			TH338VEEC MITSUBISHI	
		Oil model			DIAMOND MS-56	
		Oil charging			520	
		Type			ROTARY	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial × 1	
		Speed		r/min	860±30	
		Fan motor output power		kW	0.03	
		Air-flow(H-M-L)		m³/h	2500	
	Heat exchanger	Type / Diameter		mm	TP2M / 9.52x0.36	
		Temp. scope		℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	815×290×680	
		Package	（L×W×H）	mm×mm×mm	960×410×765	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	56	
	Weight (Net / Shipping)			kg / kg	52/55	
PIPING	Refrigerant	Type / Charge		g	R22/1800	
	Pipe	Liquid		mm	6.35	
		Gas		mm	12.7	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	5	
		MAX.Piping length		m	15	

item				Model		HBU-18HF03	
Function						cooling	heating
Capacity					BTU/h	17000	18700
Capacity					kW	5	5.5
Sensible heat ratio						75%	/
Total power input					W	1780	1900
Max. power input					W	2400	2400
EER or COP					W/W	2.81	2.89
Dehumidifying capacity					10 - ³×m³/h	1.6	
Power cable					section	3×2.5mm2	
Signal cable					section	3×2.0mm2+2×0.75mm2	
Connecting cable					section		
Power source					N, V, Hz	1，220-230，50	
Running /Max.Running current					A / A	cooling 8.2/11.0 heating9.0/11.0	
Start Current					A	40	
Class of anti electric shock						I	/
Circuit breaker					A	/	30
Max. operating pressure of heat side					Mpa	2.94	
Max. operating pressure of cold side					Mpa	2.94	
Indoor unit	Unit model (color)					HBU-18HF03(INDOOR)（WHITE）	
	Fan	Type × Number				Centrifugal × 1	
		Speed(H-M-L)			r/min	750±20/650±30/520±30	
		Fan motor output power			kW	0.055	
		Air-flow(H-M-L)			m³/h	670	
	Heat exchanger	Type / Diameter			mm	/	
		Temp. scope			℃	cooling: 43~60 heating:6~7	
	Dimension	External	（L×W×H）		mm×mm×mm	570×570×260	
		Package	（L×W×H）		mm×mm×mm	718×680×380	
	Control type (Remote /wired /model)					Remote	
	Noise level (H-M-L)				dB(A)	45/40/32	
	Weight (Net / Shipping)				kg / kg	19/23..5	
Panel	Dimension	External	（L×W×H）		mm×mm×mm	700×700×60	
		Package	（L×W×H）		mm×mm×mm	740×750×115	
	Weight (Net / Shipping)				kg / kg	3.5/4.5	
Outdoor unit	Unit model (color)					HBU-18HF03(OUTDOOR)（WHITE）	
	Compressor	Model / Manufacture				TH338VEEC MITSUBISHI	
		Oil model				DIAMOND MS-56	
		Oil charging				520	
		Type				ROTARY	
		Protection type				Inner thermal protection	
		Starting method				direct start	
	Fan	Type × Number				Axial × 1	
		Speed			r/min	860±30	
		Fan motor output power			kW	0.03	
		Air-flow(H-M-L)			m³/h	2500	
	Heat exchanger	Type / Diameter			mm	TP2M / 9.52x0.36	
		Temp. scope			℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）		mm×mm×mm	815×290×680	
		Package	（L×W×H）		mm×mm×mm	960×410×765	
	Refrigerant control method				mm/mm	Capillary tube	
	Defrosting					Automatic	
	Noise level				dB(A)	56	
	Weight (Net / Shipping)				kg / kg	50/56	
PIPING	Refrigerant	Type / Charge			g	R22/1800	
	Pipe	Liquid			mm	6.35	
		Gas			mm	12.7	
	Connecting Method					Flared	
	Between I.D &O.D	MAX.Drop			m	5	
		MAX.Piping length			m	15	

item				Model	HBU-28CF03	
Function					cooling	heating
Capacity				BTU/h	24000	/
Capacity				kW	7.1	/
Sensible heat ratio					75%	/
Total power input				W	2850	/
Max. power input				W	3600	/
EER or COP				W/W	2.49	/
Dehumidifying capacity				10 - ³×m³/h	3.0	
Power cable				section	3G×4.0mm2	
Signal cable				section	4×0.75mm2	
Connecting cable				section		
Power source				N, V, Hz	1，220-230，50	
Running /Max.Running current				A / A	cooling 13.5/17	
Start Current				A	60	
Class of anti electric shock					I	/
Circuit breaker				A	40	/
Max. operating pressure of heat side				Mpa	2.8	/
Max. operating pressure of cold side				Mpa	0.8	/
Indoor unit	Unit model (color)				HBU-28CF03(INDOOR)（WHITE）	
	Fan	Type × Number			Centrifugal × 1	
		Speed(H-M-L)		r/min	700±30/590±40/470±50	
		Fan motor output power		kW	0.028	
		Air-flow(H-M-L)		m³/h	1200	
	Heat exchanger	Type / Diameter		mm	TP2M / 9.52x0.36	
		Temp. scope		℃	cooling: 43~60	
	Dimension	External	（L×W×H）	mm×mm×mm	840×840×240	
		Package	（L×W×H）	mm×mm×mm	920×920X340	
	Control type (Remote /wired /model)				Remote	
	Noise level (H-M-L)			dB(A)	44/40/37	
	Weight (Net / Shipping)			kg / kg	28/30	
Panel	Dimension	External	（L×W×H）	mm×mm×mm	950×950×80	
		Package	（L×W×H）	mm×mm×mm	985×985×115	
	Weight (Net / Shipping)			kg / kg	6/9	
Outdoor unit	Unit model (color)				HBU-28CF03(OUTDOOR)（WHITE）	
	Compressor	Model / Manufacture			THU33WC6-U HITACHI	
		Oil model			SUNISO-4GSI	
		Oil charging			1050	
		Type			ROTARY	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial × 1	
		Speed		r/min	1060±50	
		Fan motor output power		kW	0.06	
		Air-flow(H-M-L)		m³/h	3240	
	Heat exchanger	Type / Diameter		mm	TP2M / 9.52x0.36	
		Row / Fin pitch			2	
		Temp. scope		℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	860×340×730	
		Package	（L×W×H）	mm×mm×mm	1005×420×815	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	59	
	Weight (Net / Shipping)			kg / kg	70/85	
PIPING	Refrigerant	Type / Charge		g	R22/2680	
		Recharge quantity		g/m	65	
	Pipe	Liquid		mm	9.52	
		Gas		mm	15.88	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	15	
		MAX.Piping length		m	30	

item				Model	HBU-28HF03	
Function					cooling	heating
Capacity				BTU/h	24000	26600
Capacity				kW	7.1	7.8
Sensible heat ratio					75%	/
Total power input				W	2700	3000
Max. power input				W	3500	3400
EER or COP				W/W	2.63	2.6
Dehumidifying capacity				10 - ³×m³/h	3.0	
Power cable				section	3G×4.0mm2	
Signal cable				section	6×0.75mm2	
Connecting cable				section		
Power source				N, V, Hz	1，220-230，50	
Running /Max.Running current				A / A	cooling 12.8/17.0 heating13.5/16.0	
Start Current				A	60	
Class of anti electric shock					I	/
Circuit breaker				A	40	/
Max. operating pressure of heat side				Mpa	2.94	2.94
Max. operating pressure of cold side				Mpa	2.94	2.94
Indoor unit	Unit model (color)				HBU-28HF03(INDOOR)（WHITE）	
	Fan	Type × Number			Centrifugal × 1	
		Speed(H-M-L)		r/min	700±30/590±40/470±50	
		Fan motor output power		kW	0.028	
		Air-flow(H-M-L)		m³/h	1200	
	Heat exchanger	Type / Diameter		mm	TP2M / 9.52x0.36	
		Temp. scope		℃	cooling: 43~60 heating:6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	840×840×240	
		Package	（L×W×H）	mm×mm×mm	920×920X340	
	Control type (Remote /wired /model)				Remote	
	Noise level (H-M-L)			dB(A)	44/40/37	
	Weight (Net / Shipping)			kg / kg	28/30	
Panel	Dimension	External	（L×W×H）	mm×mm×mm	950×950×80	
		Package	（L×W×H）	mm×mm×mm	985×985×115	
	Weight (Net / Shipping)			kg / kg	6/9	
Outdoor unit	Unit model (color)				HBU-28HF03(OUTDOOR)（WHITE）	
	Compressor	Model / Manufacture			THU33WC6-U HITACHI	
		Oil model			SUNISO-4GSI	
		Oil charging			1050	
		Type			ROTARY	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial × 1	
		Speed		r/min	840±30	
		Fan motor output power		kW	0.06	
		Air-flow(H-M-L)		m³/h	3240	
	Heat exchanger	Type / Diameter		mm	TP2M / 9.52x0.36	
		Row / Fin pitch			2	
		Temp. scope		℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	948×830×380	
		Package	（L×W×H）	mm×mm×mm	1085×960×410	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	59	
	Weight (Net / Shipping)			kg / kg	70/85	
PIPING	Refrigerant	Type / Charge		g	R22/2930	
		Recharge quantity		g/m	65	
	Pipe	Liquid		mm	9.52	
		Gas		mm	15.88	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	15	
		MAX.Piping length		m	30	

item				Model	HBU-28CH03	
Function					cooling	heating
Capacity				BTU/h	24000	——
Capacity				kW	7.1	——
Total power input				W	2700	——
Max. power input				W	3400	——
EER or COP				W/W	2.63	——
Dehumidifying capacity				10 - ³×m³/h	3.0	
Power cable				section	3G 4.0mm2	
Signal cable				section	4G 0.75mm2	
Connecting cable				section		
Power source				N, V, Hz	1 PH 220 V 50 Hz	
Running /Max.Running current				A / A	12.3/15	
Start Current				A	60A	
Circuit breaker				A	40A	——
Max. operating pressure of heat side				Mpa	2.8	——
Max. operating pressure of cold side				Mpa	0.8	——
Indoor unit	Unit model (color)				HBU-28CH03(WHITE)	
	Fan	Type × Number			Centrifugal × 1	
		Speed(H-M-L)		r/min	700±30 /590±40 / 470±50	
		Fan motor output power		kW	0.04	
		Air-flow(H-M-L)		m³/h	1200	
	Heat exchanger	Type / Diameter		mm	TP2M/7	
		Total Area		m²	0.46	
		Temp. scope		℃	2-7	
	Dimension	External	（L×W×H）	mm×mm×mm	840×840×240	
		Package	（L×W×H）	mm×mm×mm	910×910×300	
	Air sending angle				52°	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired /model)				Remote	
	Fresh air hole dimension			mm	/	
	Noise level (H-M-L)			dB(A)	44/40/37	
	Weight (Net / Shipping)			kg / kg	28/30	
Panel	Dimension	External	（L×W×H）	mm×mm×mm	950×950×60	
		Package	（L×W×H）	mm×mm×mm	985×985×115	
	Weight (Net / Shipping)			kg / kg	6/9	
Outdoor unit	Unit model (color)				HBU-28CH03(WHITE)	
	Compressor	Model / Manufacture			LH45VBAC/Mitsubishi	
		Oil model			MS-32	
		Oil charging			900cm³	
		Type			rotary	
		Protection type			inner thermal protection	——
		Starting method			Direct Start	——
	Fan	Type × Number			Axial × 1	
		Speed		r/min	1060±50	
		Fan motor output power		kW	0.08	
		Air-flow(H-M-L)		m³/h	2700	
	Heat exchanger	Type / Diameter		mm	photic foil ripple slit fin* φ9.52	
		Row / Fin pitch			25/1.7	
		Temp. scope		℃	43-60	
	Dimension	External	（L×W×H）	mm×mm×mm	862×340×830	
		Package	（L×W×H）	mm×mm×mm	1050×979×440	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Refrigerant control method			mm/mm	Capillary	
	Defrosting				Automatic	
	Volume of Accumulator			L	3	
	Noise level			dB(A)	58	
	Type of Four way valve				SHF-4-10A	
	material of reduce noise				XPE	
	Weight (Net / Shipping)			kg / kg	63/67	
PIPING	Refrigerant	Type / Charge		g	R22/2500	
		Recharge quantity		g/m	65	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ15.88	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	15/10	
		MAX.Piping length		m	30	

item				Model	HBU-28HH03	
Function					cooling	heating
Capacity				BTU/h	24000	25000
Capacity				kW	7.1	7.5
Total power input				W	2700	2700
Max. power input				W	3200	3200
EER or COP				W/W	2.63	2.77
Dehumidifying capacity				10 - ³×m³/h	3.0	
Power cable				section	3G*4.0mm²	
Signal cable				section	6G*0.75mm²	
Connecting cable				section		
Power source				N, V, Hz	1N～ 220V 50Hz	
Running /Max.Running current				A / A	12.3/15	
Start Current				A	60	
Circuit breaker				A	40	
Max. operating pressure of heat side				Mpa	2.8	
Max. operating pressure of cold side				Mpa	0.8	
Indoor unit	Unit model (color)				HBU-28HH03(WHITE)	
	Fan	Type × Number			Centrifugal × 1	
		Speed(H-M-L)		r/min	700±30/ 590±40/470±50	
		Fan motor output power		kW	0.04	
		Air-flow(H-M-L)		m³/h	1200	
	Heat exchanger	Type / Diameter		mm	TP2M/ φ7	
		Total Area		m²	0.46	
		Temp. scope		℃	2-7	
	Dimension	External	（L×W×H）	mm×mm×mm	840×840×240	
		Package	（L×W×H）	mm×mm×mm	910×910×300	
	Air sending angle				52°	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired /model)				Remote	
	Fresh air hole dimension			mm	/	
	Noise level (H-M-L)			dB(A)	44/40/37	
	Weight (Net / Shipping)			kg / kg	28/30	
Panel	Dimension	External	（L×W×H）	mm×mm×mm	950×950×60	
		Package	（L×W×H）	mm×mm×mm	985×985×115	
	Weight (Net / Shipping)			kg / kg	6/9	
Outdoor unit	Unit model (color)				HBU-28HH03(WHITE)	
	Compressor	Model / Manufacture			LH45VBAC//Mitsubishi	
		Oil model			MS-32	
		Oil charging			900cm³	
		Type			rotary	
		Protection type			inner thermal protection	inner thermal protection
		Starting method			Direct Start	Direct Start
	Fan	Type × Number			Axial × 1	
		Speed		r/min	1060±50	
		Fan motor output power		kW	0.08	
		Air-flow(H-M-L)		m³/h	2700	
	Heat exchanger	Type / Diameter		mm	photic foil ripple slit fin* φ9.52	
		Row / Fin pitch			25/1.7	
		Temp. scope		℃	43-60	
	Dimension	External	（L×W×H）	mm×mm×mm	862×730×340	
		Package	（L×W×H）	mm×mm×mm	1050× 979 × 440	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Refrigerant control method			mm/mm	Capillary	
	Defrosting				Automatic	
	Volume of Accumulator			L	3	
	Noise level			dB(A)	56	
	Type of Four way valve				SHF-4-10A	
	material of reduce noise				XPE	
	Weight (Net / Shipping)			kg / kg	63/67	
PIPING	Refrigerant	Type / Charge		g	R22/2500	
		Recharge quantity		g/m	65	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ15.88	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	15/10	
		MAX.Piping length		m	30	

item					Model		HBU-42CF03	
Function							cooling	heating
Capacity						BTU/h	41000	-----
Capacity						kW	12	-----
Sensible heat ratio							75%	-----
Total power input						W	4800	-----
Max. power input						W	5500	-----
EER or COP						W/W	2.55	-----
Dehumidifying capacity						10 - ³×m³/h	4.5	
Power cable						section	5×2.5mm^2	
Signal cable						section	4×0.75mm^2	
Connecting cable						section		
Power source						N, V, Hz	3PH,380-400V,50HZ	
Running /Max.Running current						A / A	cooling 8.5/9.3	
Start Current						A	50	
Class of anti electric shock							I	
Circuit breaker						A	30	
Max. operating pressure of heat side						Mpa	2.94	
Max. operating pressure of cold side						Mpa	2.94	
Indoor unit	Unit model (color)						HBU-42CF03(INDOOR)(WHITE)	
	Fan	Type × Number					Centrifugal × 1	
		Speed				r/min	710±30/610±40/510±40	
		Fan motor output power				kW	0.14	
		Air-flow(H-M-L)				m³/h	1980	
	Heat exchanger	Type / Diameter				mm	TP2M / 9.52x0.36	
		Temp. scope				℃	cooling: 43~60	
	Dimension	External	（L×W×H）			mm×mm×mm	840×840×290	
		Package	（L×W×H）			mm×mm×mm	910×955×370	
	Control type (Remote /wired)						REMOTE	
	Noise level (H-M-L)					dB(A)	56/51/46	
	Weight (Net / Shipping)					kg / kg	45/38	
Panel	Dimension	External	（L×W×H）			mm×mm×mm	950×950×80	
		Package	（L×W×H）			mm×mm×mm	985×985×115	
	Weight (Net / Shipping)					kg / kg	6/9	
Outdoor unit	Unit model (color)						HBU-42CF03(OUTDOOR)（WHITE）	
	Compressor	Model / Manufacture					JT160BCBY1L DAIKIN	
		Oil model					SUNISO 4GSDID-K/DAPHNE SE56P	
		Oil charging					1500-1700	
		Type					SCROLL	
		Protection type					Inner thermal protection	
		Starting method					direct start	
	Fan	Type × Number					Axial × 1	
		Speed				r/min	720±50	
		Fan motor output power				kW	0.156	
		Air-flow(H-M-L)				m³/h	6000	
	Heat exchanger	Type / Diameter				mm	TP2M / 9.52x0.36	
		Row / Fin pitch					2 / 1.65	
		Temp. scope				℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）			mm×mm×mm	1006×825×410	
		Package	（L×W×H）			mm×mm×mm	1130×930×490	
	Refrigerant control method					mm/mm	Capillary tube	
	Defrosting						Automatic	
	Volume of Accumulator					L	NO	
	Noise level					dB(A)	≤59	
	Weight (Net / Shipping)					kg / kg	80/90	
Piping	Refrigerant	Type / Charge				g	R22/3150	
		No need to recharge				m	Total piping length less than 10meters	
		Recharge				g/m	65	
	Pipe	Liquid				mm	9.52	
		Gas				mm	19.05	
	Connecting method					——	Flared	
	Between I.D &O.D	Max.Drop between IU &OU*				m	30	
		Max.Piping length *				m	50	

item				Model		HBU-42HF03	
Function						cooling	heating
Capacity					BTU/h	41000	42600
Capacity					kW	12	12.5
Sensible heat ratio						75%	/
Total power input					W	4500	4200
Max. power input					W	5600	5600
EER or COP					W/W	2.67	2.98
Dehumidifying capacity					10 - ³×m³/h	4.5	
Power cable					section	5×2.5mm2	
Signal cable					section	6×0.75mm2	
Connecting cable					section		
Power source					N, V, Hz	3，380-400，50	
Running /Max.Running current					A / A	cooling 8.5/10 heating8.0/10	
Class of anti electric shock						I	/
Max. operating pressure of heat side					Mpa	2.94	/
Max. operating pressure of cold side					Mpa	2.94	/
Indoor unit	Unit model (color)					HBU-42HF03(INDOOR)（WHITE）	
	Fan	Type × Number				Centrifugal × 1	
		Speed(H-M-L)			r/min	710±30/600±50/500±50	
		Air-flow(H-M-L)			m³/h	1700	
	Heat exchanger	Type / Diameter			mm	/	
		Temp. scope			℃	cooling: 43~60	
	Dimension	External	（L×W×H）		mm×mm×mm	840×840×290	
		Package	（L×W×H）		mm×mm×mm	910×955×370	
	Control type (Remote /wired /model)					Remote	
	Noise level (H-M-L)				dB(A)	56/51/46	
	Weight (Net / Shipping)				kg / kg	38/45	
Panel	Dimension	External	（L×W×H）		mm×mm×mm	950×950×80	
		Package	（L×W×H）		mm×mm×mm	985×985×115	
	Weight (Net / Shipping)				kg / kg	6/9	
Outdoor unit	Unit model (color)					HBU-42HF03(OUTDOOR)（WHITE）	
	Compressor	Model / Manufacture				JT160GABY1L DAKIN	
		Oil model				DAPHNE SE56P	
		Oil charging				1400cm3	
		Type				SCROLL	
		Protection type				Inner thermal protection	
		Starting method				direct start	
	Fan	Type × Number				Axial × 1	
		Speed			r/min	740±50	
		Air-flow(H-M-L)			m³/h	6000	
	Heat exchanger	Type / Diameter			mm	TP2M / 9.52x0.36	
		Temp. scope			℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）		mm×mm×mm	1008×830×410	
		Package	（L×W×H）		mm×mm×mm	1130×930×490	
	Refrigerant control method				mm/mm	Capillary tube	
	Defrosting					Automatic	
	Noise level				dB(A)	61	
	Weight (Net / Shipping)				kg / kg	80/90	
PIPING	Refrigerant	Type / Charge			g	R22/3150	
		Recharge quantity			g/m	65	
	Pipe	Liquid			mm	9.52	
		Gas			mm	19.05	
	Connecting Method					Flared	
	Between I.D &O.D	MAX.Drop			m	30	
		MAX.Piping length			m	50	

item		Model			HBU-42CH03	
Function					cooling	heating
Capacity				BTU/h	41000	——
Capacity				kW	12	——
Total power input				W	4700	——
Max. power input				W	5500	——
EER or COP				W/W	2.55	——
Dehumidifying capacity				10 - ³×m³/h	4.5	
Power cable				section	5G*2.5mm²	
Signal cable				section	4G*0.75mm²	
Connecting cable				section		
Power source				N, V, Hz	3N～ 380-400V 50Hz	
Running /Max.Running current				A / A	7.4/8.8	
Start Current				A	58	
Circuit breaker				A	30	——
Max. operating pressure of heat side				Mpa	2.8	——
Max. operating pressure of cold side				Mpa	0.8	——
Indoor unit	Unit model (color)				HBU-42CH03(WHITE)	
	Fan	Type × Number			Centrifugal × 1	
		Speed(H-M-L)		r/min	680±30/600±40/530±40	
		Fan motor output power		kW	0.053	
		Air-flow(H-M-L)		m³/h	1800	
	Heat exchanger	Type / Diameter		mm	TP2M/ φ7	
		Total Area		m²	0.46	
		Temp. scope		℃	2-7	
	Dimension	External	（L×W×H）	mm×mm×mm	840×840×290	
		Package	（L×W×H）	mm×mm×mm	925×925×390	
	Air sending angle				52°	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired /model)				Remote	
	Fresh air hole dimension			mm	φ69	
	Outlet distribution hole dimension			mm	560*55/410*55/340*55/400*55	
	Noise level (H-M-L)			dB(A)	51/48/45	
	Weight (Net / Shipping)			kg / kg	38/42	
Panel	Dimension	External	（L×W×H）	mm×mm×mm	950×950×60	
		Package	（L×W×H）	mm×mm×mm	985×985×115	
	Weight (Net / Shipping)			kg / kg	6/9	
Outdoor unit	Unit model (color)				HBU-42CH03(WHITE)	
	Compressor	Model / Manufacture			JT160GABY1L/Xi'an Daikin	
		Oil model			SE56P	
		Oil charging			1400cm³	
		Type			Scroll Type	
		Protection type			inner thermal protection	/
		Starting method			Direct Start	/
	Fan	Type × Number			Axial × 1	
		Speed		r/min	840±30 / 540±30	
		Fan motor output power		kW	0.156	
		Air-flow(H-M-L)		m³/h	6000	
	Heat exchanger	Type / Diameter		mm	photic foil ripple slit fin* φ9.52	
		Row / Fin pitch			25/1.7	
		Temp. scope		℃	43-60	
	Dimension	External	（L×W×H）	mm×mm×mm	1008×830×480	
		Package	（L×W×H）	mm×mm×mm	1130×930×490	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Refrigerant control method			mm/mm	Capillary	
	Defrosting				Automatic	
	Volume of Accumulator			L	3	
	Noise level			dB(A)	59	
	Type of Four way valve				SHF-4-10A	
	material of reduce noise				XPE	
	Weight (Net / Shipping)			kg / kg	80/90	
PIPING	Refrigerant	Type / Charge		g	R22/3150	
		Recharge quantity		g/m	65	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ19.05	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	30	
		MAX.Piping length		m	50	

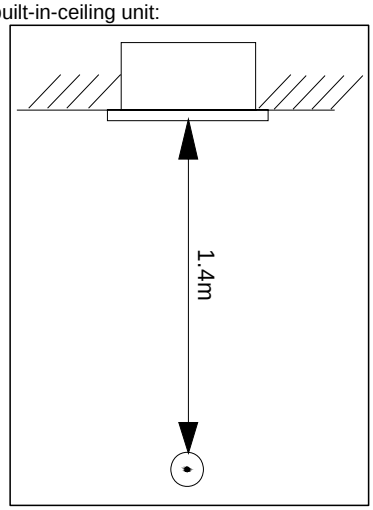
item				Model		HBU-42CI03	
Function						cooling	heating
Capacity					BTU/h	41000	——
Capacity					kW	12	——
Total power input					W	4500	——
Max. power input					W	5500	——
EER or COP					W/W	2.67	——
Dehumidifying capacity					10 - ³×m³/h	4.5	
Power cable					section	5G*2.5mm2	
Signal cable					section	4G*0.75mm2	
Connecting cable					section		
Power source					N, V, Hz	3N～ 380-400V 50Hz	
Running /Max.Running current					A / A	7.2/9.3	
Start Current					A	60	
Circuit breaker					A	30	——
Max. operating pressure of heat side					Mpa	2.8	——
Max. operating pressure of cold side					Mpa	0.8	——
Indoor unit	Unit model (color)					HBU-42CI03(WHITE)	
	Fan	Type × Number				Centrifugal × 1	
		Speed(H-M-L)			r/min	680±30/600±40/530±40	
		Fan motor output power			kW	0.053	
		Air-flow(H-M-L)			m³/h	1800	
	Heat exchanger	Type / Diameter			mm	TP2M/7	
		Total Area			m²	0.46	
		Temp. scope			℃	2-7	
	Dimension	External	（L×W×H）		mm×mm×mm	840×840×290	
		Package	（L×W×H）		mm×mm×mm	925×925×390	
	Air sending angle					52°	
	Drainage pipe (material , I.D./O.D.)				mm	PVC 26/32	
	Control type (Remote /wired /model)					Remote	
	Fresh air hole dimension				mm	φ69	
	Outlet distribution hole dimension				mm	560*55/410*55/340*55/400*55	
	Noise level (H-M-L)				dB(A)	51/48/45	
	Weight (Net / Shipping)				kg / kg	38/42	
Panel	Dimension	External	（L×W×H）		mm×mm×mm	950×950×60	
		Package	（L×W×H）		mm×mm×mm	985×985×115	
	Weight (Net / Shipping)				kg / kg	6/9	
Outdoor unit	Unit model (color)					HBU-42CI03(WHITE)	
	Compressor	Model / Manufacture				503DH-80C2/HITACHI	
		Oil model				4GSD	
		Oil charging				1800ml	
		Type				Scroll Type	
		Protection type				inner thermal protection	/
		Starting method				Direct Start	/
	Fan	Type × Number				Axial × 2	
		Speed			r/min	840±30 / 540±30	
		Fan motor output power			kW	0.156	
		Air-flow(H-M-L)			m³/h	6000	
	Heat exchanger	Type / Diameter			mm	photic foil ripple slit fin* φ9.52	
		Row / Fin pitch				25/1.7	
		Temp. scope			℃	43-60	
	Dimension	External	（L×W×H）		mm×mm×mm	1225×960×380	
		Package	（L×W×H）		mm×mm×mm	1370×1080×440	
	Drainage pipe (material , I.D./O.D.)				mm	PVC 26/32	
	Refrigerant control method				mm/mm	Capillary	
	Defrosting					Automatic	
	Volume of Accumulator				L	3	
	Noise level				dB(A)	59	
	Type of Four way valve					SHF-4-10A	
	material of reduce noise					XPE	
	Weight (Net / Shipping)				kg / kg	89/114	
PIPING	Refrigerant	Type / Charge			g	R22/3800	
		Recharge quantity			g/m	65	
	Pipe	Liquid			mm	φ9.52	
		Gas			mm	φ19.05	
	Connecting Method					Flared	
	Between I.D &O.D	MAX.Drop			m	30	
		MAX.Piping length			m	50	

item				Model		HBU-42HI03	
Function						cooling	heating
Capacity					BTU/h	41000	44000
Capacity					kW	12	13
Total power input					W	4500	4700
Max. power input					W	5500	5300
EER or COP					W/W	2.67	2.77
Dehumidifying capacity					10 - ³×m³/h	4.5	
Power cable					section	5G*2.5mm2	
Signal cable					section	4G*0.75mm2	
Connecting cable					section		
Power source					N, V, Hz	3N～ 380-400V 50Hz	
Running /Max.Running current					A / A	9.3/8.8	
Start Current					A	60	
Circuit breaker					A	30	
Max. operating pressure of heat side					Mpa	2.8	
Max. operating pressure of cold side					Mpa	2.8	
Indoor unit	Unit model (color)					HBU-42HI03(WHITE)	
	Fan	Type × Number				Centrifugal × 1	
		Speed(H-M-L)			r/min	680±30/600±40 /530±40	
		Fan motor output power			kW	0.053	
		Air-flow(H-M-L)			m³/h	1550	
	Heat exchanger	Type / Diameter			mm	TP2M/7	
		Total Area			m²	0.46	
		Temp. scope			℃	2-7	
	Dimension	External	（L×W×H）		mm×mm×mm	840×840×290	
		Package	（L×W×H）		mm×mm×mm	925×925×390	
	Air sending angle					52°	
	Drainage pipe (material , I.D./O.D.)				mm	PVC 26/32	
	Control type (Remote /wired /model)					Remote	
	Fresh air hole dimension				mm	φ69	
	Outlet distribution hole dimension				mm	560*55/410*55/340*55/400*55	
	Noise level (H-M-L)				dB(A)	51/48/45	
	Weight (Net / Shipping)				kg / kg	38/42	
Panel	Dimension	External	（L×W×H）		mm×mm×mm	950×950×60	
		Package	（L×W×H）		mm×mm×mm	985×985×115	
	Weight (Net / Shipping)				kg / kg	6/9	
Outdoor unit	Unit model (color)					HBU-42HI03(WHITE)	
	Compressor	Model / Manufacture				503DH-80C2/HITACHI	
		Oil model				4GSD	
		Oil charging				1800ml	
		Type				Scroll Type	
		Protection type				inner thermal protection	inner thermal protection
		Starting method				Direct Start	Direct Start
	Fan	Type × Number				Axial × 2	
		Speed			r/min	840±30 / 540±30	
		Fan motor output power			kW	0.06	
		Air-flow(H-M-L)			m³/h	6000	
	Heat exchanger	Type / Diameter			mm	photic foil ripple slit fin* φ9.52	
		Row / Fin pitch				25/1.7	
		Temp. scope			℃	43-60	
	Dimension	External	（L×W×H）		mm×mm×mm	1225×960×380	
		Package	（L×W×H）		mm×mm×mm	1370×1080×440	
	Drainage pipe (material , I.D./O.D.)				mm	PVC 26/32	
	Refrigerant control method				mm/mm	Capillary	
	Defrosting					Automatic	
	Volume of Accumulator				L	3	
	Noise level				dB(A)	59	
	Type of Four way valve					SHF-4-10A	
	material of reduce noise					XPE	
	crankcase heater power				W	33	
	Weight (Net / Shipping)				kg / kg	91/116	
PIPING	Refrigerant	Type / Charge			g	R22/4000	
		Recharge quantity			g/m	65	
	Pipe	Liquid			mm	φ9.52	
		Gas			mm	φ19.05	
	Connecting Method					Flared	
	Between I.D &O.D	MAX.Drop			m	30	
		MAX.Piping length			m	50	

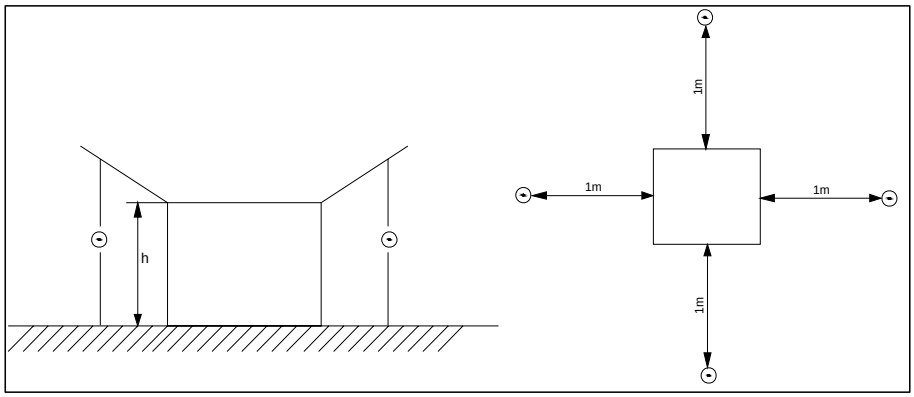
Norminal condition: indoor temperature (cooling): 27℃DB/19℃WB, indoor temperature (heating): 20℃DB
Outdoor temperature(cooling): 35℃DB/24℃WB, outdoor temperature(heating): 7℃DB/6℃WB
The noise level will be measured in the third octave band limited values, using a Real Time Analyser calibrated sound intensity meter. It is a sound pressure noise level. The detailed method please refer to the following information:

Installation state: the unit should be placed on the flat floor or be mounted in horizontal direction.
Testing method:

built-in-ceiling unit:



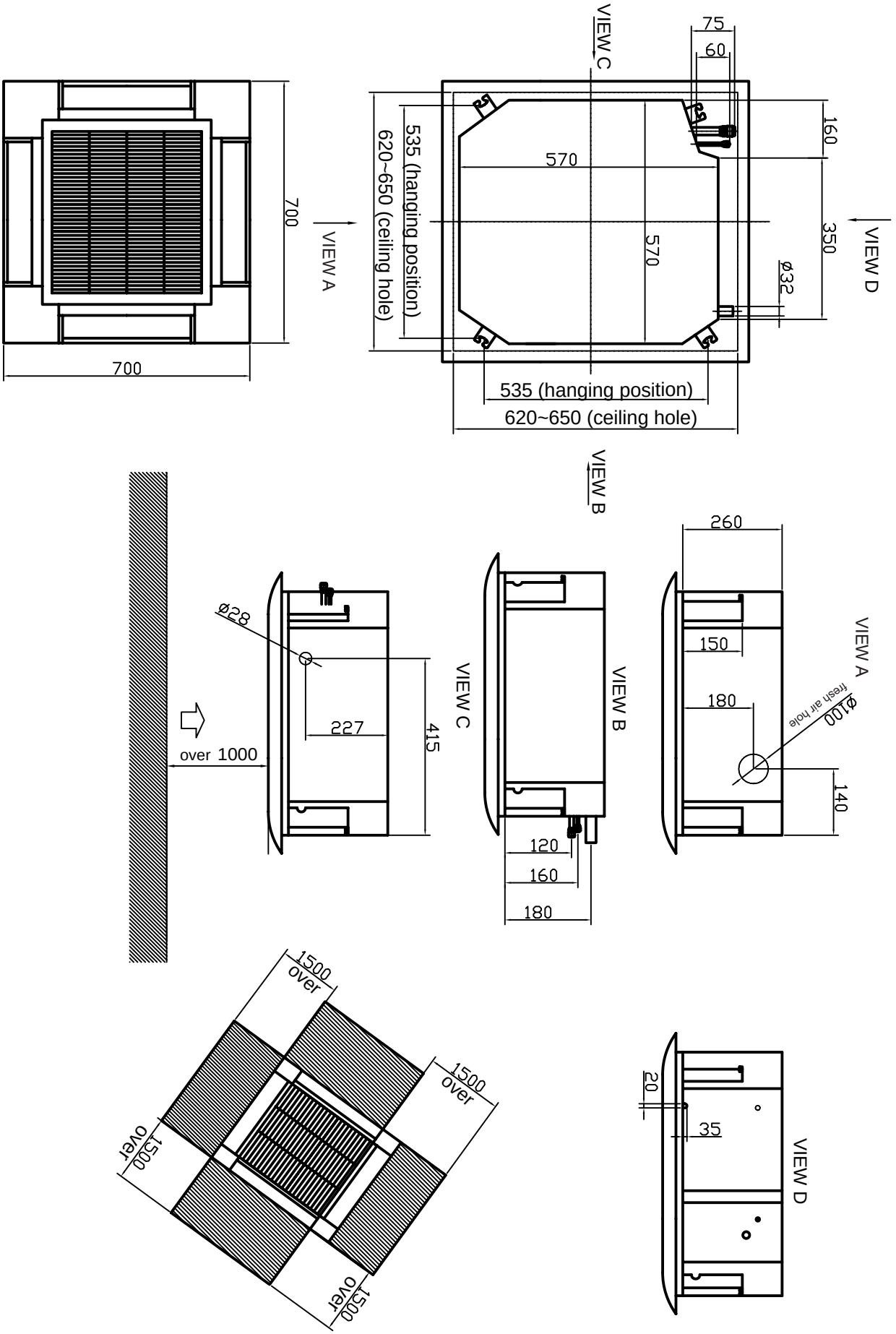
outdoor unit:
1.air outlet from side: the noise level is the average sound pressure level measured from front, left, right directions.
2.air outlet from top: the noise level is the average sound pressure level measured from front, back, left, right directions.
measured point:
H (height to the ground) = (h (unit height) + 1m) /2
and, it is 1m to each side.



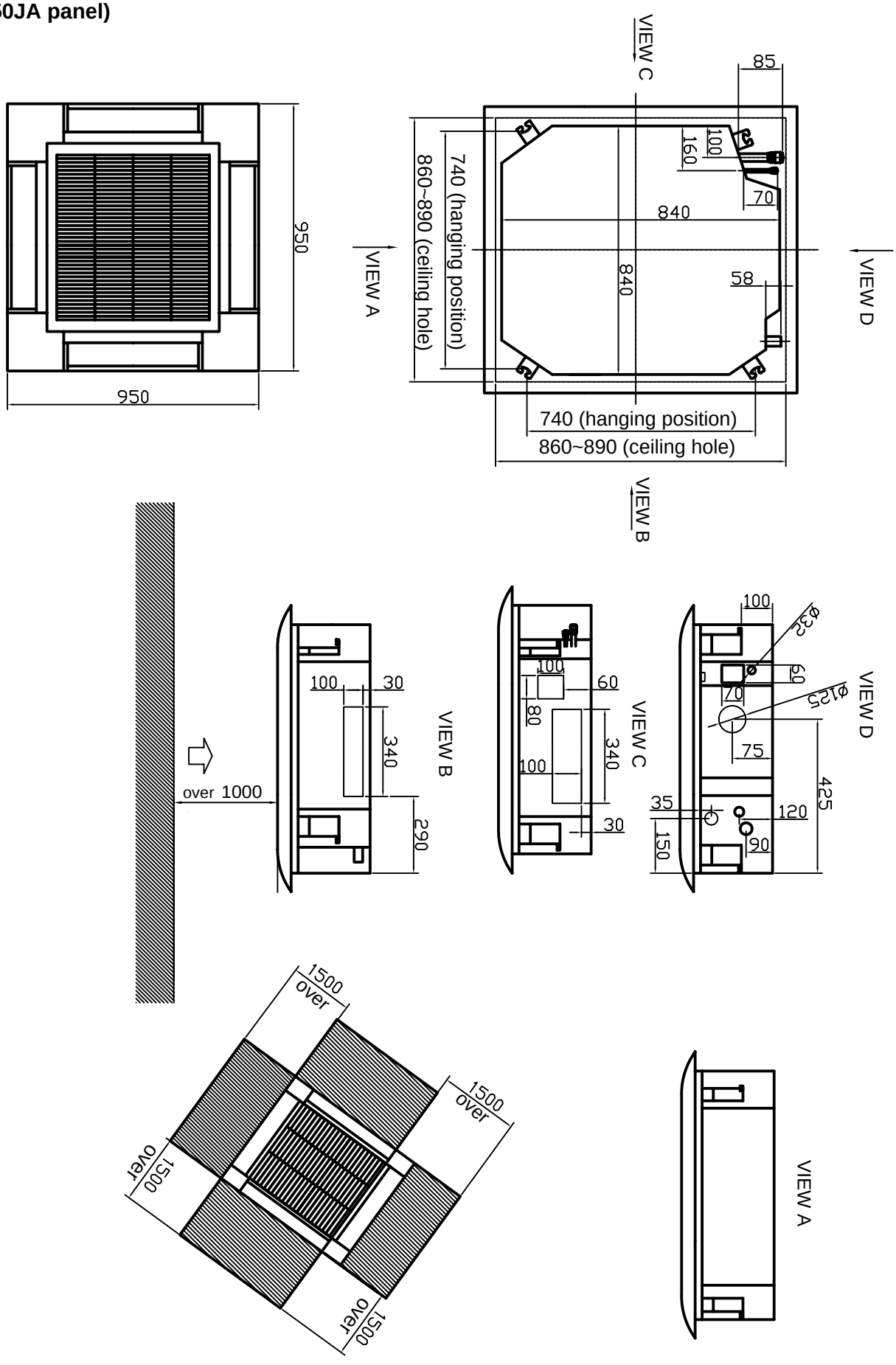
Note: ⊙ is the real time analyser position

3. Dimension

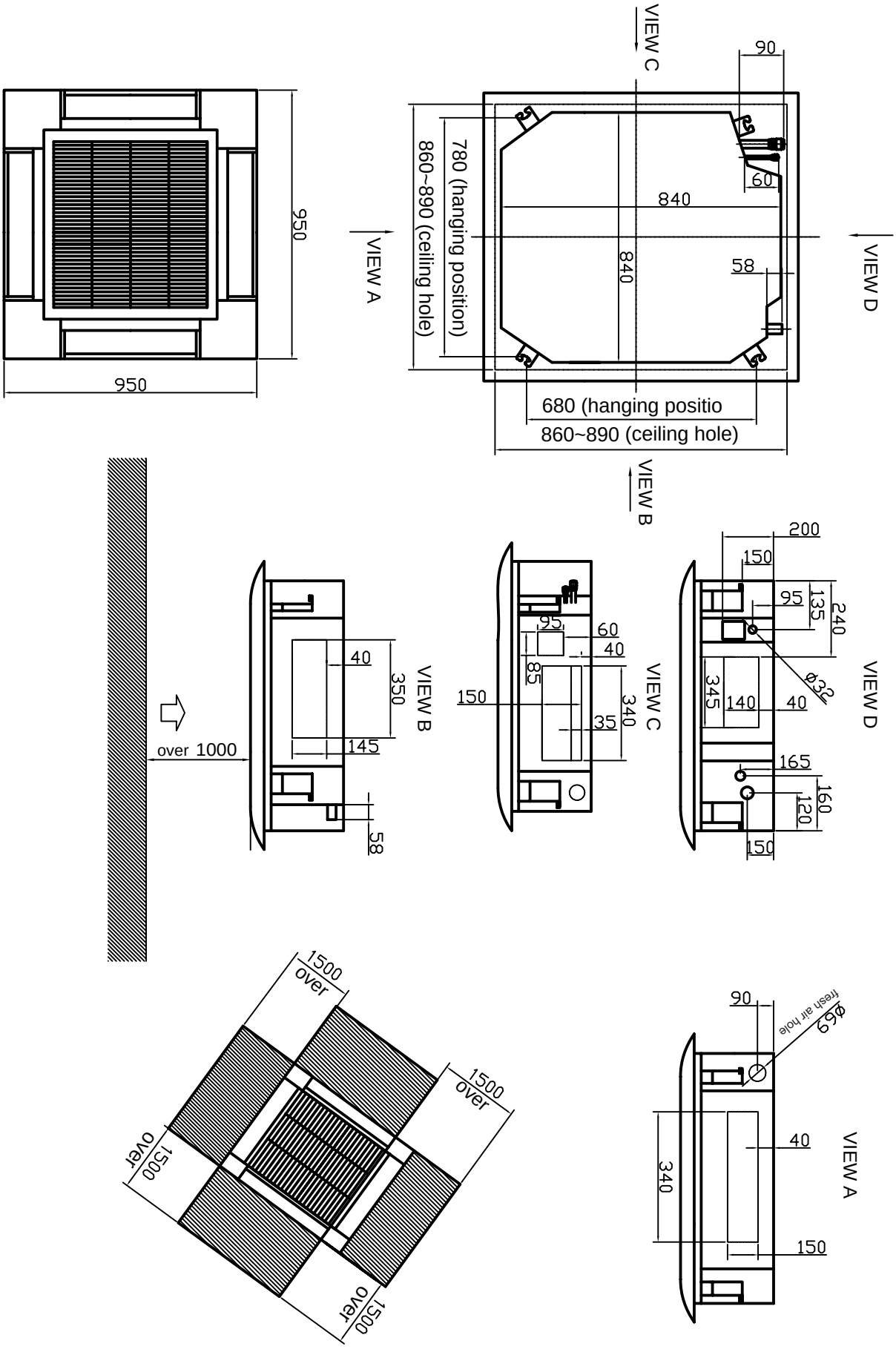
3.1 HBU-18CF03, HBU-18HF03 (used for the unit with PB-700IA panel)



3.2 HBU-28/42CF03, HBU-28/42HF03(with PB-950IA panel), HBU-28CH03 and HBU-28HH03 (with PB-950JA panel)

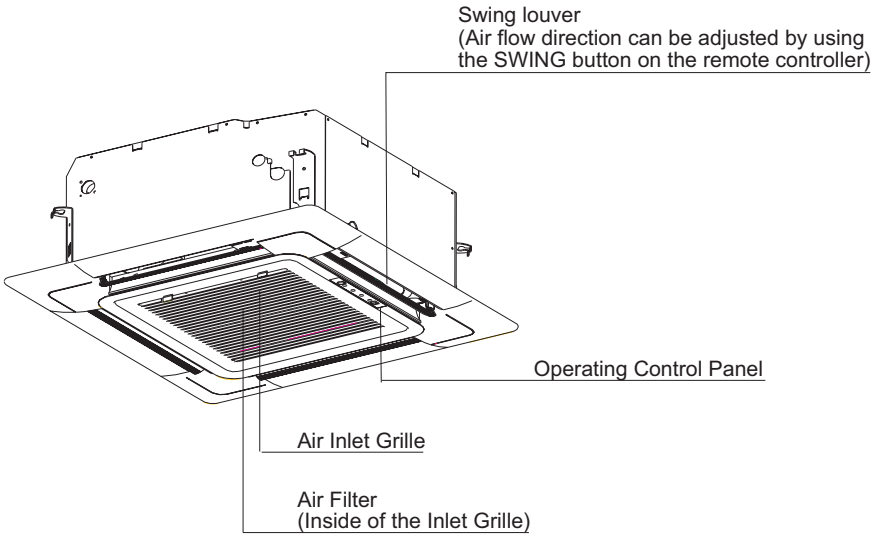


3.3 HBU-42CH03, HBU-42CI03, HBU-42HI03 (used for the unit with new PB-950JA panel)

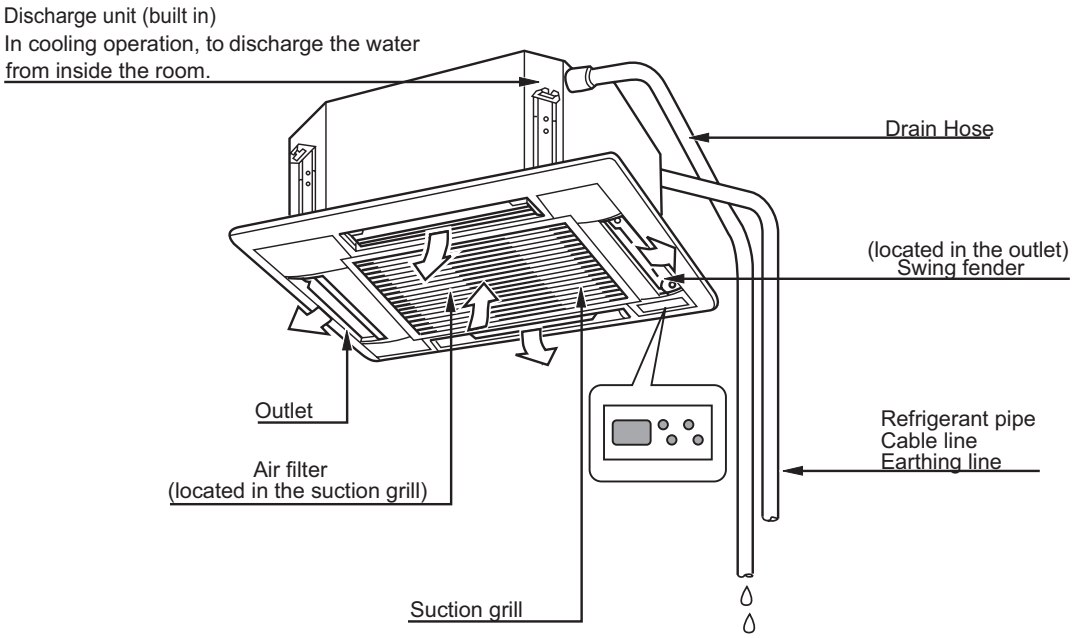


4. Part name

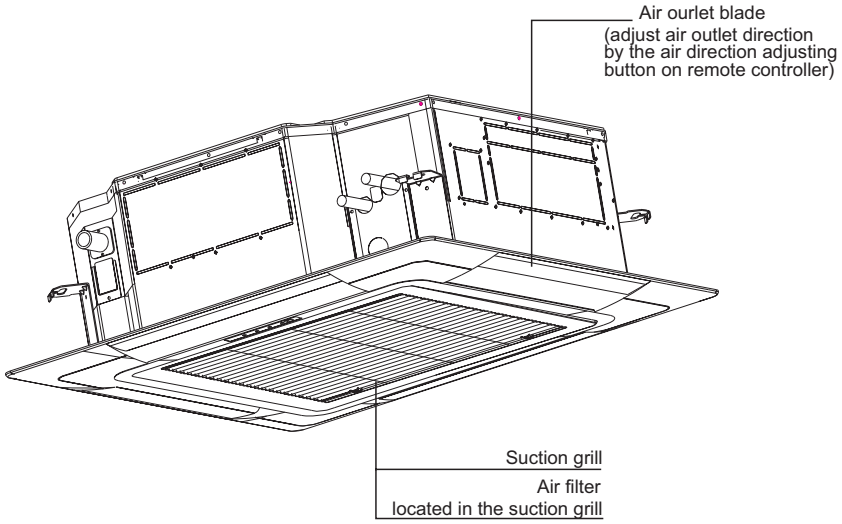
For HBU-18CF03, HBU-18HF03



For HBU-28/42CF03 and HBU-28/42HF03



HBU-28/42CH03, HBU-28HH03, HBU-42CI03, HBU-42HI03



5. Installation

CAUTIONS:

To ensure proper installation, read "Cautions" carefully before working. After installation, start the unit correctly and show customers how to operate and maintain the unit.

Meanings of Warning and Cautions:

Warning! Serious injury or even death might happen, if it is not observed.
Caution! Injury to people of damages to machine might happen, if it is not observed.

WARNING!

- Installation shall be done by professional people, don't install unit by yourself. Incorrect installation will cause water leakage, electric shock or fire.
- Install unit as per the Manual. Incorrect installation will cause water leakage, electric shock or fire accident.
- Be sure to use specified accessaries and parts. Otherwise, water leakage, electric shock, fire accident or unit falling down may happen.
- Unit should be placed on a place strong enough to hold the unit. Or, unit will fall down causing injuries.
- When install the unit, take in consideration of storms, typhoom, earthquake. Incorrect installation may cause unit to fall down.
- All electric work shall be done by experienced people as per eocal code, regulations and this Manual.
- Use exclusive wire for the unit. Incorrect installation or undersized electric wire may cause electric shock or fire accident.
- All the wires and circuit shall be safe. Use exclusive wire firmly fixed. Be sure that external force will not affect terminal bolck and electric wire. Poor contact and installation may cause fire accident.
- Arrange wire correctly when connectin indoor and outdoor power supply. Fix terminal cover firmly to avoid overheat, electric shock or even fire accident.
- In case retrigerant leakage occurred during unit installation, keep a good ventilation in the room.
- Poisonous gas will occur when meet with fire.
- Check the unit upon installation. Be sure there is no leakage. Refrigerant will induce poisonous gas when meet heat source as heater, oven, etc.
- Cut power supply before touching terminal bolck.

CAUTION!

- Unit shall be grounded. But grounding shall not be connected to gas pipe water pipe, telephone line. Poor grounding will cause electric shock.

Earthing

- Be sure to install a leakage breaker to avoid electric shock.
- Arrange water drainage according to this Manual. Cover pipe with insulation materials in case dew may occur. Unproper installation of water drainage will cause water leakage and wer your furniture.
- To maintain good picture or reduce noise, keep at least 1 m from T.V. radio, when install indoor and ou tdoor unit, connecting wire and power line. (If the radio wave is relatively strong, 1 m is not enough to reduce noise).
- Don't install unit in following places:
  (a) Oil mist or oil gas exists, such as kitchen, or, plastic parts may got aged, or water leakage.
  (b) Where there is corrosive gas. Copper tube and welded part may be damaged due to corrosion, causing leakage.
  (c) Where there is strong radiation. This will affect unit's control system, causing malfunction of the unit
  (d) Where flamable gas, dirt, and volatile matter (thinner, gasoline) exist, These matter might cause fire accident.

- Refer to paper pattern when installing unit.

Cautions for the installation personnel

- Don't fail to show customers how to operate unit.

Before installation <Don't discard any accessories until comp>

- Determine the way to carry unit to installation place.
- Don't remove packing until unit reaches installation place.
- If unpacking is unkavoidable, protect unit properly.

Selection of installation place

(1) Installation place shall meet the following and agreed by customers:

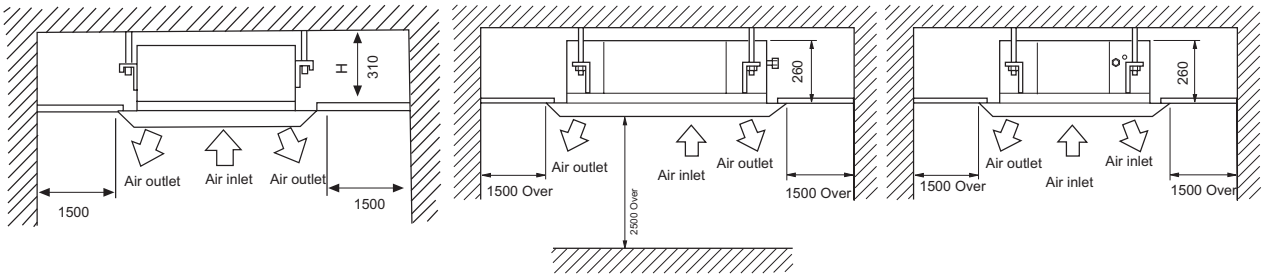
- Place where proper air flow can be ensured.
- No block to air flow.
- Water drainage is smpoth.
- Place strong enough to support unit weight.
- Place where inclination is not evident on ceiling.
- Enough space for mainenance.
- Indoor and outdoor unit piping length is within limit. (Refer to Installation Manual for outdoor unit.)
- Indoor and outdoor unit, power cable, inter unit cable are at least 1 m away fromT.V. radop. This is helpful to avoid picture disturbance and noise. (Even if 1 m iskept, noise can still appear if radio wave is strong)

(2) Ceiling height

Indoor unit can be installed on ceiling of 2.5-3m in height. (Refer to Foeld setting and Installation Manual of ornament panel.)

(3) Install suspending bolt. Check if the installation place is strong enough to hold weight. Take necessary measures in case it is not safe. (Distance between holes are marked on paper pattern. Refer to paper pattern for place need be reinforced)

Installation space



Preparation for the installation

(1) Position of ceiling opening between unit and suspending bolt.

Please refer to the dimension part.

(2) Cut an opening in ceiling for installation if necessary. (when ceiling already exists.)

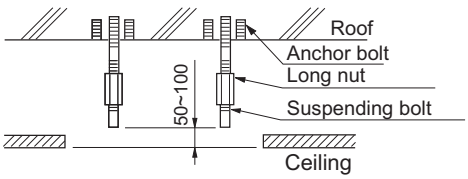
- Refer to paper pattern for dimension of ceiling hole.
- Connect all pipings (refrigerant, water drainage), wirings (inter unit cable) to indoor unit, before installation.
- Cut a hole in ceiling, may be a frame should be used to ensure a smooth surface and to prevent vibration. Contact your real estate dealer

(3) Install a suspending bolt.

(Use a M10 bolt)

To support the unit weight, anchor bolt shall be used in the case of already exists ceiling. For new ceiling, use built-in type bolt or parts prepared in the field.
Before going on installing adjust space between ceiling.

<Installation example>



Note: All the above mentioned parts shall be prepared in field.

Installation of indoor unit

In the case of new ceiling

(1) Install unit temporally

- Put suspending bracket on the suspending bolt. Be sure to use nut and washer at both ends of the bracket.

(2)
- As for the dimensions of ceiling hole, see paper pattern. Ask your real estate dealer for details.
- Center of the hole is marked on the paper pattern.
- Center of the unit is marked on the card in the unit and on the paper pattern.
- Mount paper pattern ⑤ onto unit using 3 screws ⑥. Fix the corner of the drain pan at piping outlet.

< After installation on the ceiling >

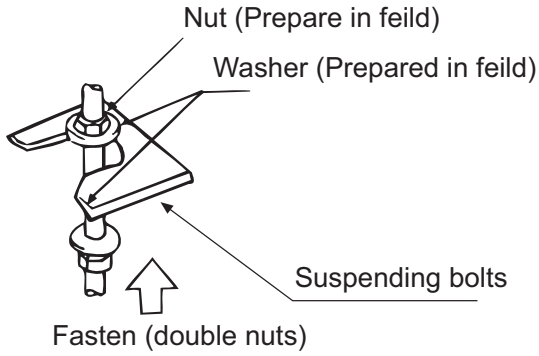
(3) Adjust unit to its right position. (Refer to preparation for the installation-(1))

(4) Check unit's horizontal level.

- Watert pump and flating switch is installed inside indoor unit, check four corners of the unit for its level using horizontal compartor or PVC tube with water. (If unit is tilting against the direction of water drainage, problem may occur on floating switch, causing water leakage.)

(5) Remove the washer mounlting ②, and tighten the nut above.

(6) Remove the paper pattern.



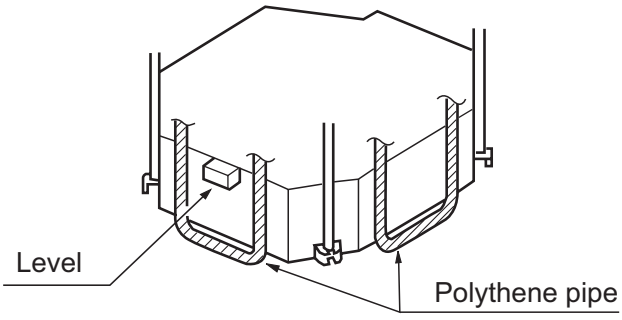
In the case of ceiling already exists

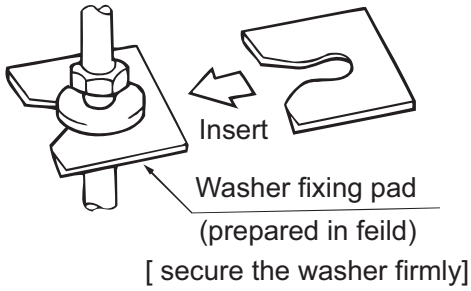
(1) Install unit temporally

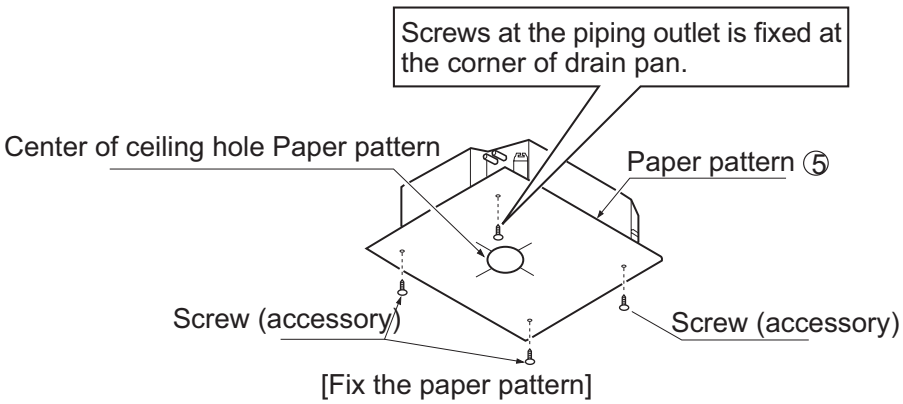
- Put suspending bracket on the suspending bolt. Be sure to use nut and washer at both ends of the bracket. Fix the bracket firmly.

(2) Adjust the height and position of the unit. (Refer to preparation for the installation (1)).

(3) Proceed with "In the case of new ceiling".







Refrigerant piping (As for outdoor piping, please refer to installation of outdoor unit)

- Outdoor is precharged with refrigerant.
- Be sure to see the Fig.1, when connecting and removing piping from unit.
- For the size of the flare nut, please refer to Table 1.
- Apply refrigerant oil at both inside and outsid of lflare nut. Tighten it band tight 3-4 turns then tighten it.
- Use torque specified in Table 1. (Too much force may damage flare nut, causing gas leakage).
- Check piping joints for gas leakage. Insulate piping as shown in Fig. below.
- Cover joint of gas piping and insulator ⑦ with seal.

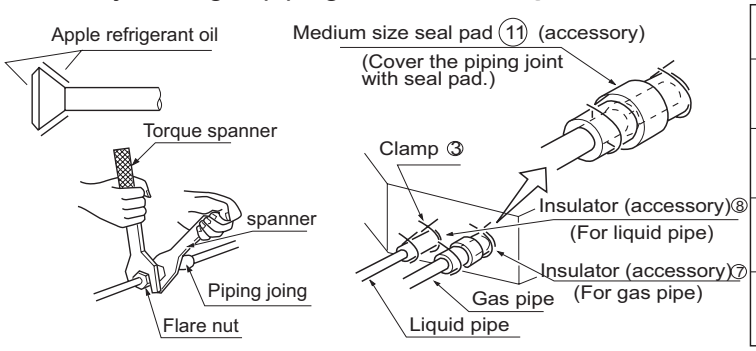
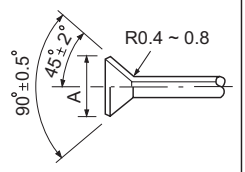


Table 1

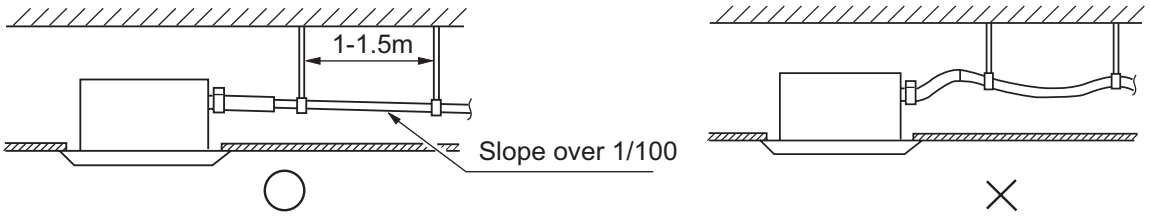
Pipe size	Tighten torque	A(mm)	Flare shape
Φ6.35	1420~1720N·cm (144~176kgf·cm)	8.3~8.7	
Φ9.52	3270~3990N·cm (333~407kgf·cm)	12.0~12.4	
Φ15.88	6180~7540N·cm (630~770kgf·cm)	18.6~19.0	
Φ19.05	9720~11860N·cm (990~1210kgf·cm)	22.9~23.3	



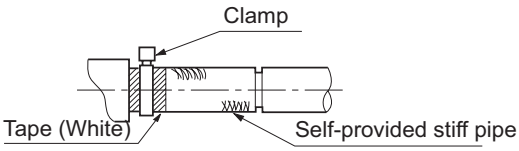
Installation of water drainage pipe

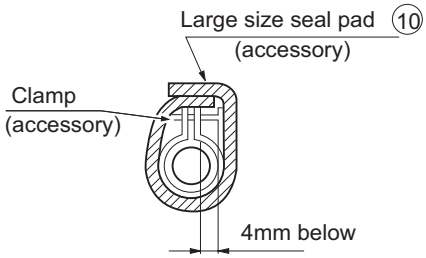
(1) Install water drainage pipe

- Pipe dia, shall be equal or larger than that of unit piping.(pipe of polyethylent; size: 25mm; O.D:32mm)
- Drain pipe should be short, with a downward slope at least 1/100 to prevent air bag from happening.
- If downward slope can't be made, take other measures to lift it up.
- Keep a distance of 1-1.5m between suspending brackets, to make water hose straight.



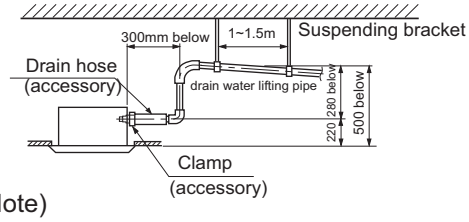
- Use the self-provided stiff pipe and clamp ① with unit. Insert water pipe into water plug until it reaches the white tape. Tighten the clip until head of the screw is less than 4mm from hose.
- Wind the drain hose to the clip using seal pad ⑨ . Insulate drain hose in the room.

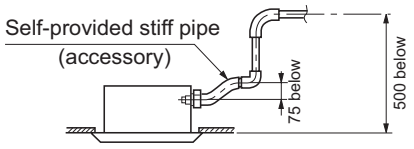




<Cautions for the drain water lifting pipe>

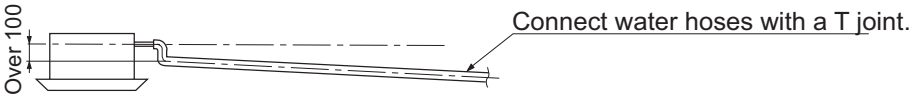
- Installation height shall be less than 280mm.
- There should be a right angle with unit, 300mm from unit.





(Note)

- The slope of water drain hose (1) shall be within 75mm, don't apply too much force on it.
- If several water hoses join together, do as per following proceedures.



Specifieations of the water hoses shall meet the requirements for the unit running.

(2) Check if water drainage is smooth after installation.

- Charge, through air outlet or inspecting hole, 1200cc water to see water drainage.

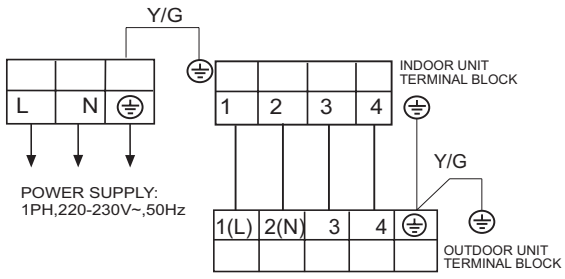
For serise 18

WIRING

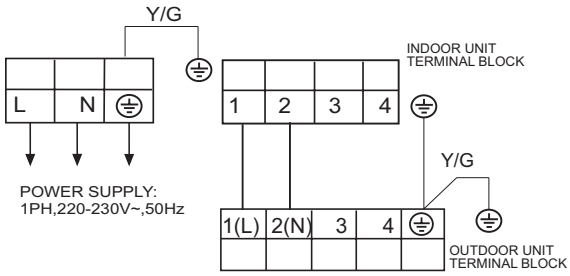
- All supplied parts. materials and wiring operation must in appliance with local code and regulations.Use copper wire only.
- When make wiring, please refer to wiring diagram also.All wiring work must be done by qualified electricians.
- A circuit breaker must be installed, which can cut power supply to all system.
- Connecting of unit
- Remove cover of control box , connect wires of correct pole to the terminal block inside,please connect the wires in right way.
- Upon connecting, replace control box cover and inlet grill .

Note: remember to connect the blue terminal of indoor unit with the white terminal of outdoor unit properly using the connecting wire in the accesory bag (For heat pump model). Otherwise the "Run" light on indoor remote receiver will flash four time.

HBU-18HF03

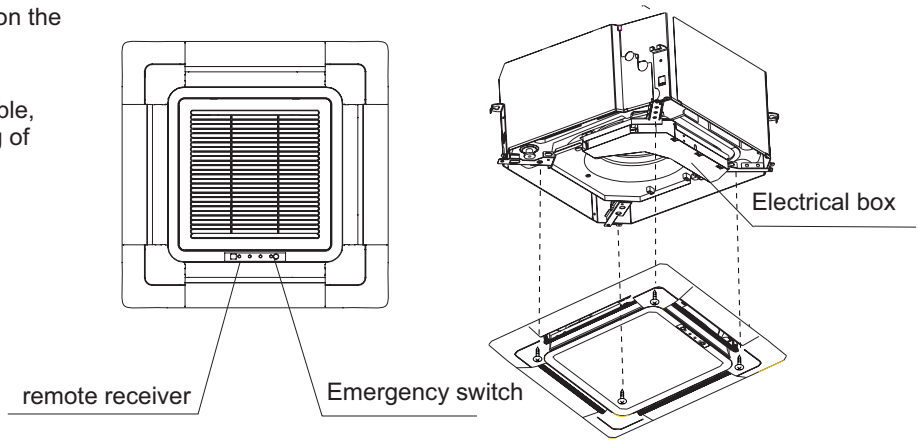


HBU-18CF03



Installation of ornament panel

- Check if the indoor unit is horizontal with level apparatus,and also check if the size of ceiling opening is right. Remember to take off the level apparatus before installation.
- Fix the ornament panel onto the indoor unit temporarily with two screws,make sure that the height difference of the indoor unit's two sides should be no more than 5mm.
- Screw other two screws and tighten all of the four screws to fix up the ornamnet panel.
- Connect the wires of swing flap motor on the ornament panel.
- Connect the signal wires.
- Check if the remote controlling is avalible, if not,please check if all the connecting of wires is right.Turn off the power for ten seconds,and then try it again.



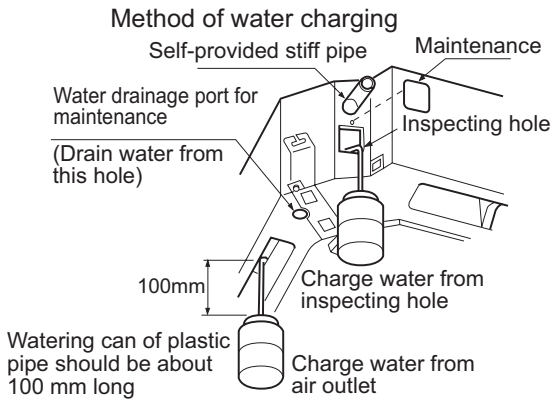
For serise 28, 42

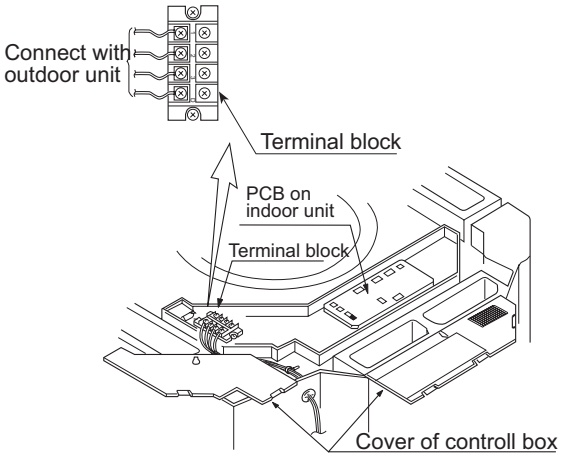
After wiring

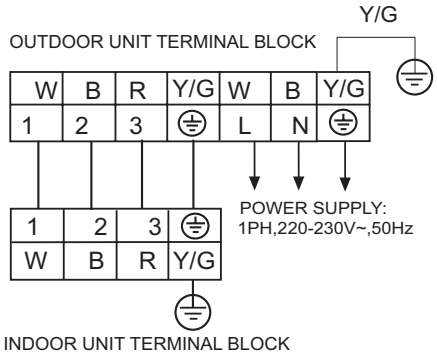
Check water drainage in cooling operation.

When wiring is not complete

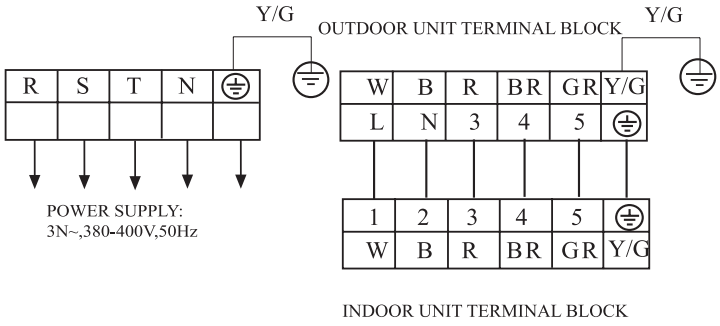
- Remove cover of control box, connect 1PH power to terminal 1 and 2 on terminal block, use remote controller to operate the unit.
- Note, in this operation, fan will be running.
- Upon confirmation of a smooth water drainage, be sure to cut off power supply.



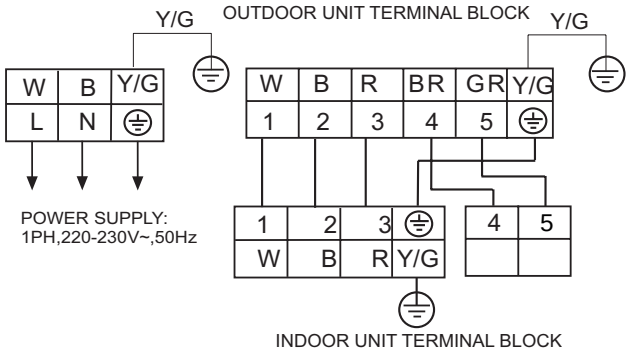




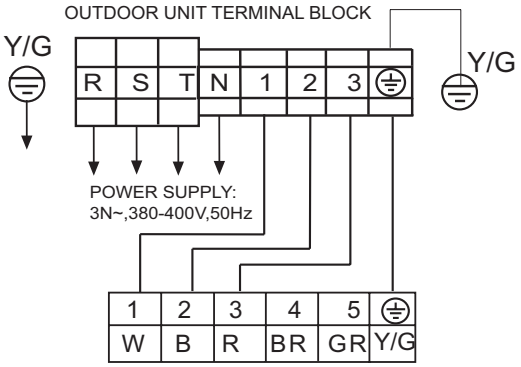
HBU-28CF03 HBU-28CH03



HBU-42HF03



HBU-28HF03 HBU-28HH03

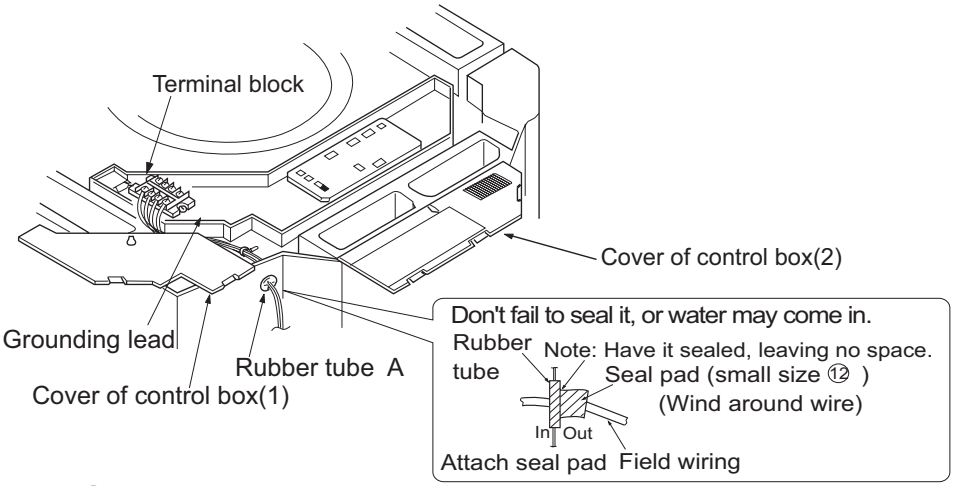


HBU-42CF03 HBU-42CI03
HBU-42CH03 HBU-42HI03

NOTE: L, N and 1, 2 are equal on the terminal block.

Wiring

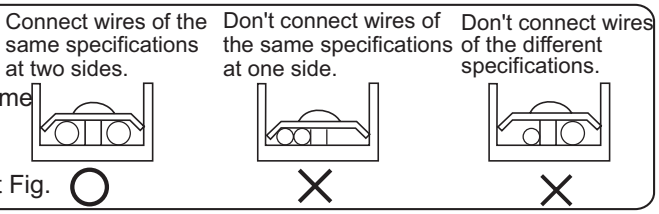
- All supplied parts. materials and wiring operation must in appliance with local code and regulations.
- Use copper wire only.
- When make wiring, please refer to wiring diagram also.
- All wiring work must be done by qualified electricians.
- A circuit breaker must be installed, which can cut power supply to all system.
- See Installation Manual of outdoor unit for specifications of wires, circuit breaker, switches and wiring etc.
- Connecting of unit
  Remove cover of switch box (1) , drag wires into rubber tube A, then, after proper wiring with other wires, tighten clamp A. Connect wires of correct pole to the terminal block inside.
- Wind seal ⑫ around wires. (Be sure to do that, or, dew may occur).
- Upon connecting, replace control box cover (1) and (2).



<<WARNING>>

Obscrve the following when connecting power supply terminal block:

Don't connect wires of different specifications to the same terminal block.
(Loose wire may cause overheating of circuit)
Connect wires of same specifications as shown in right Fig.



Wiring example

As for outdoor unit circuit, please see Installation Manual of outdoor unit.
Note: All electric wires have their own poles, poles must match that on terminal block.

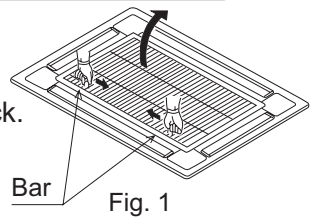


Fig. 1

Installation of ornament panel

Cautions for the installation

- Be sure to show customers Operation Manual and guide them how to operate unit correctly. Before installation. read also the Installation Manual of indoor unit.
- With this ornament , 2 or 3 air flow direction is not available. Suitable height is 3 m.

Accessory **Pad**  **Pad**

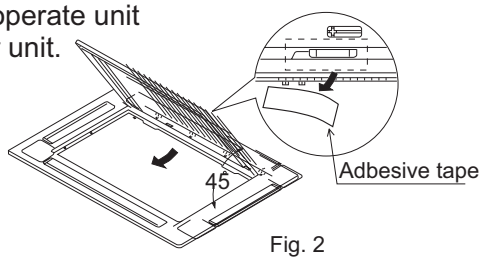


Fig. 2

1. Prepare ornament panel Handling of ornament panel

- Ornament panel shall not be placed face down or against wall, neither on an uneven object.
- Don' t bend carelessly the swing flap, or, problem may occur.

(1) **Remove air inlet grill from ornament panel:**

① Push in the bar on inlet grill and lift it up. (Refer to Fig. 1)

② Lift it up for about 45 degree and remove it from ornament. Tear off adhesive tape fixing air filter on the back of the air inlet grill. (Refer to Fig. 2)

(2) **Remove cover plate at corner**
Tear off the adhesive tape, and slide it off. (Refer to Fig. 3)

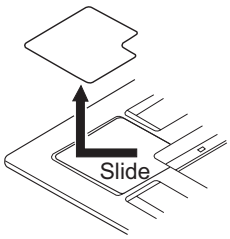


Fig. 3

2. Mounting on high ceiling

(1) Ornament panel can be mounted on ceiling as high as 3 m.

(2) Please install pad as accessary.

① Cut open the pad along cutting ling. Use part ⓐ only and discard part ⓑ. (Refer to Fig. 4)

② Install part a of the pad on the place shown in Fig. 5. Refer to Fig. 6.

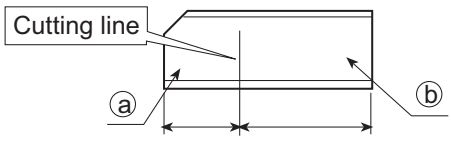


Fig. 4

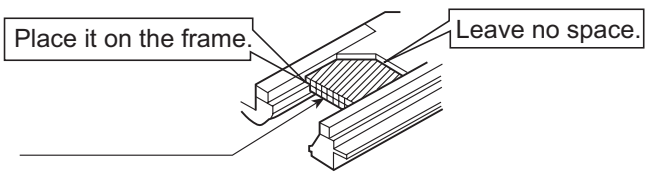


Fig. 6

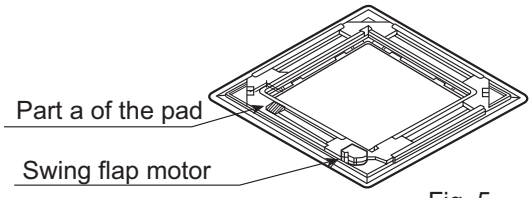


Fig. 5

(3)Wiring on ornament panel
Connecting of wiring of the swing flap motor on ornament panel. (2 places) (Refer to Fit . 10)

If connecting is not made, error code (A7) appears on remote controller. So, make proper connecting.

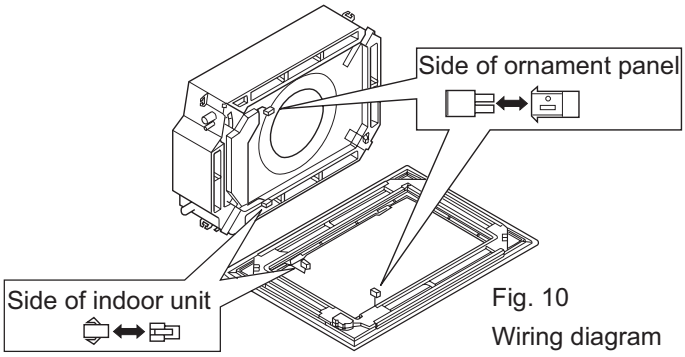


Fig. 10
Wiring diagram

3. Install ornament panel on indoor unit.

(1) As shown in Fig.7,match the position of swing flap motor with that of the indoor unit piping hole , so that ormament panel can be placed on to indoor unit.

(2) Installation of ornament panel

① Place the holding ring on swing flao motor side teporarily on hooks of the indoor unit. (2 pcs)

② Put the other two holding rings on the hooks at both side of the indoor unit. (Care should be taken not to push wiring of swing flap motor into seals).

③ Screw in all 4 screws under holding ring for about 15mm. (Pancl will rise).

④ Adjust the ornament panel as per Fig. 7 to cover opening on the ceiling.

⑤ Tighten screws to redrce the thickness of seals between ornament and indoor unit to 5-8mm.

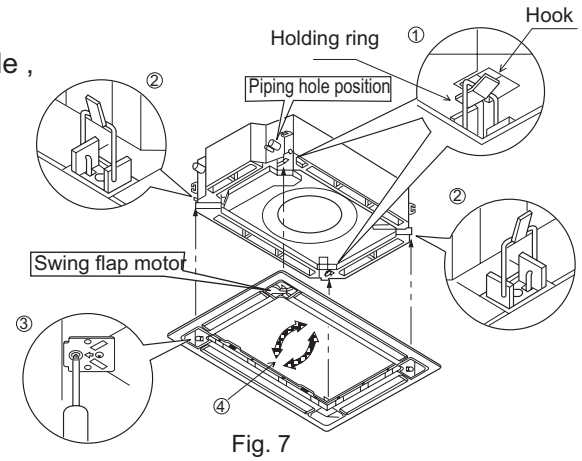
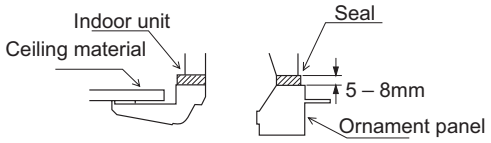


Fig. 7



Caution

If screws are not tighten tight, problems in Fig, 8 might occur. Tighten screws properly.

If there are still space after tightening of screws, please readjust the height of indoor unit. (Refer to Fig. 9)

If indoor unit is at horizontal level and water drainage is smooth, then, indoor unit height can be adjusted throrgh holes at corners of ornament panel.

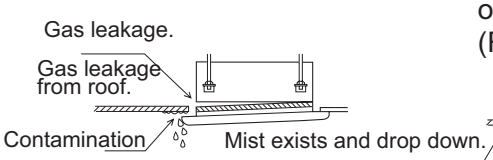


Fig. 8

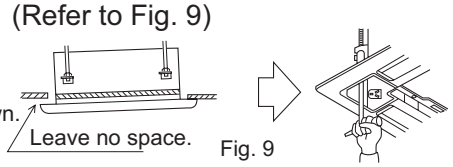


Fig. 9

4. Installation of inlet grill and cover plate

(1) Installation of inlet grill

Install in reversed order of "Prepare ornament pandl".

Inlet grill can be adjusted into four directions by turning inlet grill. Inlet grill position can be adjusted as per customers request.

When installing inlet grill, take care not to twist wiring of swing flap motor.

(2) Install cover plate on the corner

① As shown in Fig. 11 tie the cover plate onto the bolt on ornament plate.

② Install cover plate onto ornament plate. (Refer to Fig. 12)

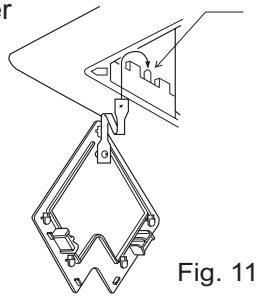
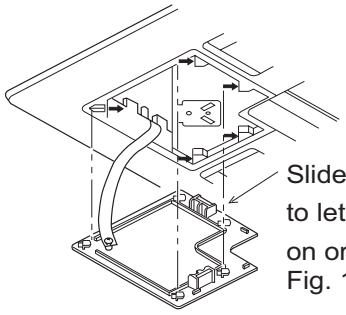


Fig. 11



Slide all five hold rings to let them drop in holes on ornament plate, Fig. 12

Pay special care to the following and check after installation

Item to the checked	Unproper installation may cause	Check
Is indoor unit firmly installed?	Unit might fall down, make vibration or noise.	
Is gas leakage check performed?	This may lead to gas shortage.	
Is unit properly insulated?	Dew or water drop may occur.	
Is water drainage smooth?	Dew or water drop may occur.	
Is power voltage meet that stipulated on the nameplate?	Problem may occur or parts got burned.	
Is wiring and piping correctly arranged?	Problem may occur or parts got burned.	
Is unit safely grounded?	There might be a danger of electric shock.	
Is wire size correct?	Problem may occur or parts got burned.	
Are there any obstacles on air inlet and outlet grill of indoor and outdoor unit?	This may cause poor cooling.	
Is record made for piping length and refrigerant charging amount?	It is hard to control refrigerant charging amount.	

ATTENTION: after finishing installation,confirm no refrigerant leakage.

Convertible indoor unit

(HCFU-18~HCFU-42)

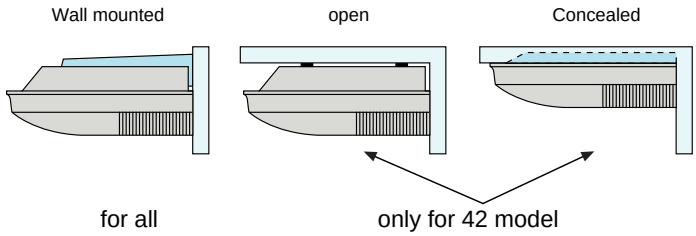
1. Feafures

Streamline appearance

The unit adopts streamline design that makes it so compact and has a popular appearance. So it can add elegance to any style of interior.

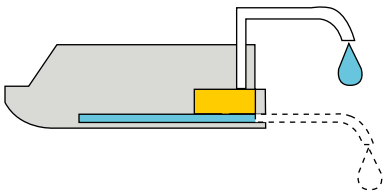
Optional installation mode

The indoor unit can be installed on the floor or to the ceiling. It always greatly decreases the space needed and also it can provide the same comfort to us. At the same time make service and Installation more convenient and easy.



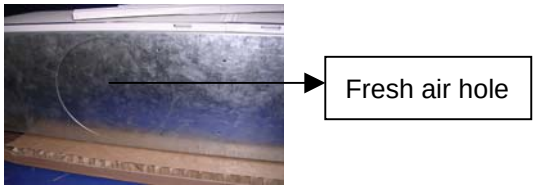
Optional Drain water modes(42 model)

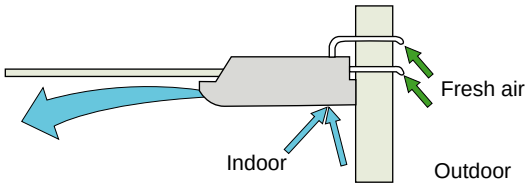
Optional drain water lift-up mechanism offers more flexible installation. more choices for water pipe installation.



Fresh-air intake

There is pre-set 200mm-diameter large fresh air intake holes in the unit, which can make the air more comfortable. The fresh function can be set at any time according to the request of you



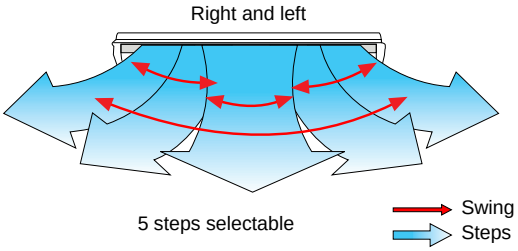


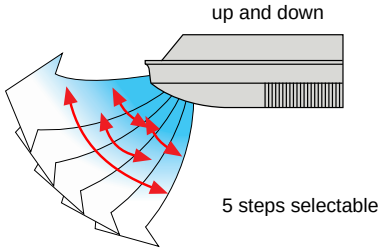
Automatically control of airflow direction

In order to realize the comfortable space with uniform temperature, the air conditioner adopts two stepping motors to adjust the airflow automatically for sending the air to every corner of the room.

When heating, it will send download large quantity of hot air in order to quickly and effectively warm up the floor, and it will send the airflow from top to bottom from the very beginning when cooling to send the cool air to every corner of the room.

For 42 model, the airflow direction can be controlled in 5 steps from up to down and from left to right. More selectable, more flexible.





Ultra-thin unit body, only thick 199 mm

The convertible indoor unit adopts a double drain pan design, the unit body is very thin, only 199 mm. It is beautiful and elegant and the most important-space saving (for model 12, 18, 24).

Long-life and high efficiency air purify filter

The units adopts high efficiency air purify filter, greatly improve the room air quality; at the same time, the filter is with the pulling hole, can be easily taken down and cleaned.

Particular drive device

With single fan motor, the fans connect with motoraxis by the flexible gimbal so that the ratio of damageable parts can be reduced.

2. Specifications

item					Model	HCFU-18CF03	
Function						cooling	heating
Capacity					BTU/h	16500	-----
Capacity					kW	4.83	-----
Sensible heat ratio						70%	
Total power input					W	2000	-----
Max. power input					W	2500	-----
EER or COP					W/W	2.4	-----
Dehumidifying capacity					10 - ³×m³/h	2.0	
Power cable					section	3G×2.5mm^2	
Signal cable					section	3G×2.0mm^2	
Connecting cable					section		
Power source					N, V, Hz	1PH，220-230V，50HZ	
Running /Max.Running current					A / A	9.5A/12.0A	
Start Current					A	40	
Class of anti electric shock						CLASS I	CLASS I
Circuit breaker					A	25	
Max. operating pressure of heat side					Mpa	2.8	2.8
Max. operating pressure of cold side					Mpa	2.8	2.8
Indoor unit	Unit model (color)					HCFU-18CF03(WHITE)	
	Fan	Type × Number				centrifugal*2	
		Speed(H-M-L)			r/min	1150±30/1000±40/820±50r/min	
		Fan motor output power			kW	0.04	
		Air-flow(H-M-L)			m³/h	900	
	Heat exchanger	Type / Diameter			mm	inner grooved/φ9.52	
		Temp. scope			℃	/	
	Dimension	External	（L×W×H）		mm×mm×mm	1090×655×199	
		Package	（L×W×H）		mm×mm×mm	1150×750×300	
	Control type (Remote /wired /model)					Remote	
	Noise level (H-M-L)				dB(A)	50/47/42	
	Weight (Net / Shipping)				kg / kg	30/36	
Outdoor unit	Unit model (color)					HCFU-18CF03(WHITE)	
	Compressor	Model / Manufacture				PH310X2CS-8/TOSHIBA	
		Type				ROTARY	
		Starting method				Direct Start	
	Fan	Type × Number				Axial*1	
		Speed			r/min	820	
		Fan motor output power			kW	0.035	
	Heat exchanger	Type / Diameter			mm	inner grooved/φ9.52	
		Row / Fin pitch				2/	
	Dimension	External	（L×W×H）		mm×mm×mm	780*245*640	
		Package	（L×W×H）		mm×mm×mm	910*340*710	
	Refrigerant control method				mm/mm	Capillary tube	
	Defrosting					Automatic	
	Noise level				dB(A)	53	
	Weight (Net / Shipping)				kg / kg	41/44	
PIPING	Refrigerant	Type / Charge			g	1650	
		Recharge quantity			g/m	30	
	Pipe	Liquid			mm	φ6.35	
		Gas			mm	φ12.7	
	Connecting Method					Flared	
	Between I.D &O.D	MAX.Drop			m	5	
		MAX.Piping length			m	15	

item				Model	HCFU-18HF03	
Function					cooling	heating
Capacity				BTU/h	16500	18000
Capacity				kW	4.83	5.275
Sensible heat ratio					70%	
Total power input				W	2000	1800
Max. power input				W	2500	2400
EER or COP				W/W	2.4	2.93
Dehumidifying capacity				10 - ³×m³/h	2.0	
Power cable				section	3G×2.5mm^2	
Signal cable				section	3×2.0mm^2 ＋2×0.75mm^2	
Connecting cable				section		
Power source				N, V, Hz	1PH，220-230V，50HZ	
Running /Max.Running current				A / A	Cooling 9.5A/12.0A Heating 8.5/11.0	
Start Current				A	40	
Class of anti electric shock					CLASS I	CLASS I
Circuit breaker				A	25	
Max. operating pressure of heat side				Mpa	2.8	2.8
Max. operating pressure of cold side				Mpa	2.8	2.8
Indoor unit	Unit model (color)				HCFU-18HF03(WHITE)	
	Fan	Type × Number			centrifugal*2	
		Speed(H-M-L)		r/min	1150/1000/820	
		Fan motor output power		kW	0.04	
		Air-flow(H-M-L)		m³/h	900	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
		Temp. scope		℃	/	
	Dimension	External	（L×W×H）	mm×mm×mm	1090×655×199	
		Package	（L×W×H）	mm×mm×mm	1150×750×300	
	Control type (Remote /wired /model)				Remote	
	Noise level (H-M-L)			dB(A)	50/47/42	
	Weight (Net / Shipping)			kg / kg	30/36	
Outdoor unit	Unit model (color)				HCFU-18HF03(WHITE)	
	Compressor	Model / Manufacture			SHW33TC4-U	
		Oil model			SUNISO-4GSI	
		Oil charging			600±20 ml	
		Type			ROTARY	
		Starting method			Direct Start	
	Fan	Type × Number			Axial*1	
		Speed		r/min	820	
		Fan motor output power		kW	0.035	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
		Row / Fin pitch			2/	
	Dimension	External	（L×W×H）	mm×mm×mm	780*245*640	
		Package	（L×W×H）	mm×mm×mm	910*340*710	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	53	
	Weight (Net / Shipping)			kg / kg	41/44	
PIPING	Refrigerant	Type / Charge		g	1650	
		Recharge quantity		g/m	30	
	Pipe	Liquid		mm	φ6.35	
		Gas		mm	φ12.7	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	5	
		MAX.Piping length		m	15	

item				Model	HCFU-28CF03	
Function					cooling	heating
Capacity				BTU/h	24000	-----
Capacity				kW	7.1	-----
Sensible heat ratio					70%	
Total power input				W	2800	-----
Max. power input				W	3400	-----
EER or COP				W/W	2.54	-----
Dehumidifying capacity				10 - ³×m³/h	3.0	
Power cable				section	3G×4.0mm^2	
Signal cable				section	4G×0.75mm^2	
Connecting cable				section		
Power source				N, V, Hz	1PH，220-230V，50HZ	
Running /Max.Running current				A / A	13.0A/15.0A	
Start Current				A	40	
Class of anti electric shock					CLASS I	CLASS I
Circuit breaker				A	35	
Max. operating pressure of heat side				Mpa	2.8	2.8
Max. operating pressure of cold side				Mpa	2.8	2.8
Indoor unit	Unit model (color)				HCFU-28CF03(WHITE)	
	Fan	Type × Number			centrifugal*2	
		Speed(H-M-L)		r/min	1300±30/1250±40/1150±50	
		Fan motor output power		kW	0.033	
		Air-flow(H-M-L)		m³/h	1300	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
		Temp. scope		℃	/	
	Dimension	External	（L×W×H）	mm×mm×mm	1320×715×235	
		Package	（L×W×H）	mm×mm×mm	1380×770×300	
	Control type (Remote /wired /model)				Remote	
	Noise level (H-M-L)			dB(A)	51/49/47	
	Weight (Net / Shipping)			kg / kg	47/52	
Outdoor unit	Unit model (color)				HCFU-28CF03(WHITE)	
	Compressor	Model / Manufacture			THU33WC6-U	
		Oil model			SUNISO-4GSI	
		Oil charging			1050±20	
		Type			ROTARY	
		Starting method			Direct Start	
	Fan	Type × Number			Axial*1	
		Speed		r/min	1060	
		Fan motor output power		kW	0.08	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
		Row / Fin pitch			2/	
	Dimension	External	（L×W×H）	mm×mm×mm	862*310*730	
		Package	（L×W×H）	mm×mm×mm	1005*425*800	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	61	
	Weight (Net / Shipping)			kg / kg	60/63	
PIPING	Refrigerant	Type / Charge		g	2550	
		Recharge quantity		g/m	65	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ15.88	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	20	
		MAX.Piping length		m	30	

item				Model		HCFU-28HF03	
Function						cooling	heating
Capacity					BTU/h	24000	26000
Capacity					kW	7.1	7.6
Sensible heat ratio						70%	
Total power input					W	2850	2800
Max. power input					W	3500	3400
EER or COP					W/W	2.54	2.7
Dehumidifying capacity					10 - ³×m³/h	3.0	
Power cable					section	3G×4.0mm^2	
Signal cable					section	6G×0.75mm^2	
Connecting cable					section		
Power source					N, V, Hz	1PH，220-230V，50HZ	
Running /Max.Running current					A / A	Cooling 13.5A/16.0A Heating13.0/15.0	
Start Current					A	40	
Class of anti electric shock						CLASS I	CLASS I
Circuit breaker					A	35	
Max. operating pressure of heat side					Mpa	2.8	2.8
Max. operating pressure of cold side					Mpa	2.8	2.8
Indoor unit	Unit model (color)					HCFU-28HF03(WHITE)	
	Fan	Type × Number				centrifugal*2	
		Speed(H-M-L)			r/min	1300±30/1250±40/1150±50	
		Fan motor output power			kW	0.033	
		Air-flow(H-M-L)			m³/h	1300	
	Heat exchanger	Type / Diameter			mm	inner grooved/φ9.52	
		Temp. scope			℃	/	
	Dimension	External	（L×W×H）		mm×mm×mm	1320×715×235	
		Package	（L×W×H）		mm×mm×mm	1380×770×300	
	Control type (Remote /wired /model)					Remote	
	Noise level (H-M-L)				dB(A)	51/49/47	
	Weight (Net / Shipping)				kg / kg	47/52	
Outdoor unit	Unit model (color)					HCFU-28HF03(WHITE)	
	Compressor	Model / Manufacture				THU33WC6-U	
		Oil model				SUNISO-4GSI	
		Oil charging				1050±20	
		Type				ROTARY	
		Starting method				Direct Start	
	Fan	Type × Number				Axial*1	
		Speed			r/min	1060	
		Fan motor output power			kW	0.08	
	Heat exchanger	Type / Diameter			mm	inner grooved/φ9.52	
		Row / Fin pitch				2/	
	Dimension	External	（L×W×H）		mm×mm×mm	862*310*730	
		Package	（L×W×H）		mm×mm×mm	1005*425*800	
	Refrigerant control method				mm/mm	Capillary tube	
	Defrosting					Automatic	
	Noise level				dB(A)	61	
	Weight (Net / Shipping)				kg / kg	60/63	
PIPING	Refrigerant	Type / Charge			g	2600	
		Recharge quantity			g/m	65	
	Pipe	Liquid			mm	φ9.52	
		Gas			mm	φ15.88	
	Connecting Method					Flared	
	Between I.D &O.D	MAX.Drop			m	20	
		MAX.Piping length			m	30	

item				Model	HCFU-42CF03	
Function					cooling	heating
Capacity				BTU/h	42000	-----
Capacity				kW	12.3	-----
Sensible heat ratio					75%	
Total power input				W	4600	-----
Max. power input				W	5700	-----
EER or COP				W/W	2.67	-----
Dehumidifying capacity				10 - ³×m³/h	4.7	
Power cable				section	5G×2.5mm^2	
Signal cable				section	4G×0.75mm^2	
Connecting cable				section		
Power source				N, V, Hz	3PH，380-400V，50HZ	
Running /Max.Running current				A / A	8.5/9.3	
Start Current				A	40	
Class of anti electric shock					CLASS I	/
Circuit breaker				A	30	
Max. operating pressure of heat side				Mpa	2.8	/
Max. operating pressure of cold side				Mpa	2.8	/
Indoor unit	Unit model (color)				HCFU-42CF03(WHITE)	
	Fan	Type × Number			centrifugal*4	
		Speed(H-M-L)		r/min	1250/1150/1100	
		Fan motor output power		kW	0.09	
		Air-flow(H-M-L)		m³/h	2000/1800/1400	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ7	
		Total Area		m²	0.1	
		Temp. scope		℃	2-7	
	Dimension	External	（L×W×H）	mm×mm×mm	1580*700*240	
		Package	（L×W×H）	mm×mm×mm	1710*790*315	
	Drainage pipe (material , I.D./O.D.)			mm	PP 20/25	
	Control type (Remote /wired /model)				Remote	
	Noise level (H-M-L)			dB(A)	53/51/49	
	Weight (Net / Shipping)			kg / kg	54/61	
Outdoor unit	Unit model (color)				HCFU-42CF03(WHITE)	
	Compressor	Model / Manufacture			JT160BCBY1L DAKIN	
		Oil model			SUNISO 4GSDID-K/DAPHNE SE56P	
		Oil charging			1500-1700	
		Type			SCROLL	
		Protection type			inner protection	
		Starting method			Direct Start	
	Fan	Type × Number			Axial*1	
		Speed		r/min	740±50	
		Fan motor output power		kW	0.156	
		Air-flow(H-M-L)		m³/h	6000	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
		Row / Fin pitch			2/	
		Temp. scope		℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	1008×830×410	
		Package	（L×W×H）	mm×mm×mm	1130×930×490	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	62	
	Weight (Net / Shipping)			kg / kg	80/90	
PIPING	Refrigerant	Type / Charge		g	R22/2500G	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ19.05	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	30	
		MAX.Piping length		m	50	

item				Model	HCFU-42HF03	
Function					cooling	heating
Capacity				BTU/h	44000	48000
Capacity				kW	12.9	14060
Sensible heat ratio					75%	
Total power input				W	4600	4600
Max. power input				W	5540	5220
EER or COP				W/W	2.8	3.06
Dehumidifying capacity				10 - ³×m³/h	4.7	
Power cable				section	5G×2.5mm^2	
Signal cable				section	6G×0.75mm^2	
Connecting cable				section		
Power source				N, V, Hz	3PH，380-400V，50HZ	
Running /Max.Running current				A / A	cooling 8.8/9.6 heating8.6/9.2	
Start Current				A	50	
Class of anti electric shock					CLASS I	CLASS I
Circuit breaker				A	50	
Max. operating pressure of heat side				Mpa	2.8	2.8
Max. operating pressure of cold side				Mpa	2.8	2.8
Indoor unit	Unit model (color)				HCFU-42HF03(WHITE)	
	Fan	Type × Number			centrifugal*4	
		Speed(H-M-L)		r/min	1250/1150/1100	
		Fan motor output power		kW	0.09	
		Air-flow(H-M-L)		m³/h	2000/1800/1400	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ7	
		Total Area		m²	0.1	
		Temp. scope		℃	2-7	
	Dimension	External	（L×W×H）	mm×mm×mm	1580*700*240	
		Package	（L×W×H）	mm×mm×mm	1710*790*315	
	Drainage pipe (material , I.D./O.D.)			mm	PP 20/25	
	Control type (Remote /wired /model)				Remote	
	Noise level (H-M-L)			dB(A)	53/51/49	
	Weight (Net / Shipping)			kg / kg	54/61	
Outdoor unit	Unit model (color)				HCFU-42HF03(WHITE)	
	Compressor	Model / Manufacture			JT160BCBY1L DAKIN	
		Oil model			SUNISO 4GSDID-K/DAPHNE SE56P	
		Oil charging			1500-1700	
		Type			SCROLL	
		Protection type			inner protection	
		Starting method			Direct Start	
	Fan	Type × Number			Axial*2	
		Speed		r/min	840±50	
		Fan motor output power		kW	0.08*2	
		Air-flow(H-M-L)		m³/h	7000	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
		Row / Fin pitch			2/	
		Temp. scope		℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	948*340*1250	
		Package	（L×W×H）	mm×mm×mm	1050*440*1375	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	62	
	crankcase heater power			W	47	
	Weight (Net / Shipping)			kg / kg	103/111	
PIPING	Refrigerant	Type / Charge		g	R22/2800G	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ19.05	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	30	
		MAX.Piping length		m	50	

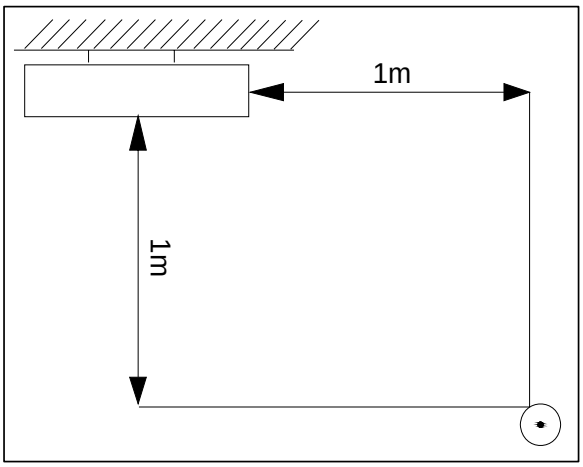
item				Model	HCFU-42CH03	
Function					cooling	heating
Capacity				BTU/h	42000	-----
Capacity				kW	12.3	-----
Sensible heat ratio					75%	
Total power input				W	4600	-----
Max. power input				W	5700	-----
EER or COP				W/W	2.67	-----
Dehumidifying capacity				10 - ³×m³/h	4.7	
Power cable				section	5G×2.5mm^2	
Signal cable				section	4G×0.75mm^2	
Connecting cable				section		
Power source				N, V, Hz	3PH，380-400V，50HZ	
Running /Max.Running current				A / A	8.5/9.3	
Start Current				A	50	
Class of anti electric shock					CLASS I	/
Circuit breaker				A	30	/
Max. operating pressure of heat side				Mpa	2.8	/
Max. operating pressure of cold side				Mpa	2.8	/
Indoor unit	Unit model (color)				HCFU-42CH03(WHITE)	
	Fan	Type × Number			centrifugal*4	
		Speed(H-M-L)		r/min	1250/1150/1100	
		Fan motor output power		kW	0.09	
		Air-flow(H-M-L)		m³/h	2000/1800/1400	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ7	
		Total Area		m²	0.1	
		Temp. scope		℃	2-7	
	Dimension	External	（L×W×H）	mm×mm×mm	1580*700*240	
		Package	（L×W×H）	mm×mm×mm	1710*790*315	
	Control type (Remote /wired /model)				Remote	
	Noise level (H-M-L)			dB(A)	53/51/49	
	Weight (Net / Shipping)			kg / kg	54/61	
Outdoor unit	Unit model (color)				HCFU-42CH03(WHITE)	
	Compressor	Model / Manufacture			JT160GABY1L DAKIN	
		Oil model			SUNISO 4GSDID-K/DAPHNE SE56P	
		Oil charging			1500-1700	
		Type			SCROLL	
		Protection type			inner protection	
		Starting method			Direct Start	
	Fan	Type × Number			Axial*1	
		Speed		r/min	740±50	
		Fan motor output power		kW	0.156	
		Air-flow(H-M-L)		m³/h	6000	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
		Row / Fin pitch			2/	
		Temp. scope		℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	1008×830×410	
		Package	（L×W×H）	mm×mm×mm	1130×930×490	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	62	
	Weight (Net / Shipping)			kg / kg	95/100	
PIPING	Refrigerant	Type / Charge		g	R22/2500G	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ19.05	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	30	
		MAX.Piping length		m	50	

item				Model	HCFU-42HK03	
Function					cooling	heating
Capacity				BTU/h	42000	48000
Capacity				kW	12.5	14.06
Sensible heat ratio					75%	
Total power input				W	4600	4600
Max. power input				W	5540	5220
EER or COP				W/W	2.7	3.06
Dehumidifying capacity				10 - ³×m³/h	4.7	
Power cable				section	5G×2.5mm^2	
Signal cable				section	6G×0.75mm^2	
Connecting cable				section		
Power source				N, V, Hz	3PH，380-400V，50HZ	
Running /Max.Running current				A / A	cooling 8.8/9.6 heating8.6/9.2	
Start Current				A	50	
Class of anti electric shock					CLASS I	CLASS I
Circuit breaker				A	30	
Max. operating pressure of heat side				Mpa	2.8	2.8
Max. operating pressure of cold side				Mpa	2.8	2.8
Indoor unit	Unit model (color)				HCFU-42HK03(WHITE)	
	Fan	Type × Number			centrifugal*4	
		Speed(H-M-L)		r/min	1250/1150/1100	
		Fan motor output power		kW	0.09	
		Air-flow(H-M-L)		m³/h	2000/1800/1400	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ7	
		Total Area		m²	0.10	
		Temp. scope		℃	2-7	
	Dimension	External	（L×W×H）	mm×mm×mm	1580*700*240	
		Package	（L×W×H）	mm×mm×mm	1710*790*315	
	Drainage pipe (material , I.D./O.D.)			mm	PP 20/25	
	Control type (Remote /wired /model)				Remote	
	Noise level (H-M-L)			dB(A)	53/51/49	
	Weight (Net / Shipping)			kg / kg	54/61	
Outdoor unit	Unit model (color)				HCFU-42HK03(WHITE)	
	Compressor	Model / Manufacture			JT160GABY1L DAKIN	
		Oil model			SUNISO 4GSDID-K/DAPHNE SE56P	
		Oil charging			1500-1700	
		Type			SCROLL	
		Protection type			inner protection	
		Starting method			Direct Start	
	Fan	Type × Number			Axial*2	
		Speed		r/min	840±50	
		Fan motor output power		kW	0.08*2	
		Air-flow(H-M-L)		m³/h	7000	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
		Row / Fin pitch			2/	
		Temp. scope		℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	948*340*1250	
		Package	（L×W×H）	mm×mm×mm	1050*440*1375	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	62	
	crankcase heater power			W	47	
	Weight (Net / Shipping)			kg / kg	101/106	
PIPING	Refrigerant	Type / Charge		g	R22/2800G	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ19.05	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	30	
		MAX.Piping length		m	50	

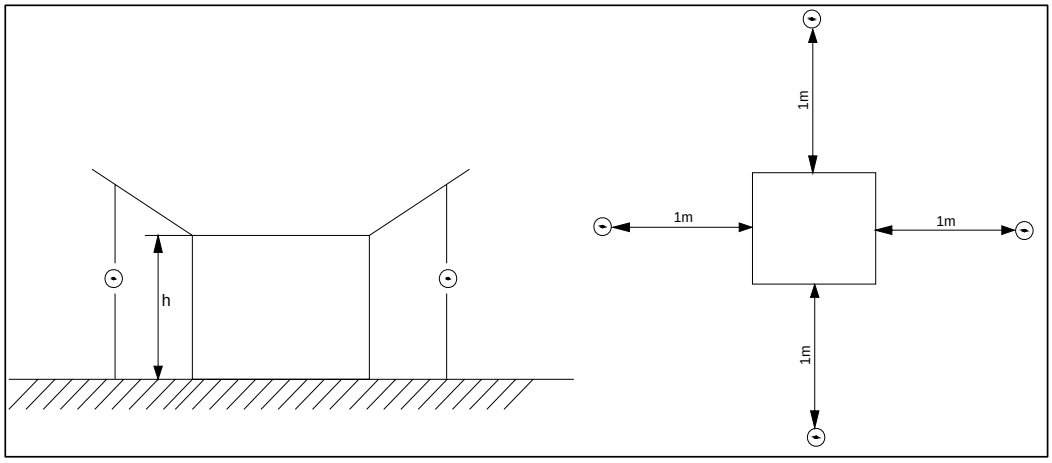
Norminal condition: indoor temperature (cooling): 27℃DB/19℃WB, indoor temperature (heating): 20℃DB
Outdoor temperature(cooling): 35℃DB/24℃WB, outdoor temperature(heating): 7℃DB/6℃WB
The noise level will be measured in the third octave band limited values, using a Real Time Analyser calibrated sound intensity meter. It is a sound pressure noise level. The detailed method please refer to the following information:

Installation state: the unit should be placed on the flat floor or be mounted in horizontal direction.
Testing method:

mounting-on-ceiling unit:



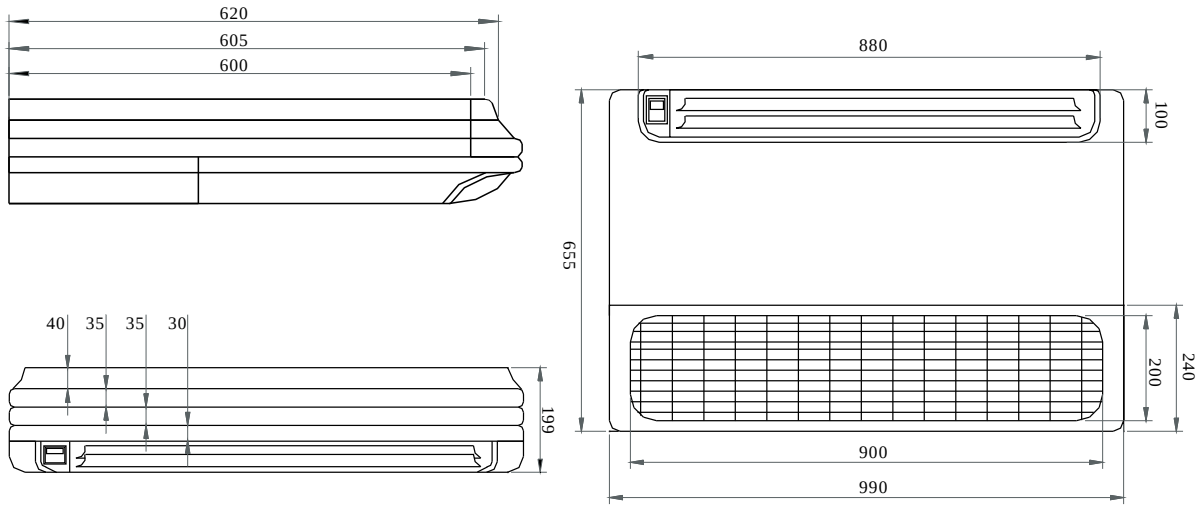
outdoor unit:
1.air outlet from side: the noise level is the average sound pressure level measured from front, left, right directions.
2.air outlet from top: the noise level is the average sound pressure level measured from front, back, left, right directions.
measured point:
H (height to the ground) = (h (unit height) + 1m) /2
and, it is 1m to each side.



Note: ⊙ is the real time analyser position

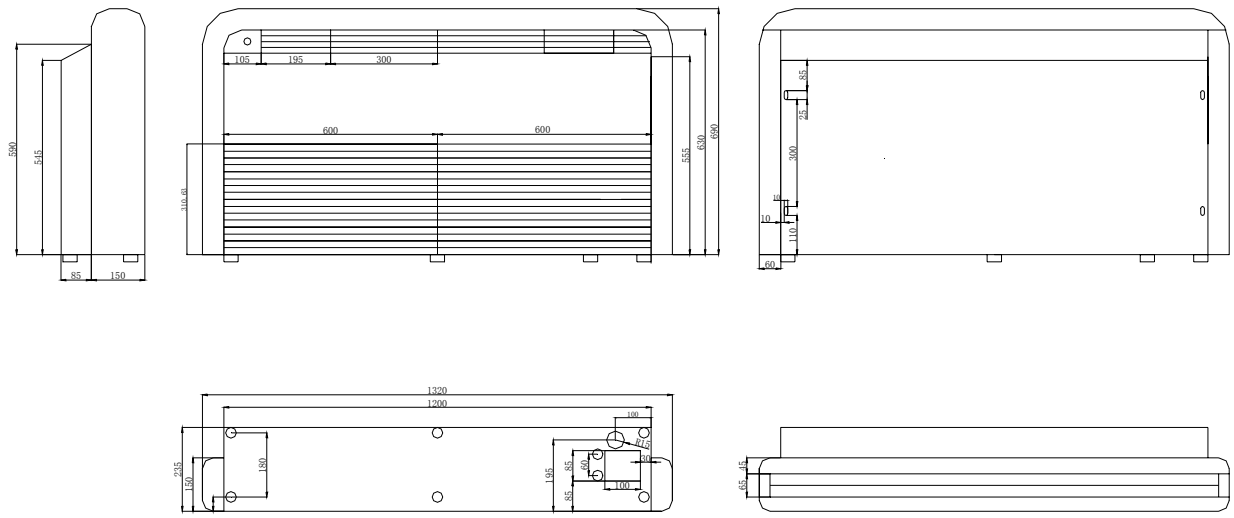
3. Dimension

3.1 HCFU-18CF03, HCFU-18HF03

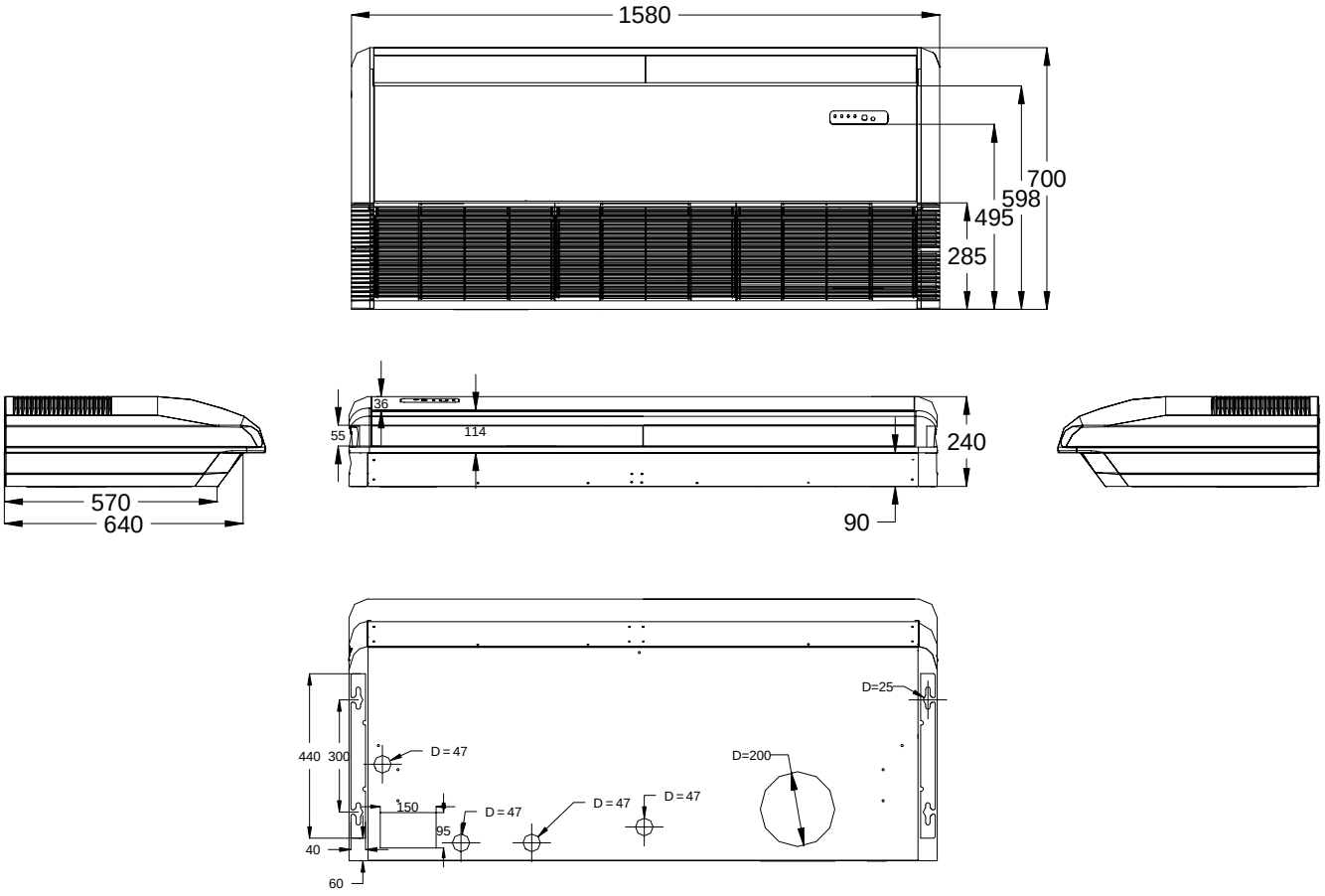


(mm)

3.2 HCFU-28CF03, HCFU-28HF03

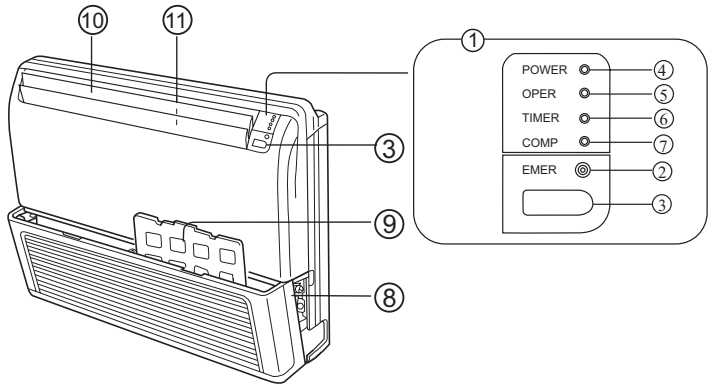


3.3 HCFU-42CF03, HCFU-42HF03, HCFU-42CH03, HCFU-42HK03



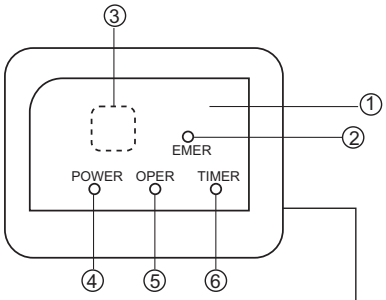
4. Part name

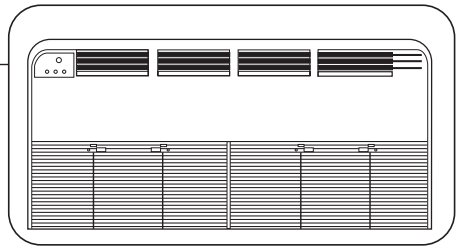
HCFU-18CF03, HCFU-18HF03



1 Operating Control Panel
2 Emergency switch
3 Remote Control Signal Receiver
4 Power Indicator Lamp
5 OPERATION Indicator Lamp
6 TIMER Indicator Lamp
7 Compressor Run Lamp
8 Intake Grill
9 Air Filter
10 Up/Down Air Direction Flaps
11 Right/Left Air Direction Louvers
(behind Up/Down Air Direction Flaps)

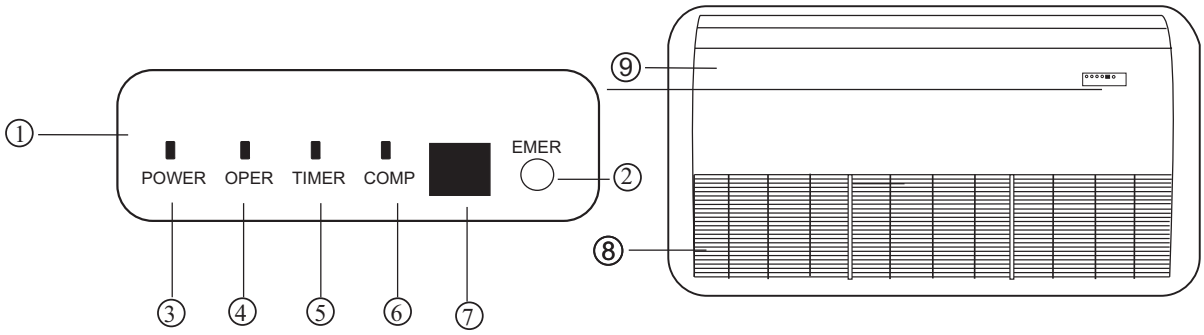
HCFU-28CF03, HCFU-28HF03





① Operating Control Panel
② Emergency switch
③ Remote Control Signal Receiver
④ Power Indicator Lamp (Red)
⑤ OPERATION Indicator Lamp (Green)
⑥ TIMER Indicator Lamp (Yellow)

HCFU-42CF03, HCFU-42HF03, HCFU-42CH03, HCFU-42HK03



① Operating Control Panel
② Emergency switch
③ Power Indicator Lamp
④ OPERATION Indicator Lamp
⑤ TIMER Indicator Lamp
⑥ Compressor Lamp
⑦ Remote receiver
⑧ Inlet Grill (Filter inside)
⑨ Front panel

5. Installation

5.1 For series 18, 28

Standard accessories:

The following installation parts are furnished.
Use them as required.

No.	Accessory parts	Qty.
①	Remote controller	1
②	Battery	2
③	Wire clamp	4
④	Heat insulation sheathing	1+1
⑤	Screw	2+2
⑥	Screw cap	1+1
⑦	Remote controller bracket	1

Pipe connection requirement

Model	Diameter		Maximum length	Maximum height (between indoor and outdoor)
	Liquid side	Gas side		
HCFU-18CF03 HCFU-18HF03	6.35 mm	12.7 mm	15 m	5 m
HCFU-28CF03 HCFU-28HF03	9.52 mm	15.88 mm	30 m	20 m

INSTALLATION PROCEDURE

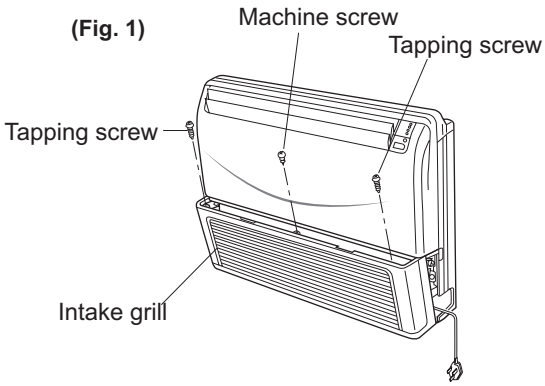
Install the room air conditioner as follows:

PREPARING INDOOR UNIT INSTALLATION

1. REMOVE THE INTAKE GRILL

Open the intake grill and remove the three or four or six screws.(Fig. 1)

(Fig. 1)



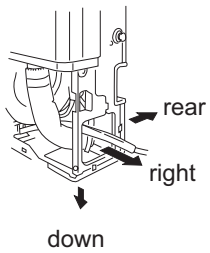
Remark: The main unit can be wired before the indoor unit is installed. Select the most appropriate installation order.

A. FLOOR CONSOLE TYPE

1. DRILLING FOR PIPING

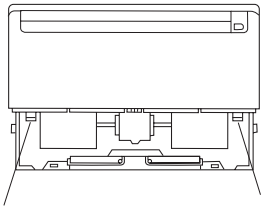
Select piping and drain directions.(Fig.2)
The piping and drain can be made in three directions as shown below.

(Fig. 2)



The drain hose can be connected to either the left or right side.(Fig.3) For series 28 only right side.

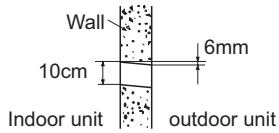
(Fig.3)



Drain hose (Left side) Drain hose (Right side)

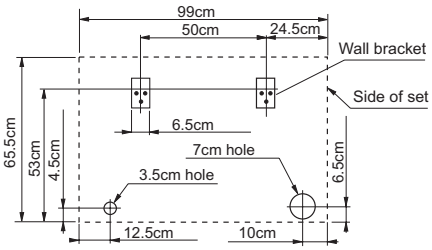
When the directions are selected, drill a 7 cm dia. hole on the wall so that the hole is tilted downward toward the outdoor for smooth water flow. When the pipe is led out from the rear, make a hole in Fig.6, at the position shown.

(Fig. 4)

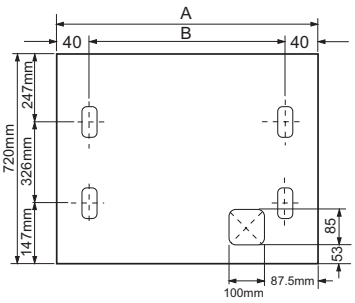


When installing set to wall, install the accessory wall bracket at the position shown in Fig.5,and mount the set to it.

(Fig. 5)



For series 18

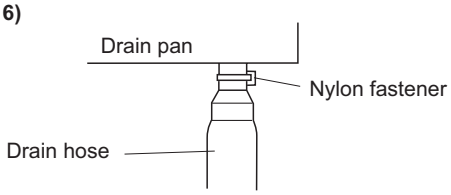


Series	A	B
28	1320	1240

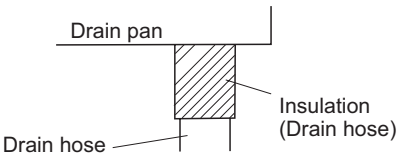
2. INSTALLING DRAIN HOSE

drain hose with a nylon fastener. (Fig.6)

(Fig. 6)



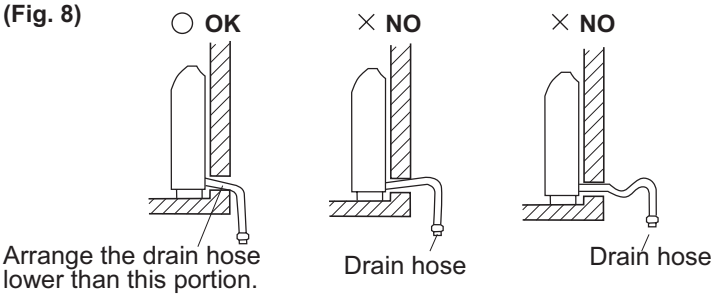
(Fig. 7)



Wrap the insulation (drain hose) around the drain hose connection.(Fig.7)

Be sure to arrange the drain hose correctly so that it is leveled lower than the drain hose connecting port of the indoor unit.

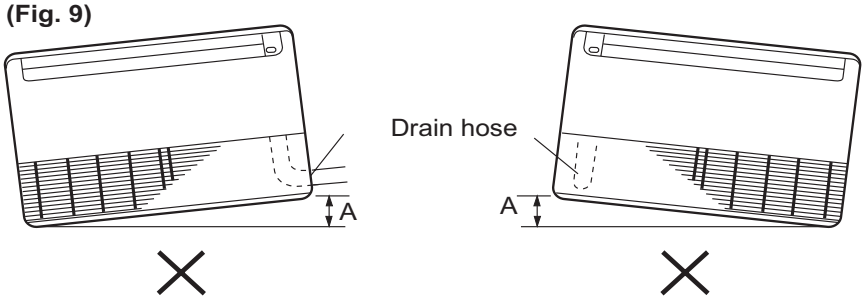
(Fig. 8)



⚠ CAUTION

Do not install the unit drain hose side is too high. Height A should be less than 5 mm.(Fig.9)

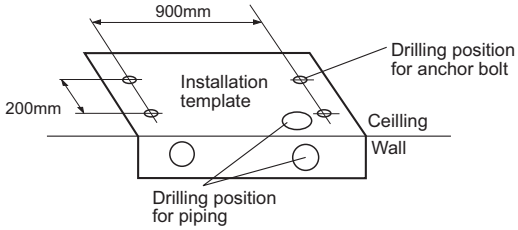
(Fig. 9)



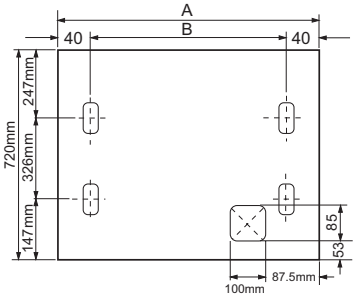
B. UNDER CEILING TYPE

Using the installation template, drill holes for piping and anchor bolts(for holes).(Fig.10)

(Fig. 10)



For series 18

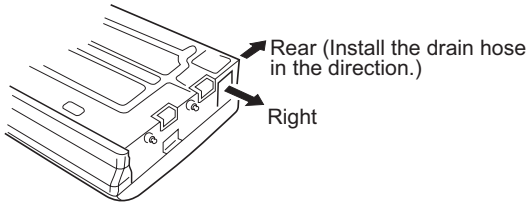


Series	A	B
28	1320	1240

1. DRILLING FOR PIPING

Select piping and drain directions. For series 28.only rear side (Fig.11)

(Fig. 11)



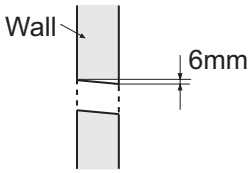
⚠ CAUTION

Install the drain hose at the rear; it should not be installed on the top or right side.

2. DRILLING HOLES FOR ANCHOR BOLTS AND INSTALLING THE ANCHOR BOLTS

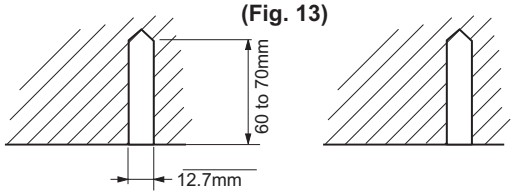
When the directions are selected, drill 80mm and 50mm or 150mm dia. hole on the wall so that the hole is tilted downward toward the outdoor for smooth water flow.

(Fig. 12)

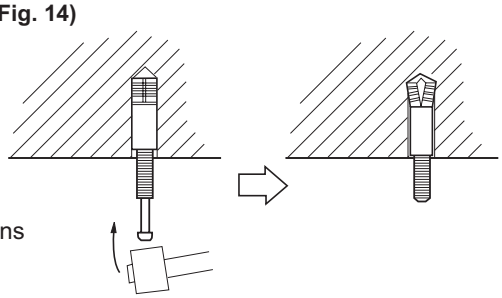


With a concrete drill, drill four 12.7 mm dia. Holes. (Fig. 13)

(Fig. 13)



(Fig. 14)

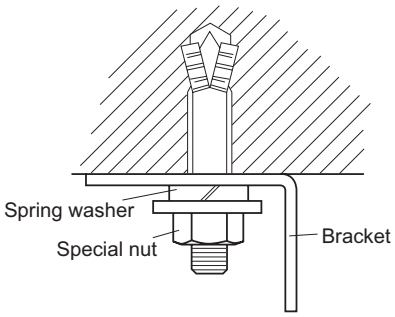


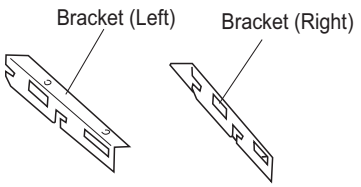
Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer. (Fig. 14)

3. INSTALLING BRACKETS

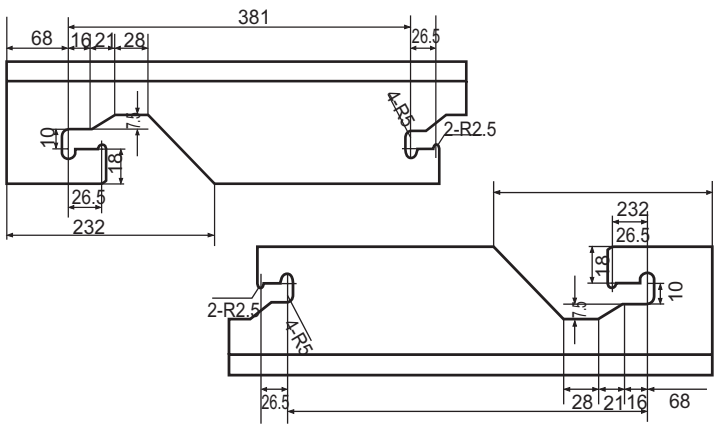
Install the brackets with nuts, washers and spring washers. **(Fig. 15)**

(Fig. 15)





For series 18



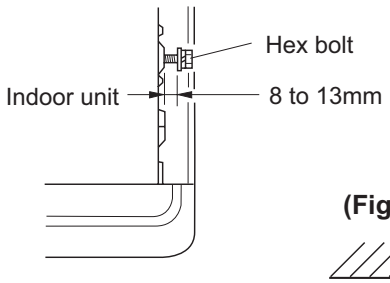
381

For series 28

4. INSTALLING INDOOR UNIT

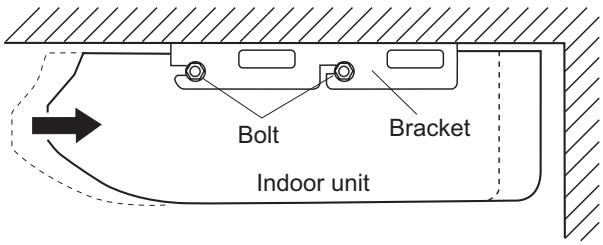
Reset the hex bolts as shown in Fig.16.

(Fig. 16)



Apply the indoor unit to the brackets. **(Fig. 17)**

(Fig. 17)



Now, securely tighten the hex bolts in both sides.

5. INSTALL THE DRAIN HOSE

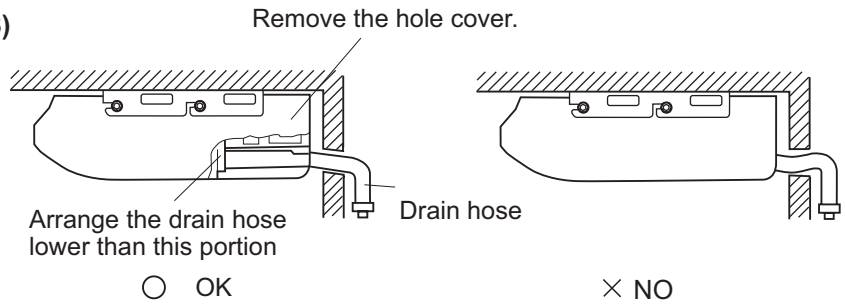
Select whether the drain hose will be connected to the left or right side.(Fig.3)

Insert the drain hose into the drain pan, then secure the drain hose with a nylon fastener.(Fig.6)

Wrap the insulation (drain hose)around the drain hose connection.(Fig.7)

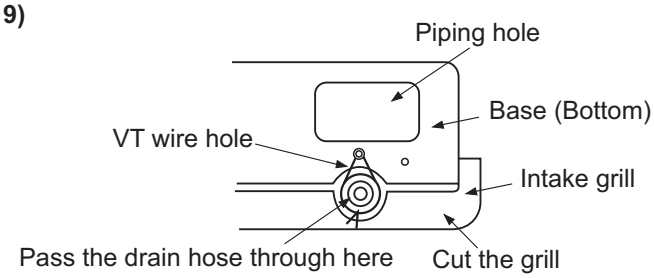
Be sure to arrange the drain hose correctly so that it is leveled lower than the drain hose connecting port of the indoor unit. **(Fig. 18)**

(Fig. 18)



When drain hose is arranged backward. Secure the drain hose with the VT wire. **(Fig. 19)**

(Fig. 19)



GAS LEAKAGE INSPECTION

⚠ CAUTION

After connecting the piping, check the joints for gas leakage with leakage detector.

HOW TO CONNECT WIRING TO THE TERMINALS

A. For solid core wiring (or F-cable) (Fig. 20A)

(1) Cut the wire with a wire cutter or wire-cutting pliers, then strip the insulation to about 25mm of the exposed solid wire.
(2) Using a screwdriver, remove the terminal screw(s) on the terminal board.
(3) Using pliers, bend the solid wire to form a loop suitable for the terminal screw.
(4) Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screw driver.

B. For strand wiring (Fig. 20B)

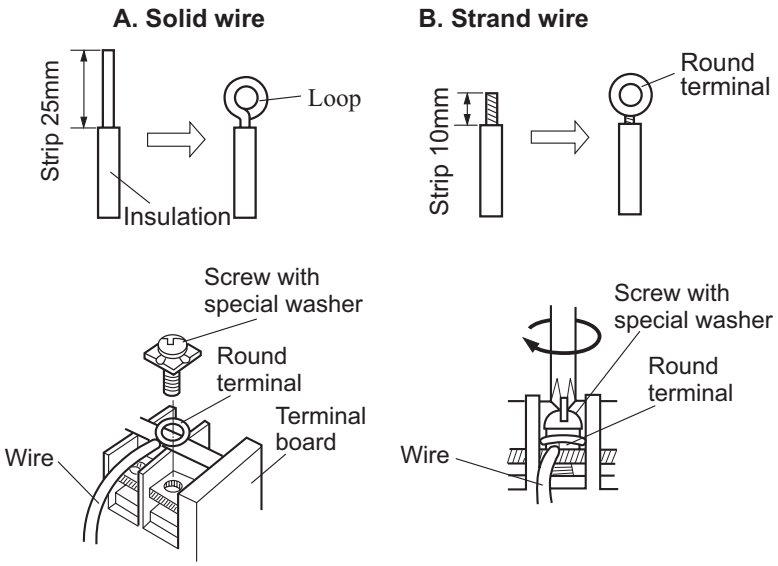
(1) Cut the wire with a wire cutter or wire-cutting pliers, then strip the insulation to about 10mm of the exposed strand wirin

(2) Using a screwdriver, remove the terminal screw(s)on the terminal board.

(3) Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.

(4) Position the round terminal wire, and replace and tighten the terminal screw using a screw driver.

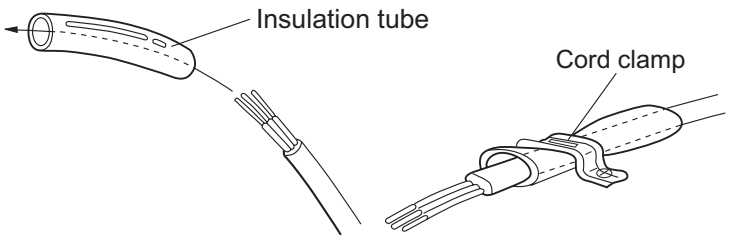
(Fig. 20)



HOW TO FIXED CONNECTION CORD AND POWER CABLE AT THE CORD CLAMP

After passing the connection cord and power cable through the insulation tube, fasten it with the cord clamp, as shown in Fig. 21

Fig. 21



Use VW-1, 0.5 to 1.0 mm thick, PVC tube as the insulation tube.

ELECTRICAL WIRING

⚠ CAUTION
(1) Match the terminal block numbers and connection cord colors with those of the outdoor unit. Erroneous wiring may cause burning of the electric parts.
(2) Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
(3) Always fasten the outside covering of the connection cord with the cord clamp. (If the insulator is chafed, electric leakage may occur.)
(4) Always connect the ground wire.

1. INDOOR UNIT SIDE

(1) Remove the electric component box.

Fig. 21

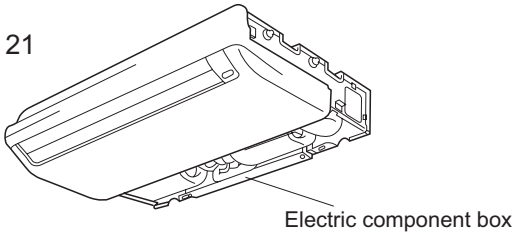
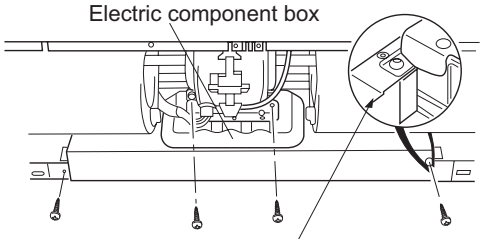


Fig. 22

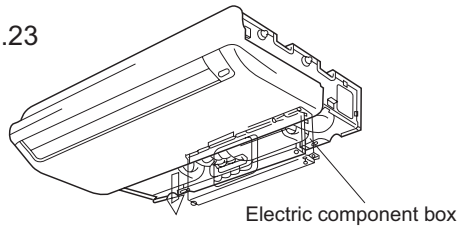


⚠ CAUTION

Do not remove the screws. If the screws are removed, the electric component box will fall.

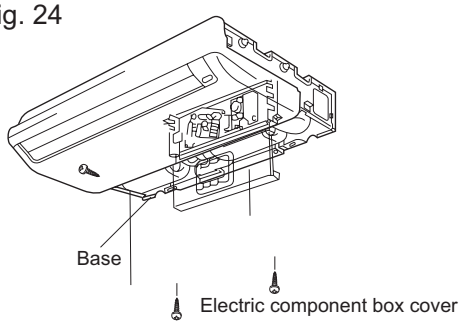
(2) Pull out the electric component box.

Fig.23



(3) Remove the electric component box cover.

Fig. 24



Remove the three tapping screws.

⚠ CAUTION

Be careful not to pinch the lead wires between the electric component box and base.

(4) Wiring

(1) Remove the cord clamp.

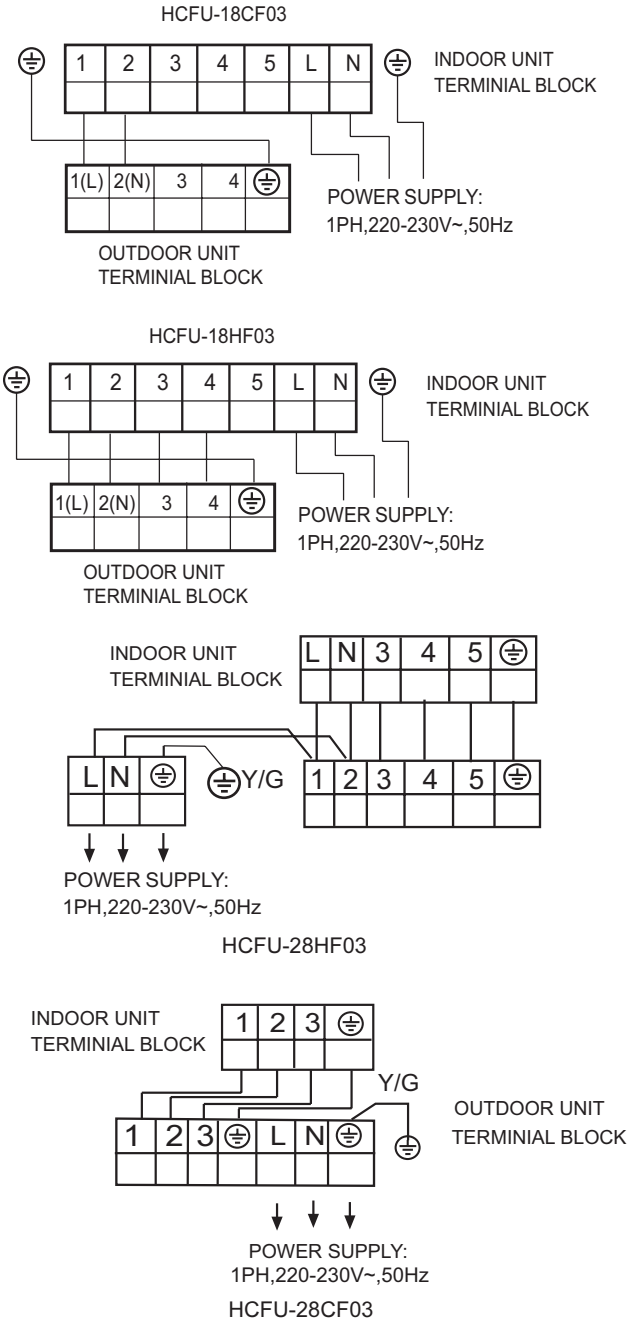
(2) Process the end of the connection cords to the dimensions shown in Fig. 25

(3) Connect the end of the connection cord fully into the terminal block.

(4) Fasten the connection cord with a cord clamp.

(5) Fasten the end of the connection cord with the screw.

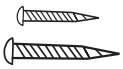
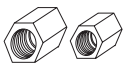
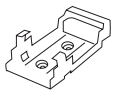
Fig. 25



5.2 For series 42

ACCESSORIES

Standard accessories:

No.	Accessory parts	Qty.	Remarks
①	 Remote controller	1	———
②	 Battery	2	———
③	 Wire clamp	4	———
④	 Heat insulation sheathing	1+1	———
⑤	 Screw	2+2	———
⑥	 Drain hose	1	———
⑦	 Screw cap	1+1	———
⑧	 Flat washer	8	———
⑨	 Remote controller bracket	1	———

Optional parts

Mark	Parts name
Ⓐ	Adhesive tape
Ⓑ	Saddle (L.S) with screws
Ⓒ	Drain hose
Ⓓ	Heat insulation material
Ⓔ	Piping hole cover
Ⓕ	Putty
Ⓖ	Plastic clamp

Please ask the dealer or specialist to install, never try by the users themselves. After the installation please be sure of the following conditions.

WARNING !

- **Please call dealer to install the air-conditioner.**
  Incorrect installation may cause water leaking, shock and fire hazard.

CAUTION !

- **Air-conditioner can't be installed in the envi-ronment with inflammable gases because the inflammable gases near to air-conditioner may cause fire hazard.**

- **Installed electrical-leaking circuit breaker.**
  It easily cause electrical shock without circuit breaker.

- **Connect earthing wire.**
  Earthing wire should not be connected to the gas pipe, water pipe, lightning rod or phone line, incorrect earthing may cause


Earthing

- **Use discharge pipe correctly to ensure efficient discharge.**
  Incorrect pipe use may cause water leaking.

[Location]

- Air-conditioner should be located in well-vented and easily-accessible place.
- Air-conditioner should not be located in the following places:
  (a) Places with machine oils or other oil vapours.
  (b) Seaside with high salt content in the air.
  (c) Near to hot spring with high content of sulfide gases.
  (d) Area with frequent fluctuation of voltage e.g. factory, etc.
  (e) In vehicles or ships.
  (f) Kitchen with heavy oil vapour or humidity.
  (g) Near to the machine emitting electric-magnetic waves.
  (h) Places with acid, alkali vapuor.
- TV, radio, acoustic appliances etc are at least supply wire, connecting wire, pipes, otherwise images may be disturbed or noises be created.
- As required, take measures against heavy snow.

[Wiring]

- Air-conditioner should be equipped with special power supply wire.

[Operating noise]

- Choose the following locations:
  (a) Capable of supporting air-conditioner weight,don't increase operating noise and vibration.
  (b) Hot vapour from outdoor unit outlet and operating noise don't disturb neighbour.
- No obstacles around the outdoor unit outlet.

For authorized service personnel only

⚠ WARNING

(1) For the room air conditioner to operate satisfactorily, install it as outlined in this installation manual.

(2) Connect the indoor unit and outdoor unit with the room air conditioner piping and cords available from our standard parts. This in stallation manual describes for the correct connections so that the installation set available from our standard parts should be used.

(3) Installation work must be performed in accordance with national wiring standardsby authorized personnel only.

(4) Never cut the power cord, lengthen or shorten the cord, or change the plug.

(5) Also, do not use an extension cord.

(6) Plug in the power cord plug firmly. If the receptacle is loose, repair it before using the air conditioner.

(7) Do not turn on the power until all installation work is done.

- Be careful not to scratch the room air conditioner when handing it.
- After installation, explain correct operation to the customer, according to the operating manual.
- Let the customer keep this installation manual because it will be used when the room air conditioner is serviced or moved.

SELECTING THE MOUNTING POSITION

⚠ WARNING

- Install at a place that can withstand the weight of the indoor units and install positively so that the units will not topple or fall.

⚠ CAUTION

- Do not install where there is the danger of combustible gas leakage.
- Do not install near heat sources.
- If children under 10 years old may approach the unit, take preventive measures so that they cannot reach the unit.

(1) Install the indoor unit level on a strong wall which is not subject to vibration.

(2) The inlet and outlet ports should not be obstructed : the air should be able to blow all over the room.

(3) Do not install the unit where it will be exposed to direct sunlight ,

(4) Install the unit where connection to the outdoor unit is easy.

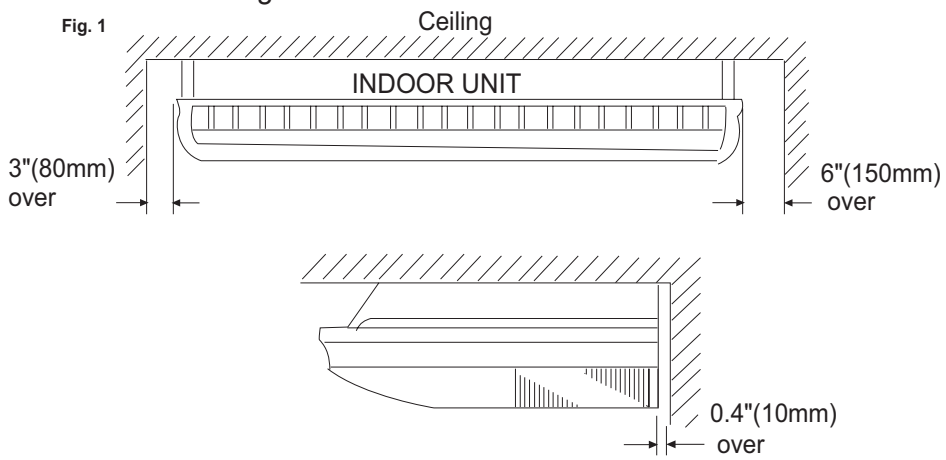
(5) Install the unit where the drain pipe can be easily installed.

(6) Take servicing , etc.into consideration and leave the spaces shown in (Fig.1 or 2) .

Also install the unit where the filter can be removed .

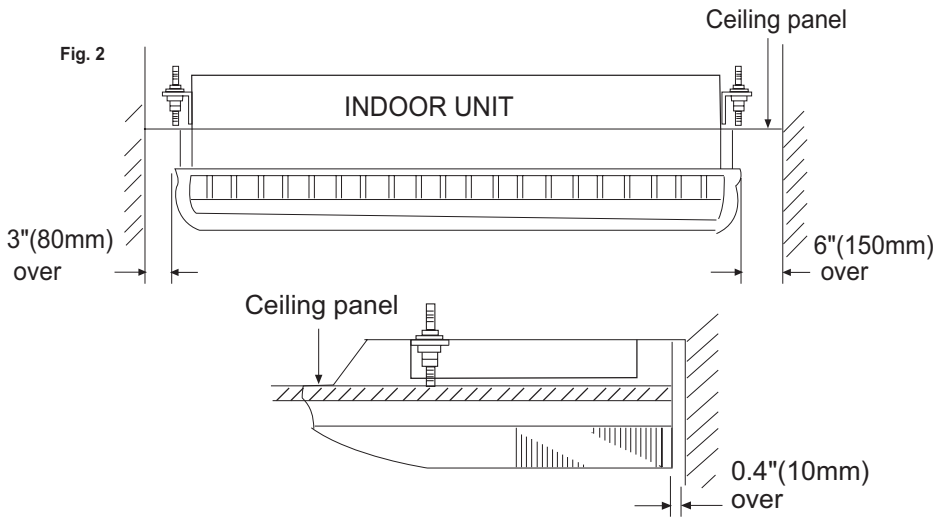
For mounted on the ceiling:

Fig. 1



For half concealed installation:

Fig. 2



CONNECTION PIPE REQUIREMENT

Model	Diameter		Maximum length	Maximum height (between indoor and outdoor)
	Liquid side	Gas side		
For series 42	9.52 mm	19.05mm	50 m	30 m

INSTALLATION PROCEDURE

Install the room air conditioner as follows:

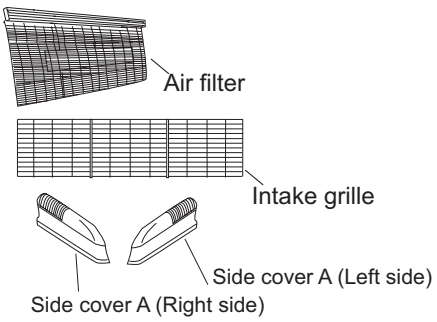
1) REMOVE THE INTAKE GRILL AND SIDE COVER

(1) Remove the two Air filters

(2) Remove the two intake grilles

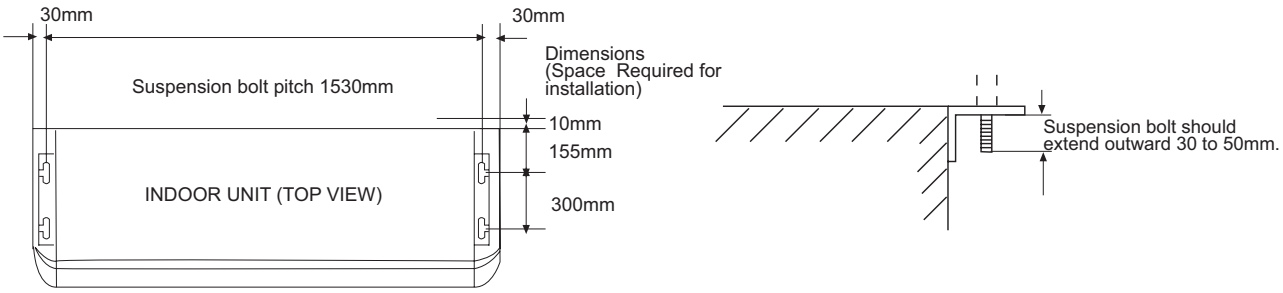
(3) Remove the Side cover A (Right and left side)

(4)This air conditioner can be set up to intake fresh air .



2) LOCATION OF CEILING SUSPENSION BOLTS

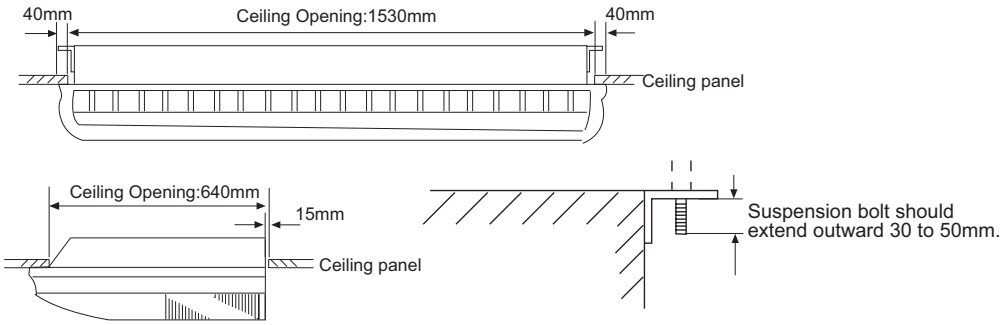
Fig. 3



For half-concealed installation

Supension-bolt pitch should be as shown in Fig.4.

Fig. 4



DRILLING THE HOLES AND ATTACHING THE SUAPENSION BOLTS

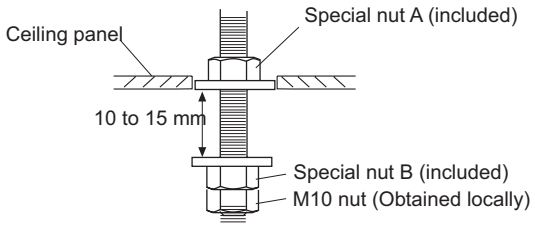
(1) Drill 25mm-diameter holes at the suspension-bolt locations.

(The two special nuts are provided with the unit. The M10 nut must be obtained locally.) Refer to Fig.5.

(2) Install the bolts, then temporarily attach Special nuts A and B and a normal M10 nut to each bolt.

Fig. 5

Bolt Strength	980 to 1470 N (100 TO 150 kgf)



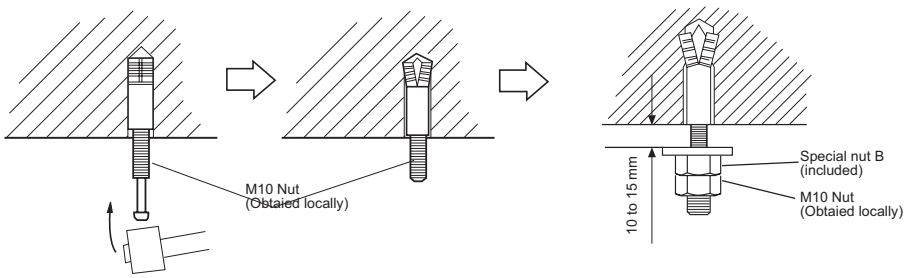
IF USING ANCHOR BOLTS

(1) Drill holes for anchor bolts at the locations at which you will set the suspension bolts.Note that anchor bolts (to be obtained locally).

(2) Install the anchor bolts ,then temporarily attach special nut "B" (included) and a locally-procurde M10 nut to each of the bolts. (See Fig.6.)

Anchor-Bolt Strength	980 to 1470 N (100 TO 150 kgf)

Fig. 6



INSTALLING THE INDOOR UNIT

(1) Lift unit so that suspension bolts pass through suspension fittings at the sides (four places),and slide the unit back.(See Fig.8.)

Fig. 7

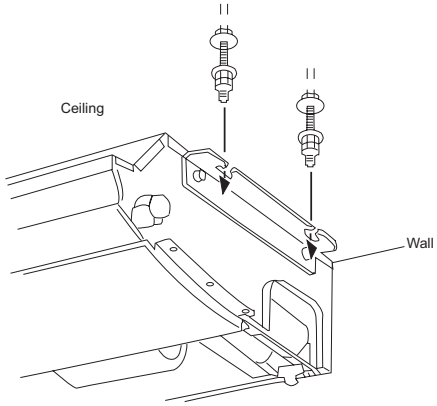
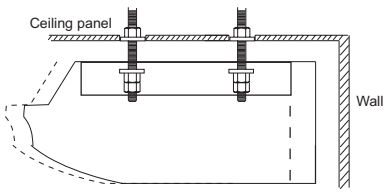


Fig. 8

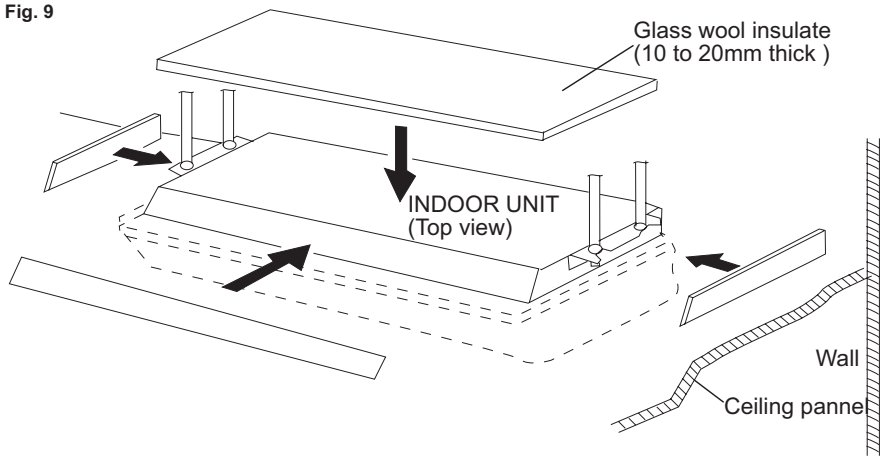


(2) Fasten the indoor unit into place by tightening-up the special "B",blots and the M10 nuts. Make sure that unit is secure and willl not shift back and forth.

FOR HALF-CONCESLED INSTALLATION

When installing the indoor unit in a semi-concesled orientation, make sure to reinforce the insulation of the unit on all sides. Drops of water may fall from the unit if it is not thoroughly insulated.

Fig. 9



⚠ CAUTION

In order to check the drainage, be sure to use a level during installation of the indoor unit. If the installation site of the indoor unit is not level, water leskage may occur

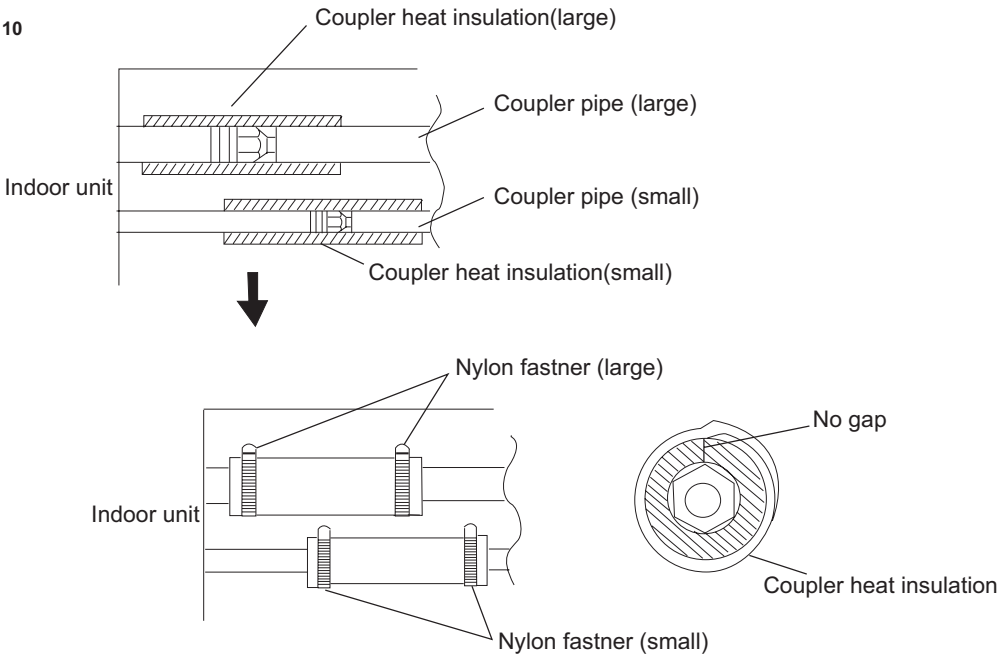
INSTALLING THE COUPLER HEAT INSULATION

After checking for gas leaks, insulate by wrapping insulation around the two parts (large and small) of the indoor unit coupling, using the coupler hest insulation.

After installling the coupler heat insulation, wrap both ends with vinyl tape so that there is no gap.

Secure both ends of the heat insulation material using nylon fasteners.

Fig. 10

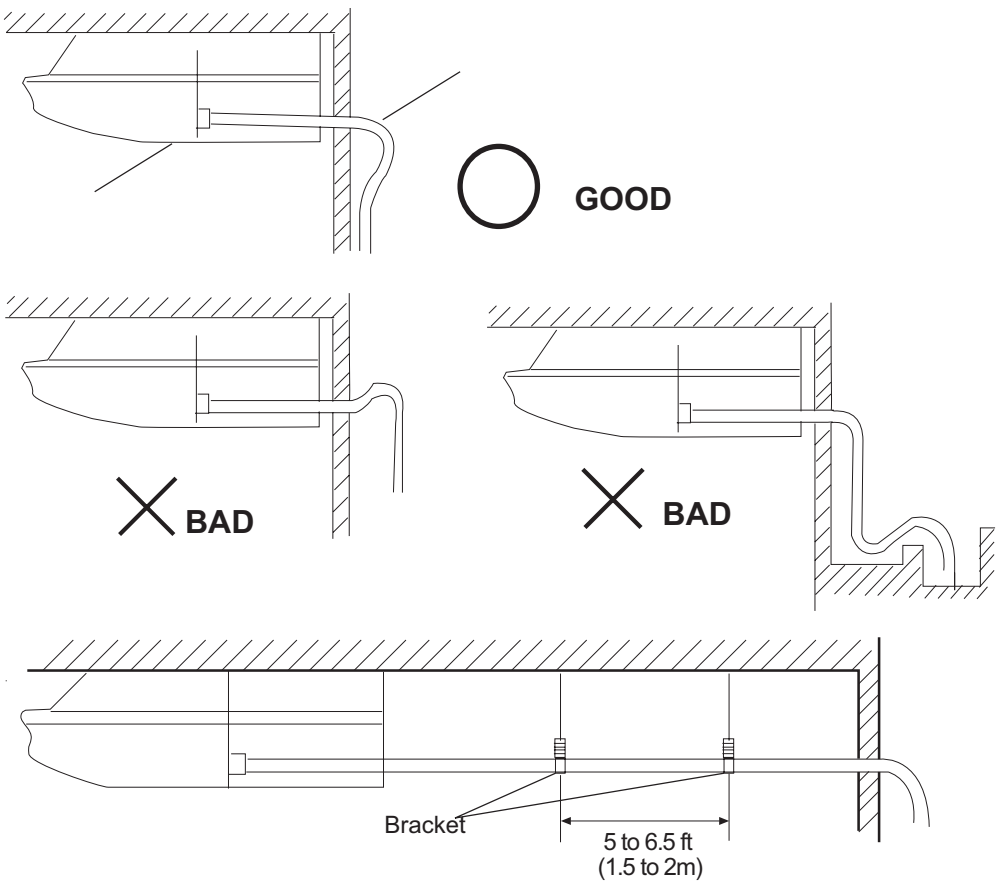


When using an auxiliary pipe, make sure that the fastener used is insulated in the sane way.

DRAIN PIPING

Install the drain pipe with downward gradient (1/50 to 1/100) and so there are no rises or traps in the pipe.
Use general hard polyvinyl chloride pipe (VP25)[outside diameter 38 mm.]
During installation of the drain pipe,be careful to avoid applying pressure to the drain point of the unit.
When the pipe is long,install supporters(Fig 11).
Do not perform air bleeding.
Always heat insulate (8mm or over thick) the indoor side of the drain pipe.

Fig. 11



(1) Install insulation for the drain pipe.(See Fig.12 and 13)

Cut the included insulation material to an appropriate size and adhere it to the pipe.

Fig. 12

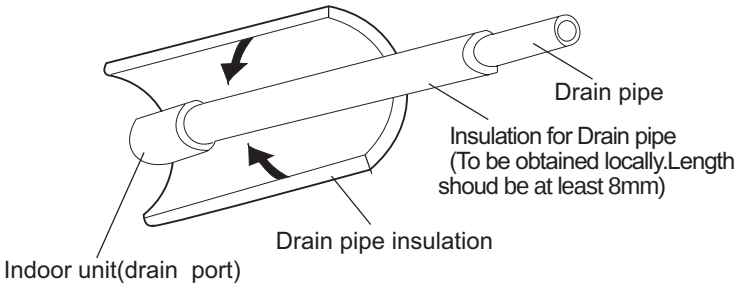
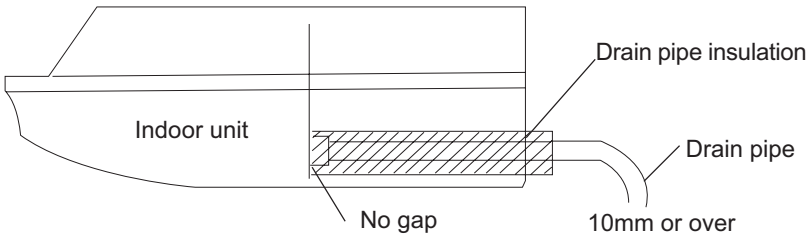
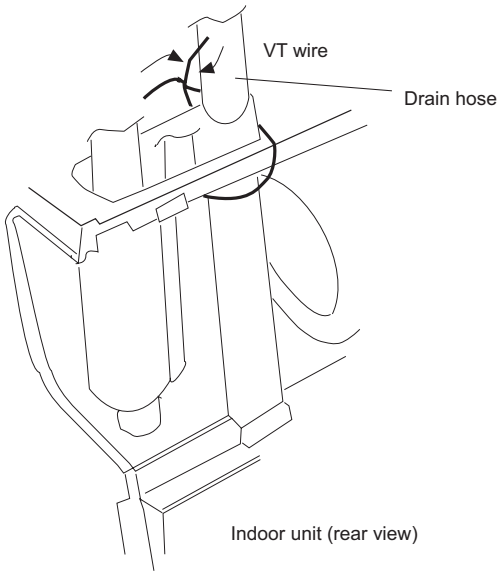


Fig. 13



(2) If "Right rear piping ":fasten the drain pipe with VT wires so that the pipe slopes correctly within the indoor unit.

Fig. 14



ELECTRICAL WIRING

HOW TO CONNECT WIRING TO THE TERMINALS

A.For solid core wiring (or F-cable)

(1)Cut the wire and with a wire cutter or wire-cutting pliers,then strip the insulation to about 15/16"(25mm) of expose the solid wire.

(2)Using a screwdriver ,remove the terminal screw(s) on the terminal board.

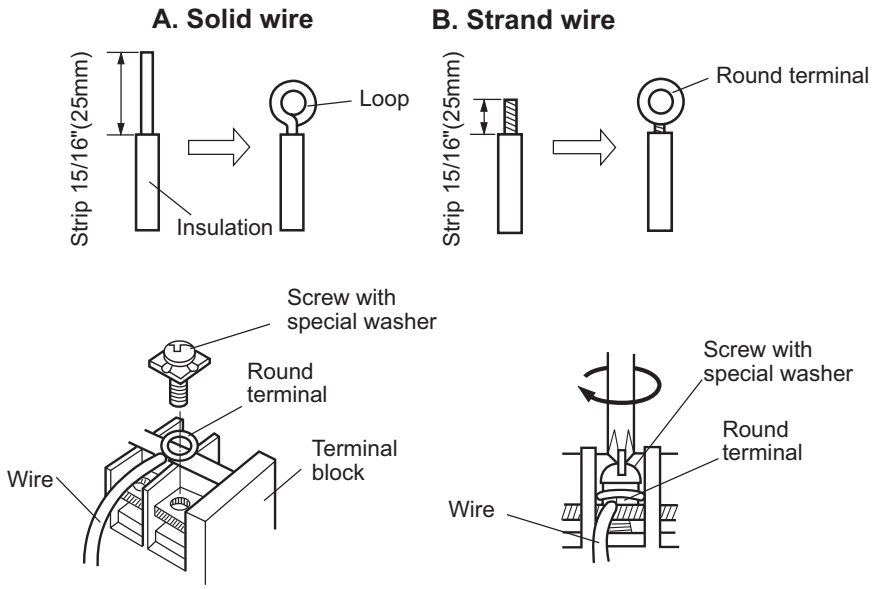
(3)Using pliers,bend the solid wire to form a loop suitable for the terminal screw.

B.For strand wiring

(1)Cut the wire and with a wire cutter or wire-cutting pliers,then strip the insulation to about 3/8"(10mm) of expose the solid wire.

(2)Using a screwdriver ,remove the terminal screw(s) on the terminal board.

Fig. 15



HOW TO FIX CONNECTION CORD AND POWER CABLE AT THE CORD CLAMP

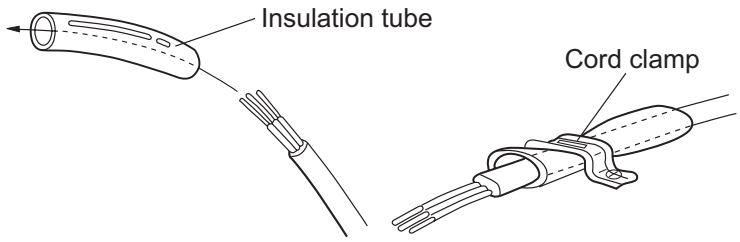
After passing the connection cord and power cable through the insulation tube, fasten it with the cord clamp, as shown in Fig.16

ELECTRICAL REQUIREMENT

- Electric wire size and fuse capacity:

Series		HCFU-42CF03 HCFU-42HF03
Connection cord (mm^2)	MAX	3.5
	MIN	2.0
Fuse capacity(A)		30

Fig. 16



Use VW-1, 0.5 to 1.0 mm thick, PVC tube as the insulation tube.

⚠ CAUTION

(1) Match the terminal block numbers and connection cord colors with those of the outdoor unit. Erroneous wiring may cause burning of the electric parts.

(2) Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.

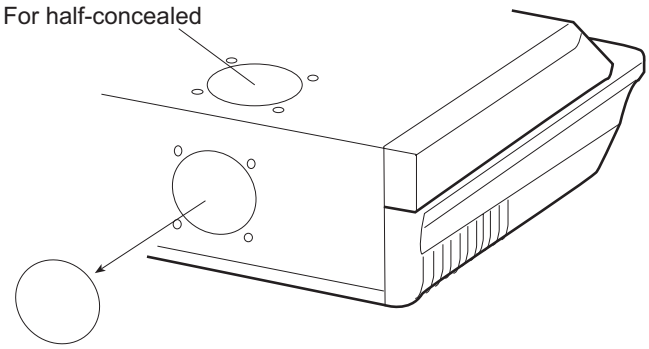
(3) Always fasten the outside covering of the connection cord with the cord clamp. (If the insulator is chafed, electric leakage may occur.)

(4) Always connect the ground wire.

FRESH-AIR INTAKE

(1)Take away the knockout hole for the fresh-air intake,as shown in Fig.17.(If using half-concealed installation ,take down the top knockout hole instead)

Fig. 17



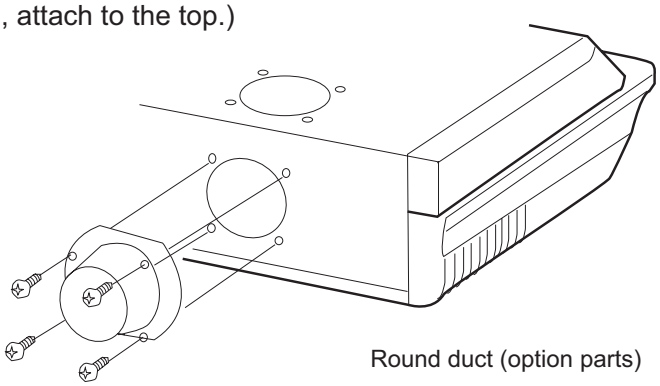
⚠ CAUTION

(1)When removing the cabinet(iron plate),be careful not to damage the indoor unit internal parts and surrounding area(outer case).

(2)When processing the cabinet(iron plate),be careful not to injury yourself with burrs,etc.

(2)Fasten the round flange (optional) to the fresh air intake,as shown in Fig.18.(If using half-concealed installation, attach to the top.)

Fig. 18

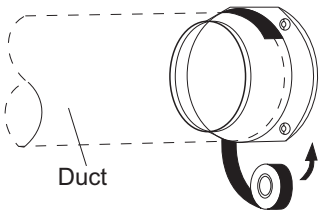


[After completing "INDOOR UNIT INSTALLATION"....]

(3)Connect the duct to the round flange.

(4)Seal with a band and vinyl tape,etc.so that air does not leak from the connection.

Fig. 19



CONNECTION CORDS

(1) Remove the cord clamp.

(2) Put the end of the connection cords to the positions shown in Fig.20.

(3) Connect the end of the connection cord fully into the terminal block.

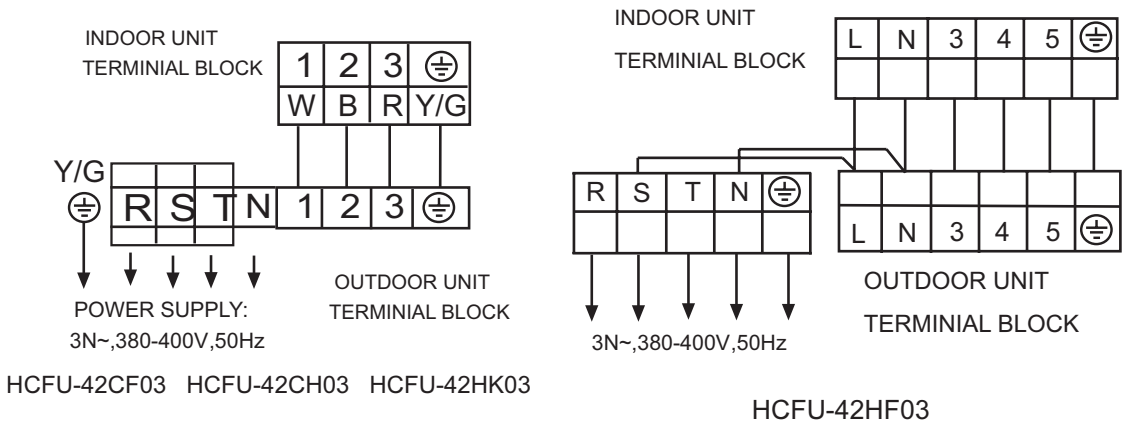
(4) Fasten the connection cord with a cord clamp.

(5) Fasten the end of the connection cord with the screw.

(6)The power cable and connecting cable are self-provided.

(7) L,N and 1,2 are equal on the terminal block.

Fig. 20



HCFU-42CF03 HCFU-42CH03 HCFU-42HK03

HCFU-42HF03

⚠ WARNING

(1) Always use a special branch circuit and install a special receptacle to supply power to the room air conditioner.

(2) Use a circuit breaker and receptacle matched to the capacity of the room air conditioner.

(3) The circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3mm between the contacts of each pole.

(4) Perform wiring work in accordance with standards so that the room air conditioner can be operated safely and positively.

(5) Install a leakage circuit breaker in accordance with the related laws and regulations and electric company standards.

⚠ CAUTION

(1) The power source capacity must be the sum of the room air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.

(2) When the voltage is low and the air conditioner is difficult to start, contact the power company the voltage raised.

TEST RUNNING

1. CHECK ITEMS

1) INDOOR UNIT

(1) Is operation of each button on the remote control unit normal?

(2) Does each lamp light normally?

(3) Do not air flow direction louvers operate normally?

(4) Is the drain normal?

2) OUTDOOR UNIT

(1) Is there any abnormal noise and vibration during operation?

(2) Will noise, wind, or drain water from the unit disturb the neighbors?

(3) Is there any gas leakage?

Duct indoor unit

(HDU-18~HDU-50 and AD96NAHAEA)

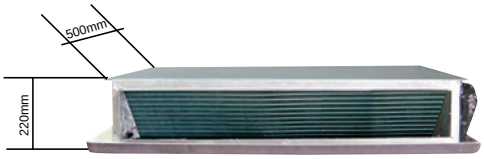
1. Features

High efficiency filter & Static pressure optional

The unit adopts G3 grade filter, can efficiently filter the dirt etc, and improve the room air quality, at the same time, the filter can pull out from downside, convenient for maintenance and cleaning.

Ultra-thin design and two-side drainage pipe

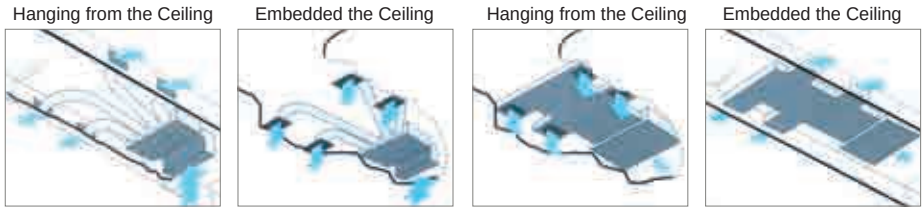
For the ceiling concealed duct type indoor units, the unit thickness is only 220mm, ultra-thin design; the depth is 500mm, and space saving, completely matching with the indoor decoration.



There are two drainage pipes designed on the ceiling concealed indoor units, it is convenient for the drainage piping design for installation.

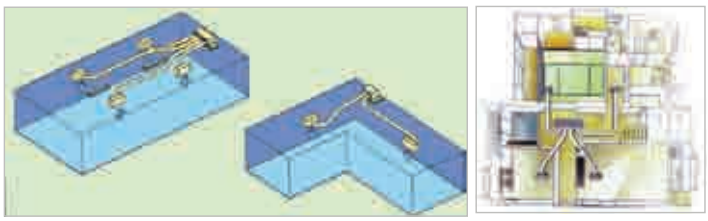
Multi-mode for installation

The indoor unit can be installed with an air return duct or without an air return duct according to the installation need.



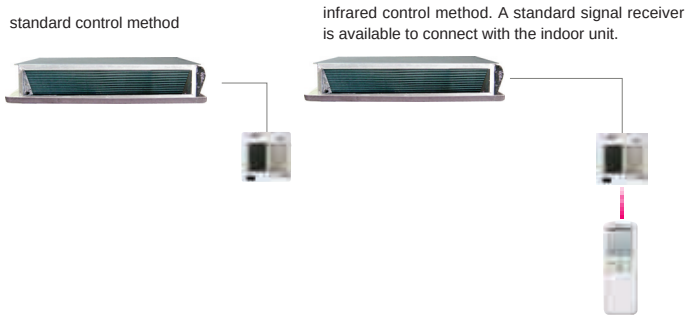
Free setting of air discharge duct

The number of the airflow outlet and its installation position can be freely selected according to the environment of the room, sufficiently considering the load of the room and the uniform temperature of the room to realize more perfect comfort.



Variable control mode

The indoor unit can use one wired remote controller, also, it can use a remote controller (with new remote reciever) and central controller(optional) .



2. Specifications

item				Model	HDU-18CF03	
Function					cooling	heating
Capacity				BTU/h	17000	/
Capacity				kW	5	/
Sensible heat ratio					75%	/
Total power input				W	1850	/
Max. power input				W	2300	/
EER or COP				W/W	2.7	/
Dehumidifying capacity				10 - ³×m³/h	2.0	
Power cable				section	3G×2.5mm2	
Signal cable				section	3G×2.0mm2	
Connecting cable				section		
Wired control cable	for wired control unit			section	/	4×0.33mm² shield wire
Power source				N, V, Hz	1，220-230，50	
Running /Max.Running current				A / A	8.5/10.5	
Start Current				A	40	
Class of anti electric shock					/	/
Max. operating pressure of heat side				Mpa	2.8	
Max. operating pressure of cold side				Mpa	2.8	
Indoor unit	Unit model (color)				HDU-18CF03(INDOOR)（WHITE）	
	Fan	Type × Number			Centrifugal × 1	
		Speed(H-M-L)		r/min	700±30/550±30/390±30r/min	
		Fan motor output power		kW	0.02	
		Air-flow(H-M-L)		m³/h	780	
		Standard static pressure		Pa	0	
		Max.static pressure		Pa	20	
	Heat exchanger	Type / Diameter		mm	TP2M / 9.52x0.36	
		Temp. scope		℃	cooling: 43~60 heating:6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	1090×500×218	
		Package	（L×W×H）	mm×mm×mm	1161×536×269	
	Control type (Remote /wired /model)				WIRED	
	Noise level (H-M-L)			dB(A)	46/44/40	
	Weight (Net / Shipping)			kg / kg	25/29	
Outdoor unit	Unit model (color)				HDU-18CF03(OUTDOOR)（WHITE）	
	Compressor	Model / Manufacture			TH310VEEC MITSUBISHI	
		Oil model			DIAMOND MS-56	
		Oil charging			520 cm3	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial × 1	
		Speed		r/min	860±30	
		Fan motor output power		kW	0.03	
		Air-flow(H-M-L)		m³/h	2500	
	Heat exchanger	Type / Diameter		mm	TP2M / 9.52x0.36	
		Temp. scope		℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	810×340×640	
		Package	（L×W×H）	mm×mm×mm	960×406×750	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	58	
	Weight (Net / Shipping)			kg / kg	59/66	
PIPING	Refrigerant	Type / Charge		g	R22/1930	
	Pipe	Liquid		mm	6.35	
		Gas		mm	12.7	
		Drain hose		mm	PVC 16/12	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	5	
		MAX.Piping length		m	15	

item				Model	HDU-18HF03	
Function					cooling	heating
Capacity				BTU/h	17000	18700
Capacity				kW	5	5.5
Sensible heat ratio					75%	/
Total power input				W	1800	1850
Max. power input				W	2200	2400
EER or COP				W/W	2.78	2.97
Dehumidifying capacity				10 - ³×m³/h	2.0	
Power cable				section	3G×2.5mm2	
Signal cable				section	3G×2.0mm2+2×0.75mm2	
Connecting cable				section		
Wired control cable	for wired control unit			section	/	4×0.33mm² shield wire
Power source				N, V, Hz	1，220-230，50	
Running /Max.Running current				A / A	Cooling8.0/10.0 heating8.5/11.0	
Start Current				A	40	
Class of anti electric shock					I	/
Circuit breaker				A	/	30
Max. operating pressure of heat side				Mpa	2.8	
Max. operating pressure of cold side				Mpa	2.8	
Indoor unit	Unit model (color)				HDU-18HF03(INDOOR)（WHITE）	
	Fan	Type × Number			Centrifugal × 1	
		Speed(H-M-L)		r/min	700±30/550±30/390±30r/min	
		Fan motor output power		kW	0.02	
		Air-flow(H-M-L)		m³/h	780	
		Standard static pressure		Pa	0	
		Max.static pressure		Pa	20	
	Heat exchanger	Type / Diameter		mm	TP2M / 9.52x0.36	
		Temp. scope		℃	cooling: 43~60 heating:6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	1090×500×218	
		Package	（L×W×H）	mm×mm×mm	1161×536×269	
	Control type (Remote /wired /model)				WIRED	
	Noise level (H-M-L)			dB(A)	46/44/40	
	Weight (Net / Shipping)			kg / kg	25/29	
Outdoor unit	Unit model (color)				HDU-18HF03(OUTDOOR)（WHITE）	
	Compressor	Model / Manufacture			TH310VEEC MITSUBISHI	
		Oil model			DIAMOND MS-56	
		Oil charging			520	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial × 1	
		Speed		r/min	860±30	
		Fan motor output power		kW	0.03	
		Air-flow(H-M-L)		m³/h	2500	
	Heat exchanger	Type / Diameter		mm	TP2M / 9.52x0.36	
		Row / Fin pitch			2 1.85	
		Temp. scope		℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	810×288×680	
		Package	（L×W×H）	mm×mm×mm	960×406×750	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	58	
	Weight (Net / Shipping)			kg / kg	59/66	
PIPING	Refrigerant	Type / Charge		g	R22/1700	
	Pipe	Liquid		mm	6.35	
		Gas		mm	12.7	
		Drain hose		mm	PVC 16/12	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	5	
		MAX.Piping length		m	15	

item				Model	HDU-28CF03	
Function					cooling	heating
Capacity				BTU/h	24000	/
Capacity				kW	7.1	/
Sensible heat ratio					75%	/
Total power input				W	2500	/
Max. power input				W	3000	/
EER or COP				W/W	2.84	/
Dehumidifying capacity				10 - ³×m³/h	1.7	
Power cable				section	3G×4.0mm2	
Signal cable				section	4×0.75mm2	
Connecting cable				section		
Power source				N, V, Hz	1，220-230，50	
Running /Max.Running current				A / A	12/14.8	
Class of anti electric shock					I	/
Max. operating pressure of heat side				Mpa	2.8	
Max. operating pressure of cold side				Mpa	2.8	
Indoor unit	Unit model (color)				HDU-28CF03(INDOOR)（WHITE）	
	Fan	Type × Number			Centrifugal × 1	
		Speed(H-M-L)		r/min	1120±30/970±40/840±50	
		Fan motor output power		kW	0.08	
		Air-flow(H-M-L)		m³/h	1200	
		Standard static pressure		Pa	0	
		Max.static pressure		Pa	20	
	Heat exchanger	Type / Diameter		mm	/	
		Temp. scope		℃	cooling: 43~60 heating:6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	1090×500×218	
		Package	（L×W×H）	mm×mm×mm	1161×536×269	
	Control type (Remote /wired /model)				WIRED	
	Noise level (H-M-L)			dB(A)	47/45/43	
	Weight (Net / Shipping)			kg / kg	25.5/28	
Outdoor unit	Unit model (color)				HDU-28CF03(OUTDOOR)（WHITE）	
	Compressor	Model / Manufacture			LH45VBAC MITSUBISHI	
		Oil model			DIAMOND MS-32(N-1)	
		Oil charging			900	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial × 1	
		Speed		r/min	840±50	
		Fan motor output power		kW	0.06	
	Heat exchanger	Type / Diameter		mm	TP2M / 9.52x0.36	
		Temp. scope		℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	960×830×380	
		Package	（L×W×H）	mm×mm×mm	1050×960×410	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	56	
	Weight (Net / Shipping)			kg / kg	71/85	
PIPING	Refrigerant	Type / Charge		g	R22/2800	
	Pipe	Liquid		mm	9.52	
		Gas		mm	15.88	
		Drain hose		mm	PVC 16/12	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	15	
		MAX.Piping length		m	30	

item				Model	HDU-28HF03	
Function					cooling	heating
Capacity				BTU/h	24000	26600
Capacity				kW	7.1	8
Sensible heat ratio					75%	/
Total power input				W	2450	2600
Max. power input				W	3000	2900
EER or COP				W/W	2.9	3.08
Dehumidifying capacity				10 - ³×m³/h	1.7	
Power cable				section	3G×4.0mm2	
Signal cable				section	6×0.75mm2	
Connecting cable				section		
Power source				N, V, Hz	1，220-230，50	
Running /Max.Running current				A / A	cooling 11.5/14.8 heating12.5/14.5	
Class of anti electric shock					I	/
Max. operating pressure of heat side				Mpa	2.8	
Max. operating pressure of cold side				Mpa	2.8	
Indoor unit	Unit model (color)				HDU-28HF03(INDOOR)（WHITE）	
	Fan	Type × Number			Centrifugal × 1	
		Speed(H-M-L)		r/min	1120±30/970±40/840±50	
		Fan motor output power		kW	0.08	
		Air-flow(H-M-L)		m³/h	1200	
		Standard static pressure		Pa	0	
		Max.static pressure		Pa	20	
	Heat exchanger	Type / Diameter		mm	/	
		Temp. scope		℃	cooling: 43~60 heating:6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	1090×500×218	
		Package	（L×W×H）	mm×mm×mm	1161×536×269	
	Control type (Remote /wired /model)				WIRED	
	Noise level (H-M-L)			dB(A)	47/45/43	
	Weight (Net / Shipping)			kg / kg	25.5/28	
Outdoor unit	Unit model (color)				HDU-28HF03(OUTDOOR)（WHITE）	
	Compressor	Model / Manufacture			LH45VBAC MITSUBISHI	
		Oil model			DIAMOND MS-32(N-1)	
		Oil charging			900	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial × 1	
		Speed		r/min	840±50	
		Fan motor output power		kW	0.06	
	Heat exchanger	Type / Diameter		mm	TP2M / 9.52x0.36	
		Temp. scope		℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	960×380×960	
		Package	（L×W×H）	mm×mm×mm	1050×410×980	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	56	
	Weight (Net / Shipping)			kg / kg	71/85	
PIPING	Refrigerant	Type / Charge		g	R22/2800	
	Pipe	Liquid		mm	9.52	
		Gas		mm	15.88	
		Drain hose		mm	PVC 16/12	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	15	
		MAX.Piping length		m	30	

item				Model	HDU-42CF03/H	
Function					cooling	heating
Capacity				BTU/h	42600	/
Capacity				kW	12.5	/
Sensible heat ratio					75%	/
Total power input				W	4700	/
Max. power input				W	5700	/
EER or COP				W/W	2.66	/
Dehumidifying capacity				10 - ³×m³/h	5.0	
Power cable				section	5×2.5mm2	
Signal cable				section	4×0.75mm2	
Connecting cable				section		
Power source				N, V, Hz	3，380-400，50	
Running /Max.Running current				A / A	cooling 8.2/9.5	
Start Current				A	50	
Class of anti electric shock					I	/
Max. operating pressure of heat side				Mpa	2.8	/
Max. operating pressure of cold side				Mpa	2.8	/
Indoor unit	Unit model (color)				HDU-42CF03/H(INDOOR)（WHITE）	
	Fan	Type × Number			Centrifugal × 2	
		Speed(H-M-L)		r/min	1070±30/860±40/690±50	
		Fan motor output power		kW	0.27	
		Air-flow(H-M-L)		m³/h	1560-2580	
		Standard static pressure		Pa	50	
		Max.static pressure		Pa	100	
	Heat exchanger	Type / Diameter		mm	TP2M / 9.52x0.36	
		Temp. scope		℃	cooling: 43~60 heating:6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	1197×830×350	
		Package	（L×W×H）	mm×mm×mm	1430×940×420	
	Control type (Remote /wired /model)				WIRED	
	Noise level (H-M-L)			dB(A)	55/52/47	
	Weight (Net / Shipping)			kg / kg	62/77	
Outdoor unit	Unit model (color)				HDU-42CF03/H(OUTDOOR)（WHITE）	
	Compressor	Model / Manufacture			JT160BCBY1L / DAIKIN	
		Oil model			SUNISO 4GSDID-K/DAPHNE SE56P	
		Oil charging			1500-1700	
		Type			SCROLL	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial × 1	
		Speed		r/min	740±50	
		Fan motor output power		kW	0.156	
		Air-flow(H-M-L)		m³/h	6000	
	Heat exchanger	Type / Diameter		mm	TP2M / 9.52x0.36	
		Row / Fin pitch			2/1.65	
		Temp. scope		℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）	mm×mm×mm	1008×410×830	
		Package	（L×W×H）	mm×mm×mm	1130×490×930	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	64	
	Weight (Net / Shipping)			kg / kg	92/100	
PIPING	Refrigerant	Type / Charge		g	R22/3150	
	Pipe	Liquid		mm	9.52	
		Gas		mm	19.05	
		Drain hose		mm	PVC 26/32	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	30	
		MAX.Piping length		m	50	

item				Model		HDU-42HF03/H	
Function						cooling	heating
Capacity					BTU/h	42600	47700
Capacity					kW	12.5	14
Sensible heat ratio						75%	/
Total power input					W	4900	4900
Max. power input					W	6100	5800
EER or COP					W/W	2.55	2.86
Dehumidifying capacity					10 - ³×m³/h	5.0	
Power cable					section	5×2.5mm2	
Signal cable					section	6×0.75mm2	
Connecting cable					section		
Wired control cable	for wired control unit				section	/	4×0.33mm² shield wire
Power source					N, V, Hz	3，380-400，50	
Running /Max.Running current					A / A	cooling 8.0/12.0 heating8.2/10.5	
Start Current					A	50	
Class of anti electric shock						I	I
Circuit breaker					A	/	30
Max. operating pressure of heat side					Mpa	2.8	
Max. operating pressure of cold side					Mpa	2.8	
Indoor unit	Unit model (color)					HDU-42HF03/H(INDOOR)（WHITE）	
	Fan	Type × Number				Centrifugal × 2	
		Speed(H-M-L)			r/min	1070±30/860±40/690±50	
		Fan motor output power			kW	0.27	
		Air-flow(H-M-L)			m³/h	1560-2580	
		Standard static pressure			Pa	100	
		Max.static pressure			Pa	100	
	Heat exchanger	Type / Diameter			mm	/	
		Temp. scope			℃	cooling: 43~60 heating:6~7	
	Dimension	External	（L×W×H）		mm×mm×mm	1197×830×350	
		Package	（L×W×H）		mm×mm×mm	1430×940×420	
	Control type (Remote /wired /model)					WIRED	
	Noise level (H-M-L)				dB(A)	55/52/47	
	Weight (Net / Shipping)				kg / kg	62/77	
Outdoor unit	Unit model (color)					HDU-42HF03/H(OUTDOOR)（WHITE）	
	Compressor	Model / Manufacture				C-SB373H8F SANYO	
		Oil model				4GSD/SAY56T	
		Oil charging				1700	
		Type				SCROLL	
		Protection type				Inner thermal protection	
		Starting method				direct start	
	Fan	Type × Number				Axial × 2	
		Speed			r/min	840±50	
		Fan motor output power			kW	0.016	
		Air-flow(H-M-L)			m³/h	6000	
	Heat exchanger	Type / Diameter			mm	TP2M / 9.52x0.36	
		Temp. scope			℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）		mm×mm×mm	948*340*1250	
		Package	（L×W×H）		mm×mm×mm	1050*440*1375	
	Refrigerant control method				mm/mm	Capillary tube	
	Defrosting					Automatic	
	Noise level				dB(A)	64	
	Weight (Net / Shipping)				kg / kg	91/111	
PIPING	Refrigerant	Type / Charge			g	R22/4200	
	Pipe	Liquid			mm	9.52	
		Gas			mm	19.05	
		Drain hose			mm	PVC 26/32	
	Connecting Method					Flared	
	Between I.D &O.D	MAX.Drop			m	30	
		MAX.Piping length			m	50	

item				Model	HDU-42CH03/H	
Function					cooling	heating
Capacity				BTU/h	42650	/
Capacity				kW	12.5	/
Total power input				W	4700	/
Max. power input				W	5700	/
EER or COP				W/W	2.66	/
Dehumidifying capacity				10 - ³×m³/h	5.0	
Power cable				section	5G 2.5mm2	
Signal cable				section	4G 1.5mm2	
Connecting cable				section		
Wired control cable	for wired control unit			section	4 x 0.33 mm2	
Power source				N, V, Hz	3N，380-400V，50HZ	
Running /Max.Running current				A / A	Cooling 8.2A/9.5A	
Start Current				A	50	
Class of anti electric shock					CLASS I	CLASS I
Circuit breaker				A	30	
Max. operating pressure of heat side				Mpa	2.8	/
Max. operating pressure of cold side				Mpa	2.8	/
Indoor unit	Unit model (color)				HDU-42CH03/H(WHITE)	
	Fan	Type × Number			centrifugal	
		Speed(H-M-L)		r/min	1070/950/860/640	
		Fan motor output power		kW	0.27	
		Air-flow(H-M-L)		m³/h	1560～2650	
		Standard static pressure		Pa	50	
		Max.static pressure		Pa	100	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ7	
	Dimension	External	（L×W×H）	mm×mm×mm	1197×830×350	
		Package	（L×W×H）	mm×mm×mm	1430×940×420	
	Control type (Remote /wired /model)				wired	
	Noise level (H-M-L)			dB(A)	55/52/47	
	Weight (Net / Shipping)			kg / kg	70/85	
Outdoor unit	Unit model (color)				HDU-42CH03/H(WHITE)	
	Compressor	Model / Manufacture			JT160BCBY1L/ DAIKIN	
		Oil model			SONTEX 200 LT	
		Oil charging			1656	
		Type			SCROLL	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial*1	
		Speed		r/min	740/530	
		Fan motor output power		kW	0.15	
		Air-flow(H-M-L)		m³/h	6000	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
	Dimension	External	（L×W×H）	mm×mm×mm	1008×830×480	
		Package	（L×W×H）	mm×mm×mm	1130×930×490	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	64	
	Weight (Net / Shipping)			kg / kg	90/100	
PIPING	Refrigerant	Type / Charge		g	R22/3150	
		Recharge quantity		g/m	65	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ19.05	
		Drain hose		mm	PVC 26/32	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	30	
		MAX.Piping length		m	50	

item				Model	HDU-42CI03/H	
Function					cooling	heating
Capacity				BTU/h	42650	/
Capacity				kW	12.5	/
Total power input				W	4800	/
Max. power input				W	5800	/
EER or COP				W/W	2.6	/
Dehumidifying capacity				10 - ³×m³/h	5.0	
Power cable				section	5G 2.5mm2	
Signal cable				section	4G 1.5mm2	
Connecting cable				section		
Wired control cable	for wired control unit			section	4 x 0.33 mm2	
Power source				N, V, Hz	3N，380-400V，50HZ	
Running /Max.Running current				A / A	Cooling 8.0A/10.0A	
Start Current				A	50	
Class of anti electric shock					CLASS I	
Circuit breaker				A	30	
Max. operating pressure of heat side				Mpa	2.8	/
Max. operating pressure of cold side				Mpa	2.8	/
Indoor unit	Unit model (color)				HDU-42CI03/H(WHITE)	
	Fan	Type × Number			centrifugal	
		Speed(H-M-L)		r/min	1070/860/690	
		Fan motor output power		kW	0.27	
		Air-flow(H-M-L)		m³/h	1560～2580	
		Standard static pressure		Pa	100	
		Max.static pressure		Pa	100	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ7	
	Dimension	External	（L×W×H）	mm×mm×mm	1197×830×350	
		Package	（L×W×H）	mm×mm×mm	1430×940×420	
	Control type (Remote /wired /model)				wired	
	Noise level (H-M-L)			dB(A)	56/52/48	
	Weight (Net / Shipping)			kg / kg	72/87	
Outdoor unit	Unit model (color)				HDU-42CI03/H(WHITE)	
	Compressor	Model / Manufacture			JT160BCBY1L/ DAIKIN	
		Oil model			SONTEX 200 LT	
		Oil charging			1656	
		Type			SCROLL	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial*2	
		Speed		r/min	840/540	
		Fan motor output power		kW	0.06	
		Air-flow(H-M-L)		m³/h	6000	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
	Dimension	External	（L×W×H）	mm×mm×mm	948*340*1250	
		Package	（L×W×H）	mm×mm×mm	1050*440*1375	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	64	
	Weight (Net / Shipping)			kg / kg	104/112	
PIPING	Refrigerant	Type / Charge		g	R22/4200	
		Recharge quantity		g/m	65	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ19.05	
		Drain hose		mm	PVC 26/32	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	30	
		MAX.Piping length		m	50	

item				Model	HDU-42HK03/H	
Function					cooling	heating
Capacity				BTU/h	42650	47750
Capacity				kW	12.5	14.0
Total power input				W	4900	4900
Max. power input				W	6100	5800
EER or COP				W/W	2.55	2.86
Dehumidifying capacity				10 - ³×m³/h	5.0	
Power cable				section	5G 2.5mm2	
Signal cable				section	4G 1.5mm2	
Connecting cable				section		
Wired control cable	for wired control unit			section	4 x 0.33 mm2	
Power source				N, V, Hz	3N，380-400V，50HZ	
Running /Max.Running current				A / A	Cooling 8.0A/12.0A Heating 8.2/10.5	
Start Current				A	50	
Class of anti electric shock					CLASS I	CLASS I
Circuit breaker				A	30	
Max. operating pressure of heat side				Mpa	2.8	2.8
Max. operating pressure of cold side				Mpa	2.8	2.8
Indoor unit	Unit model (color)				HDU-42HK03/H(WHITE)	
	Fan	Type × Number			centrifugal	
		Speed(H-M-L)		r/min	1070/860/690	
		Fan motor output power		kW	0.27	
		Air-flow(H-M-L)		m³/h	1560～2580	
		Standard static pressure		Pa	100	
		Max.static pressure		Pa	100	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ7	
	Dimension	External	（L×W×H）	mm×mm×mm	1197×830×350	
		Package	（L×W×H）	mm×mm×mm	1430×940×420	
	Control type (Remote /wired /model)				wired	
	Noise level (H-M-L)			dB(A)	56/52/48	
	Weight (Net / Shipping)			kg / kg	73/87	
Outdoor unit	Unit model (color)				HDU-42HK03/H(WHITE)	
	Compressor	Model / Manufacture			C-SB373H8F/SANYO	
		Oil model			SONTEX 200 LT	
		Oil charging			1656	
		Type			SCROLL	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial*2	
		Speed		r/min	840/540	
		Fan motor output power		kW	0.06	
		Air-flow(H-M-L)		m³/h	6000	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
	Dimension	External	（L×W×H）	mm×mm×mm	948/340/1250	
		Package	（L×W×H）	mm×mm×mm	1050/440/1375	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	64	
	crankcase heater power			W	40	
	Weight (Net / Shipping)			kg / kg	105/113	
PIPING	Refrigerant	Type / Charge		g	R22/4200	
		Recharge quantity		g/m	65	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ19.05	
		Drain hose		mm	PVC 26/32	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	30	
		MAX.Piping length		m	50	

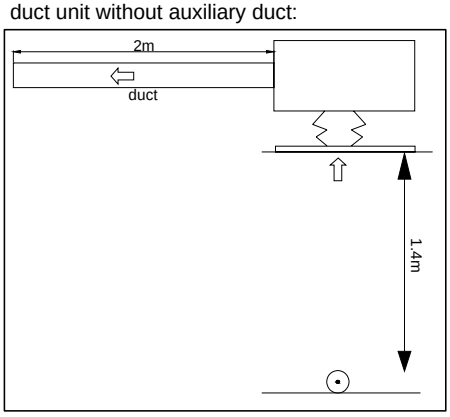
item				Model	HDU-50HT03/H	
Function					cooling	heating
Capacity				BTU/h	49800	56300
Capacity				kW	14.6	16.5
Sensible heat ratio					0.7	
Total power input				W	6540	5830
Max. power input				W	7767	6160
EER or COP				W/W	2.2	2.8
Dehumidifying capacity				10 - ³×m³/h	5.0	
Power cable				section	5G×2.5mm2	
Signal cable				section	4G×1.5mm2	
Connecting cable				section		
Wired control cable	for wired control unit			section	4 x 0.33 mm2	
Power source				N, V, Hz	3N，380-400V，50HZ	
Running /Max.Running current				A / A	Cooling 9.5A/11.3A Heating 9.1/10.35	
Start Current				A	50	
Class of anti electric shock					CLASS I	CLASS I
Circuit breaker				A	30	
Max. operating pressure of heat side				Mpa	2.8	2.8
Max. operating pressure of cold side				Mpa	2.8	2.8
Indoor unit	Unit model (color)				HDU-50HT03/H(WHITE)	
	Fan	Type × Number			centrifugal× 2	
		Speed(H-M-L)		r/min	1110/880/720	
		Fan motor output power		kW	0.27	
		Air-flow(H-M-L)		m³/h	1560～2580	
		Standard static pressure		Pa	50	
		Max.static pressure		Pa	100	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ7	
	Dimension	External	（L×W×H）		1197×830×350	
		Package	（L×W×H）	mm×mm×mm	1430×940×420	
	Control type (Remote /wired /model)				wired	
	Noise level (H-M-L)			dB(A)	55/52/47	
	Weight (Net / Shipping)			kg / kg	65/80	
Outdoor unit	Unit model (color)				HDU-50HT03/H(WHITE)	
	Compressor	Model / Manufacture			ZR61KH-TFD-522/COPELAND	
		Oil model			SONTEX 200 LT	
		Oil charging			1656	
		Type			SCROLL	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial*2	
		Speed		r/min	840	
		Fan motor output power		kW	0.06	
		Air-flow(H-M-L)		m³/h	6000	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
	Dimension	External	（L×W×H）	mm×mm×mm	948*340*1250	
		Package	（L×W×H）	mm×mm×mm	1050*440*1375	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	64	
	crankcase heater power			W	40	
	Weight (Net / Shipping)			kg / kg	91/111	
PIPING	Refrigerant	Type / Charge		g	R22/4300	
		Recharge quantity		g/m	65	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ19.05	
		Drain hose		mm	PVC 26/32	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	30	
		MAX.Piping length		m	50	

item				Model	AD96NAHAEA	
Function					cooling	heating
Capacity				BTU/h	92000	96000
Capacity				kW	27000	28000
Sensible heat ratio					75%	/
Total power input				W	10000	9000
Max. power input				W	13000	13000
EER or COP				W/W	2.70	3.11
Dehumidifying capacity				10 - ³×m³/h	10	
Power source				N，V，Hz	1，220-230，50	
Indoor unit	Unit model (color)				AD96NAHAEA	
	Fan	Type × Number			Centrifigal×2	
		Speed(H-M-L)		r/min	1070/860/690-	
		Fan motor output power		W	270W*2	
		Air-flow(H-M-L)		m³/h	3600	
		Standard static pressure		Pa	100	
		Max.static pressure		Pa	100	
	Heat exchanger	Type / Diameter		mm	TP2M/Φ9.52	
		Total Area		m²	0.41	
		Temp. scope		℃	2-7	
	Dimension	External	（L×W×H）	mm×mm×mm	1570*840*360	
		Package	（L×W×H）	mm×mm×mm	1800*980*495	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				Wired	
	Fresh air hole dimension			mm	/	
	Electricity Heater			kW	0	
	Noise level (H-M-L)			dB(A)	58/-/51	
	Weight (Net / Shipping)			kg / kg	92/100	

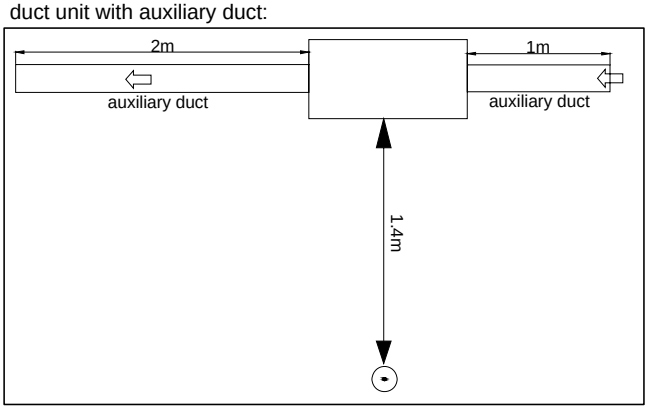
Norminal condition: indoor temperature (cooling): 27℃DB/19℃WB, indoor temperature (heating): 20℃DB
Outdoor temperature(cooling): 35℃DB/24℃WB, outdoor temperature(heating): 7℃DB/6℃WB
The noise level will be measured in the third octave band limited values, using a Real Time Analyser calibrated sound intensity meter. It is a sound pressure noise level. The detailed method please refer to the following information:

Installation state: the unit should be placed on the flat floor or be mounted in horizontal direction.
Testing method:

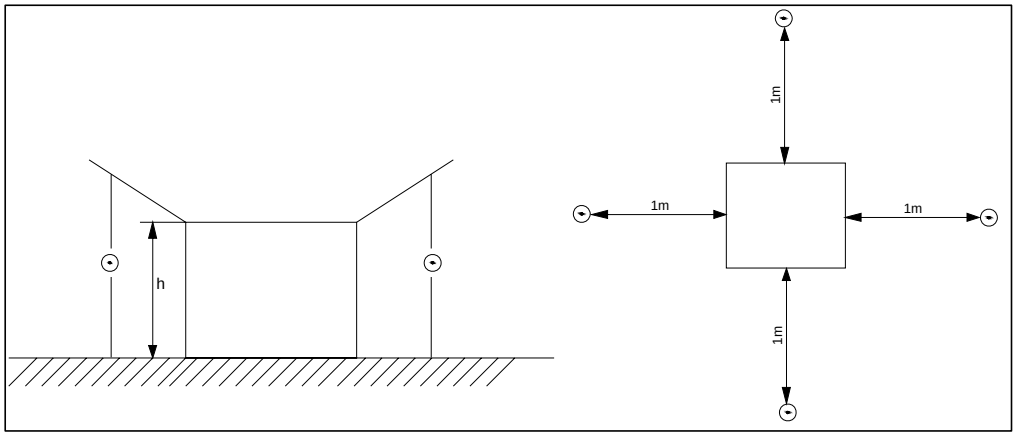
duct unit without auxiliary duct:



duct unit with auxiliary duct:



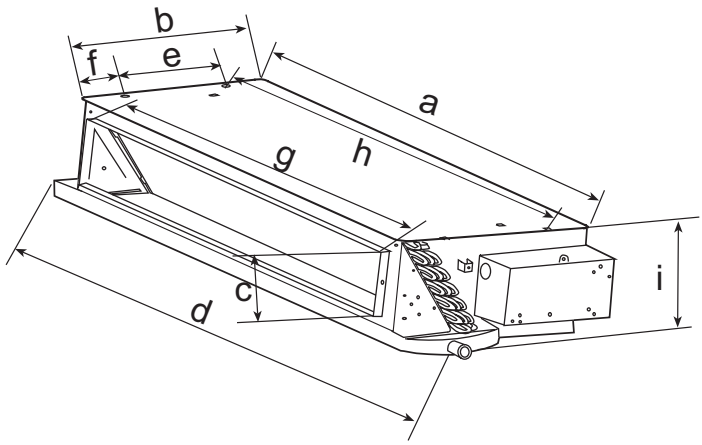
outdoor unit:
1.air outlet from side: the noise level is the average sound pressure level measured from front, left, right directions.
2.air outlet from top: the noise level is the average sound pressure level measured from front, back, left, right directions.
measured point:
H (height to the ground) = (h (unit height) + 1m) /2
and, it is 1m to each side.



Note: ⊙ is the real time analyser position

3. Dimension

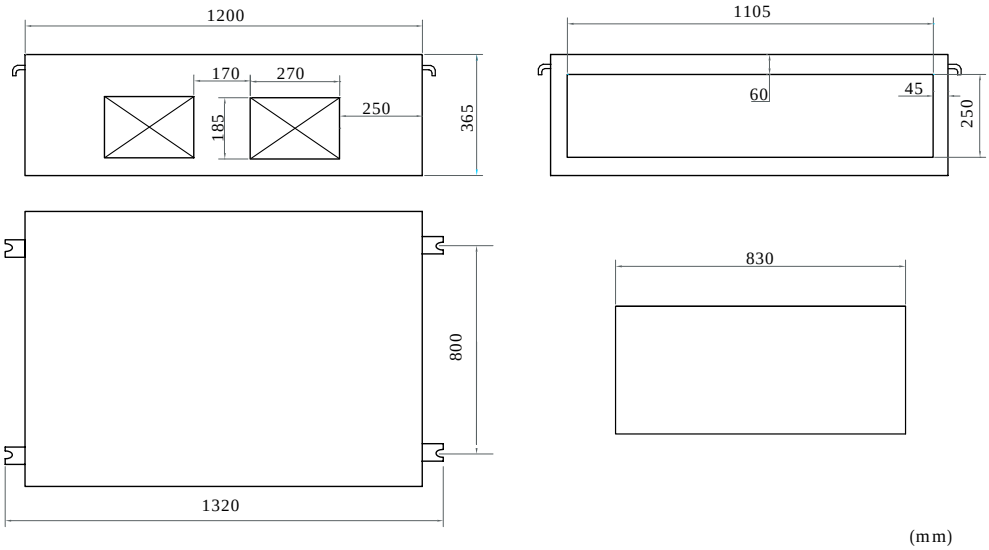
HDU-18CF03, HDU-18HF03, HDU-28CF03, HDU-28HF03



(Unit: mm)

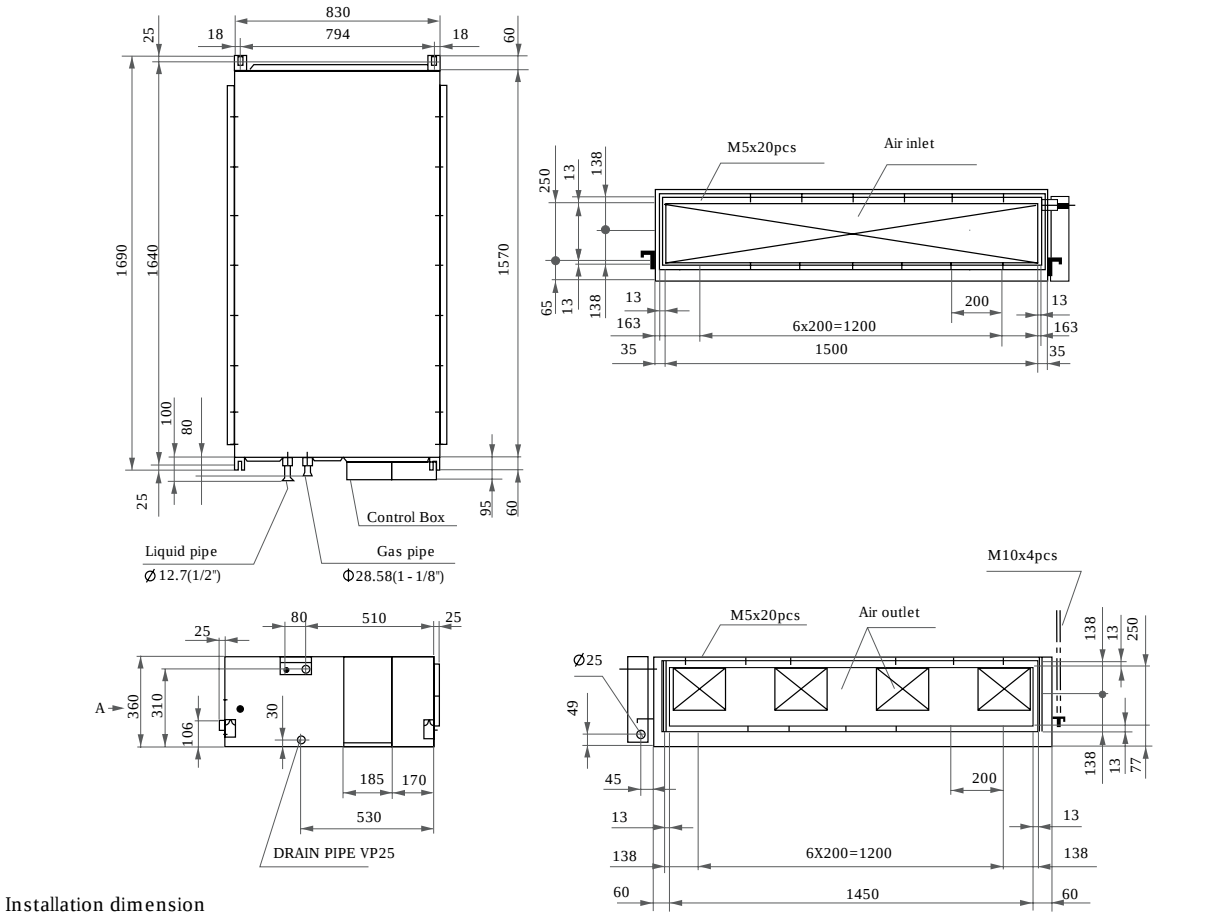
Unit model	a	b	c	d	e	f	g	h	i
HDU-18CF03 HDU-18HF03 HDU-28CF03 HDU-28HF03	1002	483.5	131	1105	255	105	880	970	220

HDU-42CF03/H, HDU-42HF03/H, HDU-42CH03/H, HDU-42CI03, HDU-42HK03/H, HDU-42HT03/H

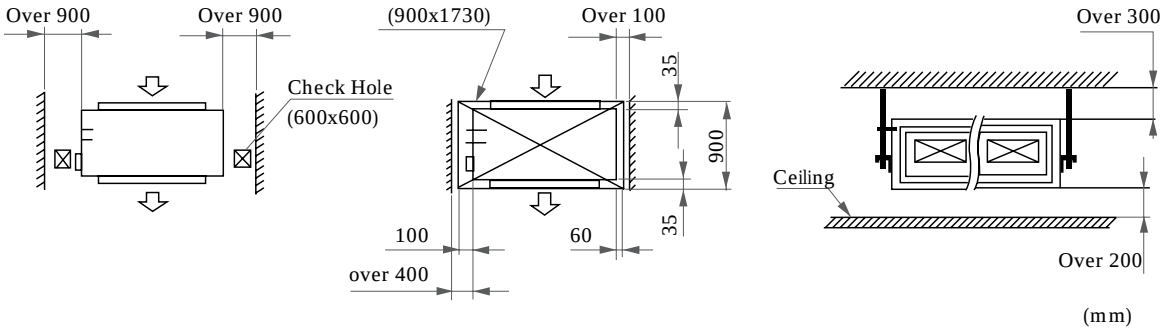


(mm)

AD96NAHAEA



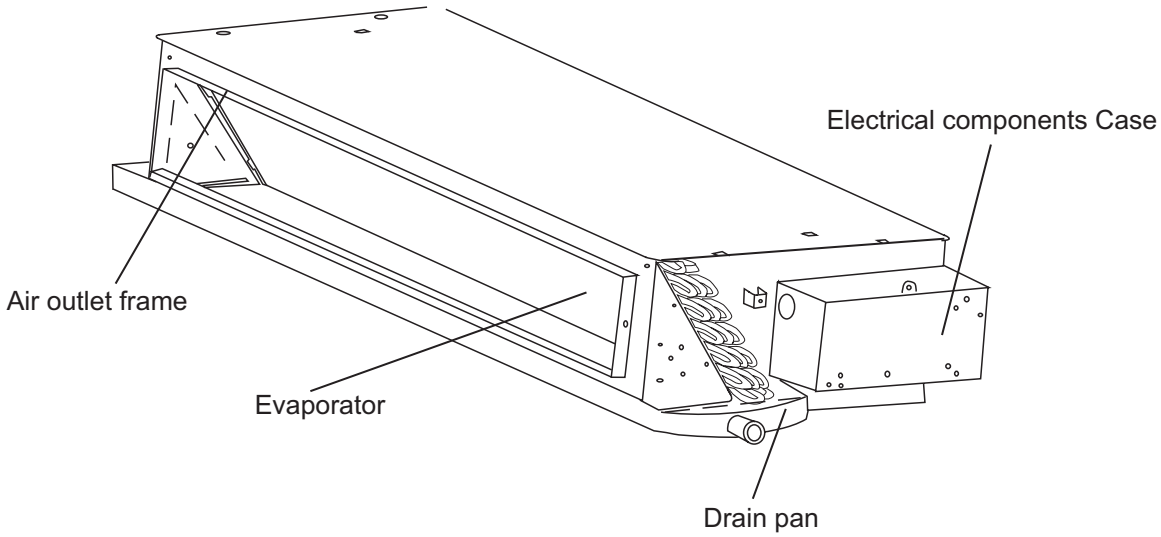
Installation dimension



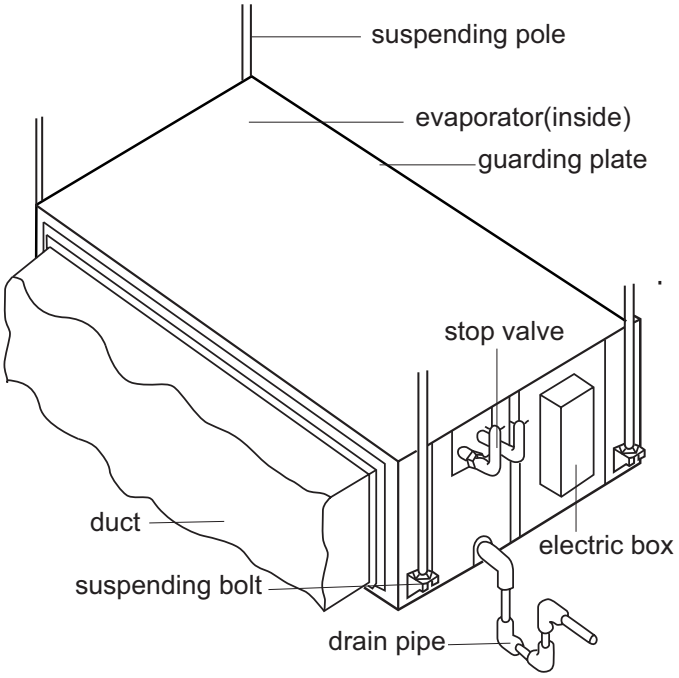
(mm)

4. Part name

HDU-18CF03, HDU-18HF03, HDU-28CF03, HDU-28HF03



HDU-42CF03/H, HDU-42HF03/H, HDU-42CH03/H, HDU-42CI03, HDU-42HK03/H, HDU-42HT03/H
AD96NAHAEA



5. Installation

5.1 For Ceiling concealed duct type (series 18, 28)

Installation space

The indoor unit shall be installed at locations where cold and hot air could evenly circulated.
The following locations should be avoided:

Places with rich salt (seaside area).
Places with plenty of gas sulfides (mainly in warm spring areas where the copper tube and braze weld is easy to corrosion).
Locations with much oil (including mechanical oil) and steam.
Locations using organic solvents.
Places where there are machines generating HF electromagnetic waves.
Positions adjacent to door or window in contact with high-humidity external air. (Easy to generate dew).
Locations frequently using special aerosols.

The following points should be taken care of:

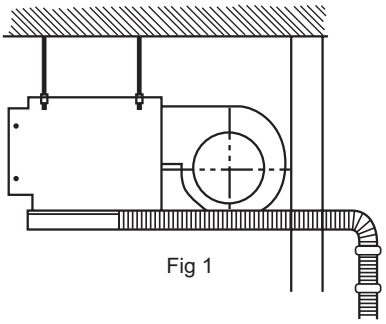


Fig 1

1. Select suitable places the outlet air can be sent to the entire room, and convenient to lay out the connection pipe, connection wire and the drainage pipe to outdoor.
2. The ceiling structure must be strong enough to support the unit weight.
3. The connecting pipe, drain pipe and connection wire shall be able to go though the building wall to connect between the indoor and outdoor units.
4. The connecting pipe between the indoor and outdoor units as well as the drain pipe shall be as short as possible. (See Figure 1)
5. If its necessary to adjust the filling amount of the refrigerant, please refer to the installation manual attached with the outdoor unit.
6. The connecting flange should be provided by the user himself.
7. The indoor unit has two water outlets one of which is obstructed at the factory (with a rubber cap). Only the outlet not obstructed (liquid inlet and outlet side) will be generally used during installation. If applicable, both the outlets should be used together.

Note: The access hole must be provided during installation of indoor unit for maintenance.

After selecting the installation space, proceed the following steps:

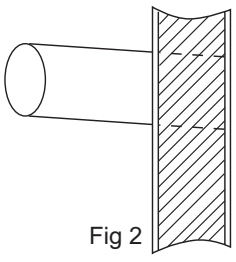
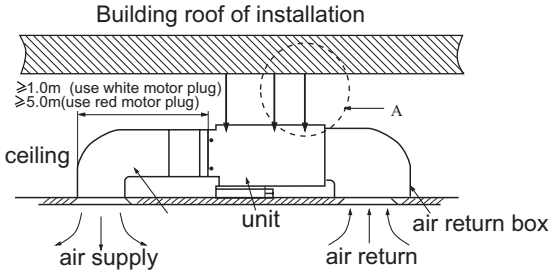
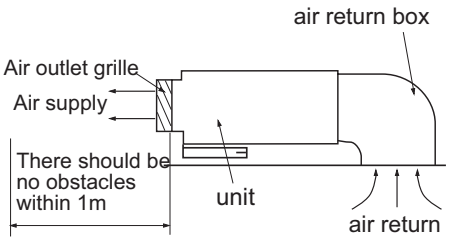


Fig 2

1. Drill a hole in the wall and insert the connecting pipe and wire through a PVC wall-through tube purchased locally. The wall hole shall be with a outward down slope of at least 1/100. (See Figure 2)
2. Before drilling check that there is no pipe or reinforcing bar just behind the drilling position. Drilling shall avoid at positions with electric wire or pipe.
3. Mount the unit on a strong and horizontal building roof. If the base is not firm, it will cause noise, vibration or leakage.
4. Support the unit firmly.
5. Change the form of the connection pipe, connection wire and drain pipe so that they can go through the wall hole easily.

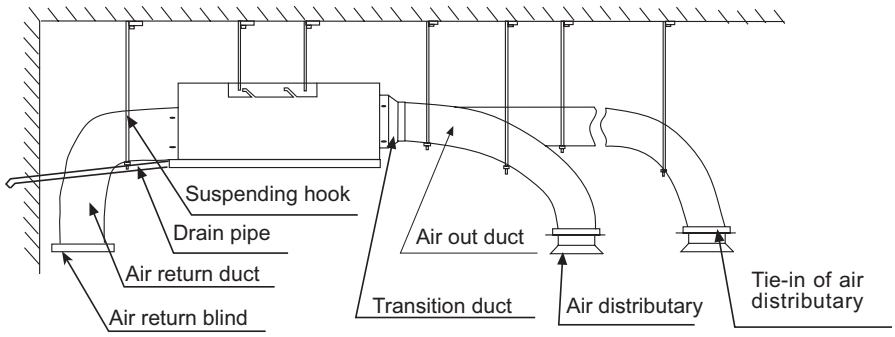
- Each of the air sending duct and air return duct shall be fixed on the prefabricated panel of the floor by the iron bracket.
- The recommended distance between the edge of the air return duct and the wall is over 150mm.
- The gradient of the condensate water pipe shall keep over 1%.
- The condensate water pipe shall be thermal insulated.
- When installing the ceiling Concealed type indoor unit, the air return duct must be designed and installed (as figure shown).





Note: When connecting the short ducts, use the low static terminals, which color is white.

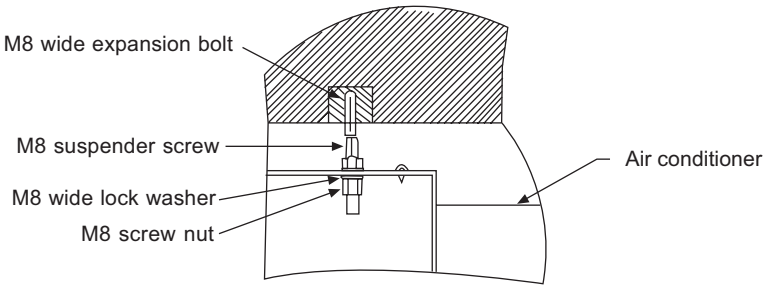
The distance L from the air outlet of the duct to the air outlet of the sir conditioner shall be no more than 1 m.



The sketch map of long duct

Note: When connecting the long ducts, use the middle static terminals, which color is red.

The distance L from the air outlet of the duct to the air outlet of the sir conditioner shal be no more than 5 m.



Installation of indoor unit duct

1. Installation of air sending duct

- This unit uses rounded duct, the diameter of the duct is 180mm.
- The round duct needs to add a transition duct to connect with the air-sending duct of indoor unit,then connect with respective separator. As Fig. 1 shown, all the fan speed of any of the separator's air outlet shall be adjusted approximately the same to meet the requirement for the room air conditioner.

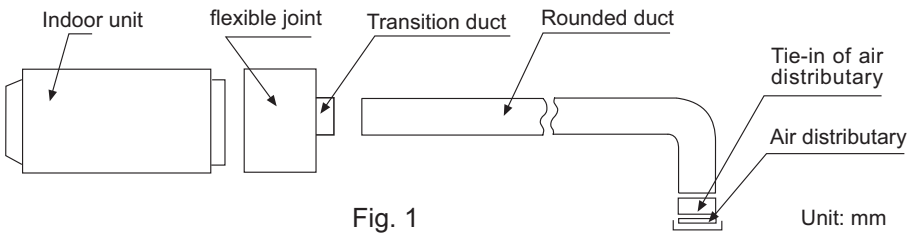


Fig. 1

2. Installation of air return duct

- Use rivet to connect the air return duct on the air return inlet of the indoor unit, then connect the other end with the air return blind. As Fig. 2 shown.

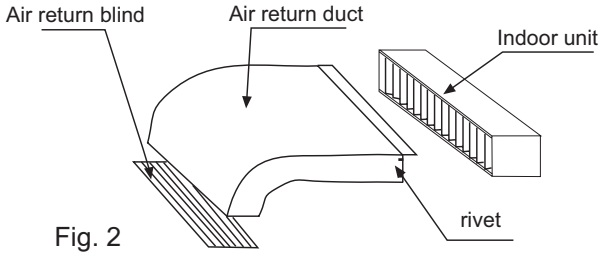


Fig. 2

3 Thermal insulation of duct

- Air-sending duct and air return duct shall be thermally insulated. First stick the gluey nail on the duct, then attach the heat preservation cotton with a layer of tinfoil paper and use the gluey nail cap to fix. Finally use the tinfoil adhesive tape to seal the connected part. As Fig. 3 shown.

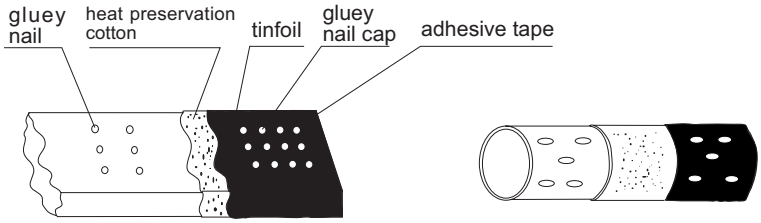


Fig. 3

Installing the suspension screw:

Use M8 or M10 suspension screws (4,prepared in the field)(when the suspension screwheight exceeds 0.9m, M10 size is the only choice).These screws shall be installed as follows with space adapting to air conditioner overall dimensions according to the original building structures.

Wooden structure

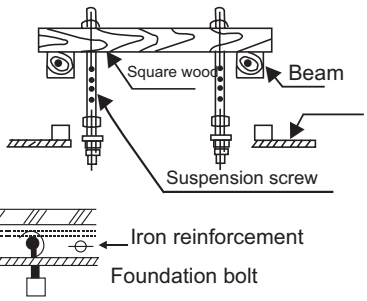
A square wood shall be supported by the beams and then set the suspension screws.

New concrete slab

To set with embedded parts,foundation bolts etc.

Knife embedded part

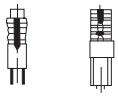
Guide plate embedded part



Pipe suspension foundation bolt

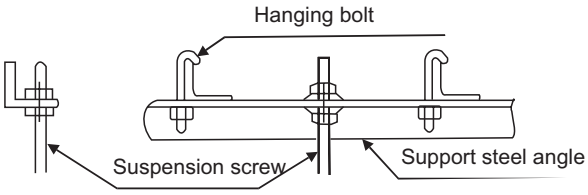
Original concrete slad

Use hole hinge,hole plunger or hole bolt.



Steel reinforcement structure

Use steel angle or new support steel angle directly.



Hanging of the indoor unit

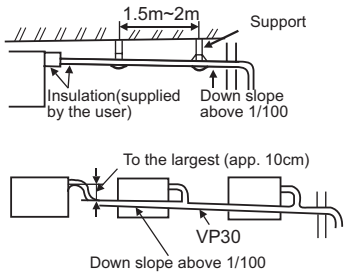
Fasten the nut on the suspension screw and then hang the suspension screw in the T slot of the suspension part of the unit. Aided with a level meter,adjust level of the unit within 5mm.

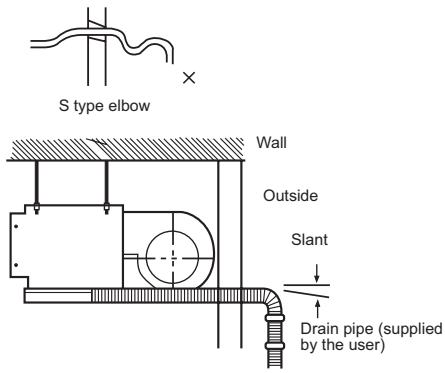
⚠ Caution

In order to drain water normally, the drain pipe shall be processed as specified in the installation manual and shall be heat insulated to avoid dew generation. Improper hose connection may cause indoor water leakage.

Requirements

- The indoor drain pipe shall be thermal insulated.
- The connection part between the drain pipe and the indoor unit shall be insulated so as to prevent dew generation.
- The drain pipe shall be slant downwards (greater than 1/100). The middle part shall not be of S type elbow, otherwise abnormal sound will be produced.
- The horizontal length of the drain pipe shall be less than 20 m. In case of long pipe, supports shall be provided every 1.5 – 2m to prevent wavy form.
- Central piping shall be laid out according to the following figure.
- Take care not to apply external force onto the drain pipe connection part.





Pipe and insulation material

Pipe	Rigid PVC pipe VP20 mm (internal diameter)
Insulation	Foamed PE with thickness above 7 mm

Hose

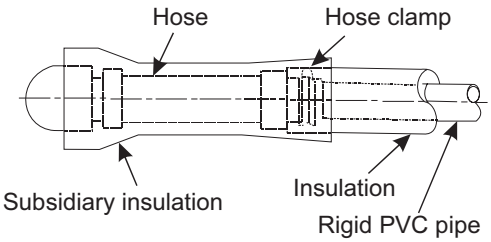
Drain pipe size: (3/4") PVC pipe

The hose is used for adjusting the off-center and angle of the rigid PVC pipe.

- Directly stretch the hose to install without making any deformation.
- The soft end of the hose must be fastened with a hose clamp.
- Please apply the hose on horizontal part

Insulation treatment:

- Wrap the hose and its clamp until to the indoor unit without any clearance with insulating material, as shown in the figure.



Drain confirmation

During trial run, check that there is no leakage at the pipe connection part during water draining even in winter.

⚠ Caution

- In installation, if there is refrigerant gas leakage, please take ventilation measures immediately. The refrigerant gas will generate poisonous gas upon contacting fire.
- After installation, please verify that there is no refrigerant leakage. The leaked refrigerant gas will produce poisonous gas when meeting fire source such as heater and furnace etc.

Allowable pipe length and drop

These parameters differ according to the outdoor unit. See the instruction manual attached with the outdoor unit for details.

Pipe material and size

Type	Pipe material	Phosphorus deoxidized copper seamless pipe (TP2M) for air conditioner	
HDU-18CF03 HDU-18HF03	Pipe size (mm)	Gas side	Ø12.70
		Liquid side	Ø6.35
HDU-28CF03 HDU-28HF03	Pipe size (mm)	Gas side	Ø15.88
		Liquid side	Ø9.52

Supplementary refrigerant

The refrigerant supplementation shall be as specified in the installation instructions attached with the outdoor unit.
The adding procedure shall be aided with a measuring meter for a specified amount of supplemented refrigerant.

Requirement

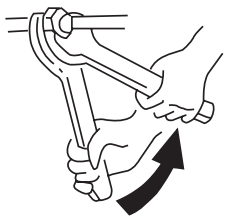
- Overfilling or underfilling of refrigerant will cause compressor fault. The amount of the added refrigerant shall be as specified in the instructions.

Connection of refrigerant pipe

Conduct flared connection work to connect all refrigerant pipes.

- The connection of indoor unit pipes must use double spanners.
- The installing torque shall be as given in the following table.
- Wall thicknessof connection pipe ⩾ 0.8mm

Connecting pipe O.D.(mm)	Installing torque(N-m)
Ø6.35	11.8 (1.2kgf-m)
Ø9.52	24.5 (2.5 kgf-m)
Ø12.70	49.0 (5.0 kgf-m)
Ø15.88	78.4 (8.0 kgf-m)



Double-spanner operation

Vacuum pumping

With a vacuum pump,create vacuum from the stop valve of the outdoor unit.
Emptying with refrigerant sealed in the outdoor unit is absolutely forbidden.

Open all valves

Open all the valves on the outdoor unit.

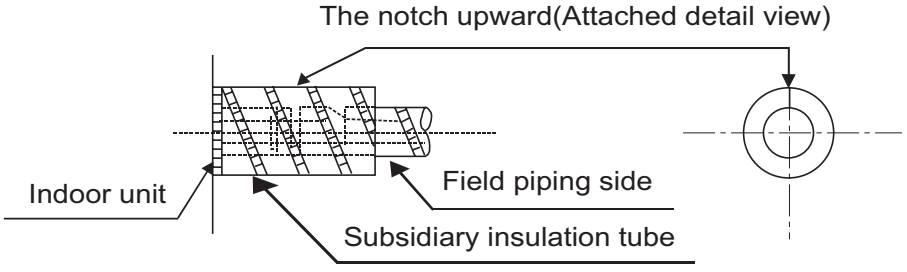
Gas leakage detection

Check with a leakage detector or soap water that if there is gas leakage at the pipe connections and bonnets.

Insulation treatment

Conduct insulation treatment on both the gas side and liquid side of pipes respectively.
During cooling operation,both the liquid and gas sides are cold and thus shall be insulated so as to avoid dew generation.

- The insulating material at gas side shall be resistant to a temperature above 120 C°
- The indoor unit pipe connection part shall be insulated.



Electric wiring

⚠WARNING

DANGER OF BODILY INJURY OR DEATH

TURN OFF ELECTRIC POWER AT CIRCUIT BREAKER OR POWER SOURCE BEFORE MAKING ANY ELECTRIC CONNECTIONS. GROUND CONNECTIONS MUST BE COMPLETED BEFORE MAKING LINE VOLTAGE CONNECTIONS.

(1) Selection of size of power supply and interconnecting wires.

Precautions for Electric wiring

- Electric wiring work should be conducted only by authorized personnel.
- Do not connect more than three wires to the terminal block. Always use round type crimped terminal lugs with insulated grip on the ends of the wires.
- Use copper conductor only.

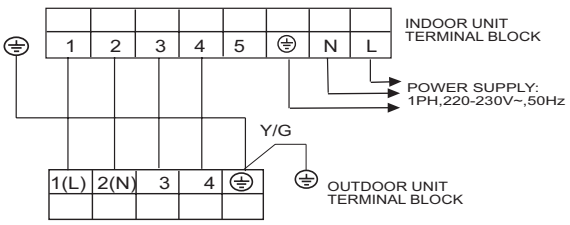
Select wire sizes and circuit protection from table below. (This table shows 20 m length wires with less than 2% voltage

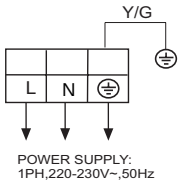
Item	Phase	Circuit breaker		Power source wire size	Earth leakage breaker	
		Switch breaker (A)	Overcurrent protector		Switch break	Leak curren
HDU-18CF03 HDU-18HF03	1	30	20	2.5mm^2	30	30mA
HDU-28CF03 HDU-28HF03	1	40	36	4.0mm^2	40	30mA

(2) Wiring connection

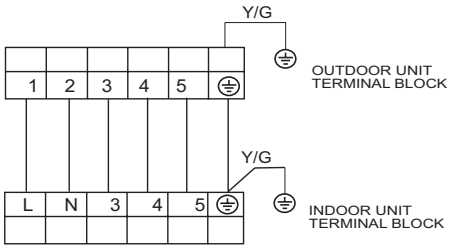
Make wiring to supply power to the outdoor unit, so that the power for the indoor unit is supplied by terminals.

HDU-18HF03

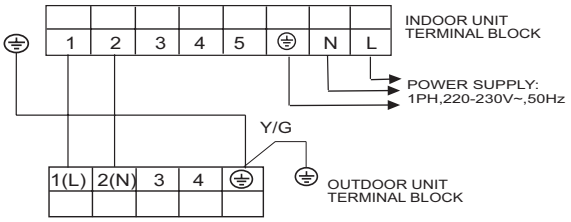


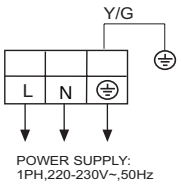


HDU-28HF03

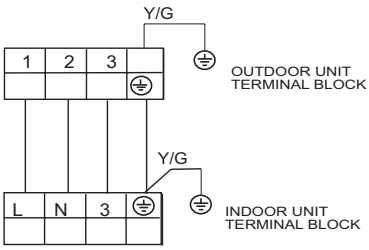


HDU-18CF03





HDU-28CF03



5.2 For High static pressure duct type (series 42, 50, 96)

1. Before installation [Before finishing installation, do not throw the attached parts installation needs]

- Confirm the way to move the unit to the installation place.
- Before moving the unit to the installation place, do not remove their packages.
  When have to remove the package, use a soft material or protection board with rope to lift the unit assembly to avoid unit damage or bumping a scrape.

2. Choose installation place

(1) The chosen installation place should meet the following requirements and get the user□s consent.

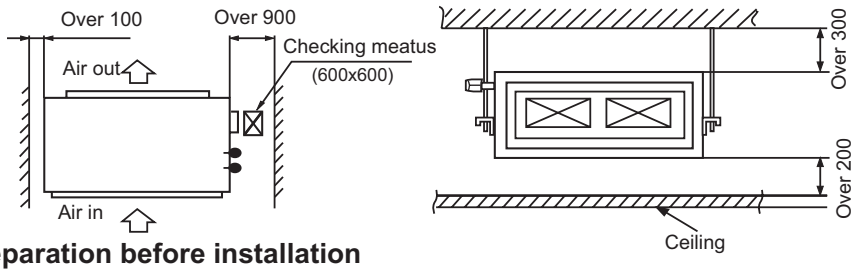
- Place ensures ideal airflow distribution.
- The passage of airflow has no obstacles.
- When importing outside air, it should be imported directly from outdoors. (if the pipe can not be extended, it also can not be imported from top)
- Place ensures enough space for maintenance.
- The pipe length between indoor and outdoor unit is in the permitted limit (referring to outdoor unit installation part).
- The indoor unit, outdoor unit, electric wire and connection wire is at least 1m away from television and radio. This is to avoid the image disturbance and noise caused by the above-mentioned home appliance. (Even if 1m away, if the electromagnetic wave is too strong, it can also cause noise.)

(2) The height of ceiling

- The indoor unit can install on the ceiling, which height is no more than 3m.

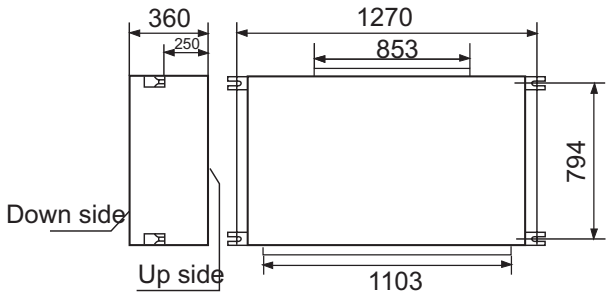
(3) Install and use the hoisting screw. Check if the installation place can bear the weight of unit assembly.

- If not certain, strengthen it before install the unit.

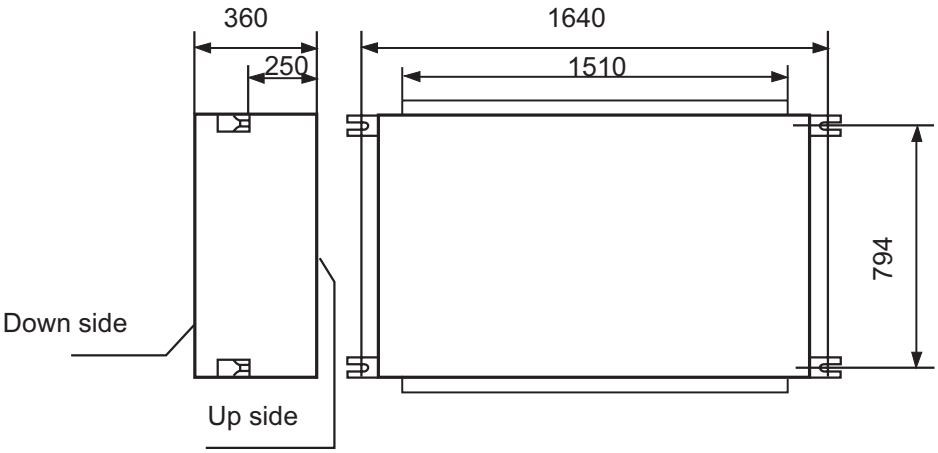


3. Preparation before installation

(1) The position relation among hoisting screw (unit: mm)



HDU-42CF03/H
HDU-42HF03/H
HDU-42CH03/H
HDU-42CI03/H
HDU-42HK03/H
HDU-50HT03/H



AD96NAHAEA

(2) If necessary, cut the opening installation and checking needed on the ceiling. (If has ceiling)

- Before installation, finish the preparation work of all the pipes (refrigerant, drainage) and wire (wire controller connection wire, indoor and outdoor unit connection wire) of indoor unit, so that after installation, they can be immediately connected with outdoor unit.
- Cut the opening on the ceiling. Maybe it needs to strengthen the ceiling to keep the ceiling even and flat and prevent the ceiling from vibration. For details, please consult to the builder.

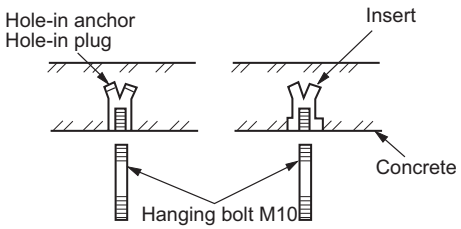
(3) Hanger bolts installation

- Use care of the piping direction when the unit is installed.

(Use M10 screw bolt)

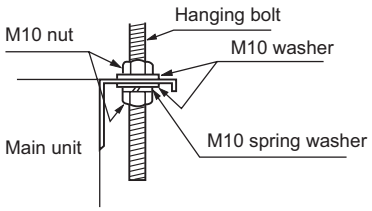
In order to bear the weight of the unit, for existed ceiling, using foundation screw bolt, for new ceiling, using burying embedded screw bolt, burying screw bolt or spot supplied other parts.

Before going on installation, adjust the gaps with ceiling.



4. Installation of indoor unit

- Fix the indoor unit to the hanger bolts.
  If required, it is possible to suspend the unit to the beam, etc. Directly by use of the bolts without using the hanger bolts.



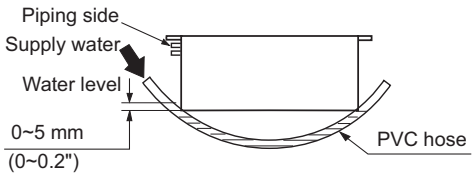
Note

When the dimensions of main unit and ceiling holes does not match, it can be adjusted with the slot holes of hanging bracket.

Adjusting to the levelness

(a) Adjust the out-of levelness using a level or by the following method.

- Make adjustment so that the relation between the lower surface of the unit proper and water level in the hose becomes as given below.



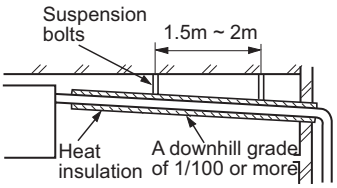
Bring the piping side slightly lower.

(b) Unless the adjustment to the levelness is made properly, malfunctioning or failure of the float switch may occur.

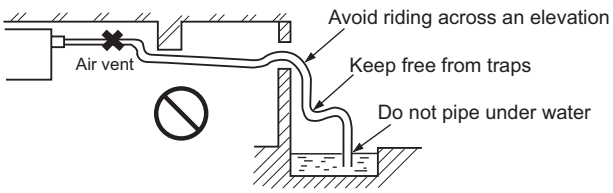
5. Drain Piping

(a) Drain piping should always be in a downhill grade (1/50~1/100) and avoid riding across an elevation or making traps.

- **Good piping**

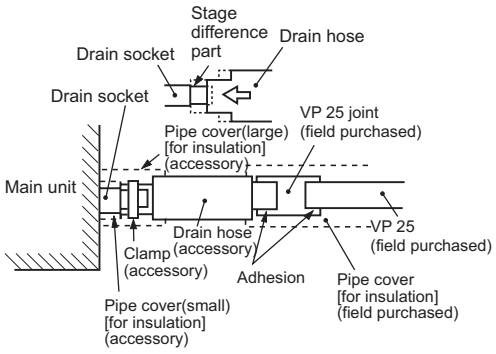


- **Improper piping**

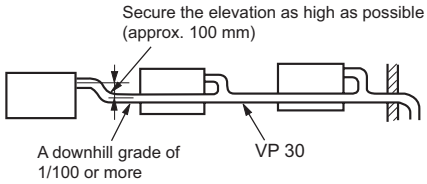


(b) When connecting the drain pipe to unit, pay suffcient attention not to apply excess force to the piping on the unit side. Also, fix the piping at a point as close as possible to the unit.

(c) For drain pipe, use hard PVC general purpose pipe VP-25(I.D.1") which can be purchased locally. When connecting, insert a PVC pipe end securely into the drain socket before tightening securely using the attached drain hose and clamp. Adhesive must not be used connection of the drain socket and drain hose (accessory).



(d) When constructing drain piping for several units, position the common pipe about 100 mm below the drain outlet of each unit as shown in the sketch. Use VP-30(11/4") or thicker pipe for this purpose.



(e) The stiff PVC pipe put indoor side should be heat insulated.

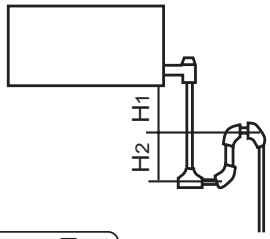
(f) Avoid putting the outlet of drain hose in the places with irritant gas generated. Do not insert the drain hose directly into drainage, where the gas with sulfur may be generated.

(g) Backwater bend

Because the drain spout is at the position, which negative pressure may occur. So with the rise of water level in the drain pan, water leakage may occur. In order to prevent water leakage, we designed a backwater bend.

The structure of backwater bend should be able to be cleaned. As the below figure shown, use T type joint. The backwater bend is set near the air conditioner.

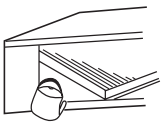
- As figure shown, set a backwater bend in the middle of drain hose.



H1=100mm or the static pressure of air sending motor
H2=1/2H1 (or between 50~100mm)

Drainage Test

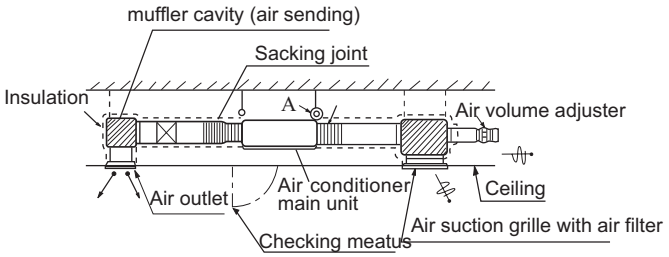
① Conduct a drainage test after completion of the electrical work.
② During the trial, make sure that drain flows properly through the piping and that no water leaks from connections.
③ In case of a new building, conduct the test before it is furnished with the ceiling.
④ Be sure to conduct this test even when the unit is installed in the heating season.

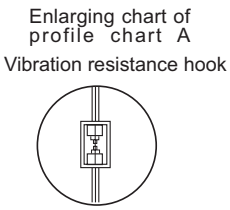


Procedures

① Supply about 1000 cc of water to the unit through the air outlet using a feed water pump.
② Check the drain while cooling operation.

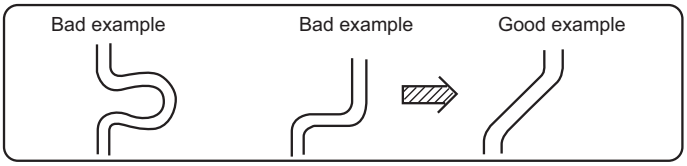
6. Installation of air suction and discharging duct





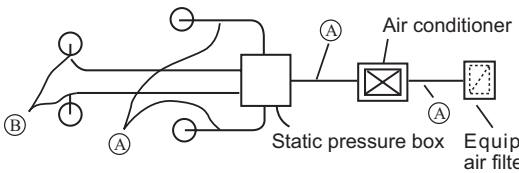
Please consult the after-sales service worker of Haier Air Conditioner for the choosing and installation of suction inlet, suction duct, discharging outlet and discharging duct. Calculating the design drawing and outer static pressure, and choose the discharging duct with proper length and shape.

- The length difference among every duct is limited below 2:1.
- Reduce the length of duct as possible as can.
- Reduce the amount of bend as possible as can.
- Use heat insulation material to bind and seal the part connecting main unit and the flare part of air discharging duct. Perform duct installation work, before the ceiling fit.



7. Calculation method of the dimension of the simple quadrate air duct

Presuming the unit length friction impedance of the duct is 1Pa/m, when the dimension of one side of the air duct is fixed as 250mm, as shown below:



For HDU-42/50*

	Air volume	Duct(mmxmm)
Ⓐ	2400m³/h	250x560
Ⓑ	2000m³/h	250x470

For AD96NAHAEA and AU96NATAEA

	Air volume	Duct(mmxmm)	Air volume	Duct(mmxmm)
Ⓐ	2400m³/h (40m³/min)	250x560	1200m³/h (20m³/min)	250x310
Ⓑ	600m³/h (10m³/min)	250x190	300m³/h (5m³/min)	250x120

- **The calculation of duct resistance (the simple calculation is as follow table)**

Straight part	Calculate as per 1m length 1Pa, 1Pa/m
Bend part	Each bend takes as a3~4m long straight duct
Air out part	Calculate as 25Pa
Static pressure box	Calculate as 50Pa/each
Air inlet grille (with air filter)	Calculate as 40Pa/each

- **The chosen chart of simple duct**

Note:1Pa/m=0.1mmAg/m

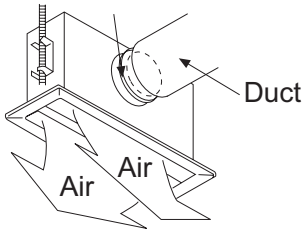
Shape / Item / Air volume	Square duct Dimension
$m^3/h(m^3/n)$	(mmxmm)
100	250 x 60
200	250 x 90
300	250 x 120
400	250 x 140
500	250 x 170
600(10)	250 x 190
800	250 x 230
1,000	250 x 270
1,200(20)	250 x 310
1,400	250 x 350
1,600	250 x 390

Shape / Item / Air volume	Square duct Dimension
$m^3/h(m^3/n)$	(mmxmm)
1,800(30)	250 x 430
2000	250 x 470
2400	250 x 560
3,000(50)	250 x 650
3,500	250 x 740
4,000	250 x 830
4,500	250 x 920
5,000	250 x 1000
5,500	250 x 1090
6,000(100)	250 x 1180

8. The attentive matters in installation of air suction and discharging duct

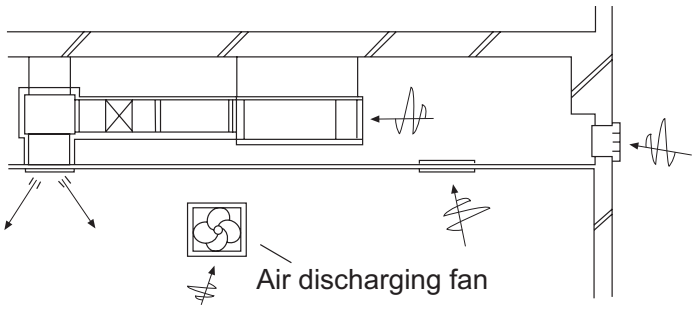
- Recommend to use anti-frost and sound-absorbing duct. (locally bought)
- The duct installation work should be finished before the fitment of ceiling.
- The duct must be heat insulated.
- The specific air-discharging outlet should be installed at the place where the airflow can be reasonably distributed.
- The surface should leave a checking meatus for checking and maintenance.

Special air discharging outlet
Use screw bolt to fix



9. The examples of improper installation

- Do not use air in duct and take the ceiling inner side instead. The result is because of the irregular outer air mass, strong wind and sunshine, the humidity is increased.
- There may be water drop on the outside of duct. For cement and other new constructions, even if not taking ceiling inner side as duct, the humidity will also be so high. At this time, use glass fiber to perform heat preservation to the whole. (use iron net to bind the glass fiber)
- Maybe exceeding the unit operation limit (for example: when indoor dry bulb temperature is 35degree, web bulb temperature is 24degree), it may lead to overload of compressor.
- Affected by the capacity of air discharging fan, the strong wind in the outer duct and wind direction, when unit air sending volume exceeds the limit, the discharged water of heat exchanger will overflow, leading to water leakage.



Improper example

10. The operation method of fan controller

Through the fan controller switch in the electric box, the air volume of this unit can be continuously adjusted.
It is unnecessary to adjust air volume through the duct side wind level (unit outside static adjustment).
The air volume set should be in the operation air volume range.
Figure I shows the position of fan controller in the electric box and operation method.
After finishing the electric work, perform test run. According to the main points in Figure II making the chosen switch No. accordant. And confirm if it reaches the needed air volume.

Note:

1) When operating the fan controller, it is possible to touch the electric charging part, so do cut off the power supply.
2) Do not set the dial at the position less than 1.
3) The figure circled in Figure II indicate the capacity number of fan controller. The non-listed capacity number may exceed the permitted operation capacity range, so it is impossible to operate.
4) When delivering from factory, the capacity number of fan controller is set at □No.5□.

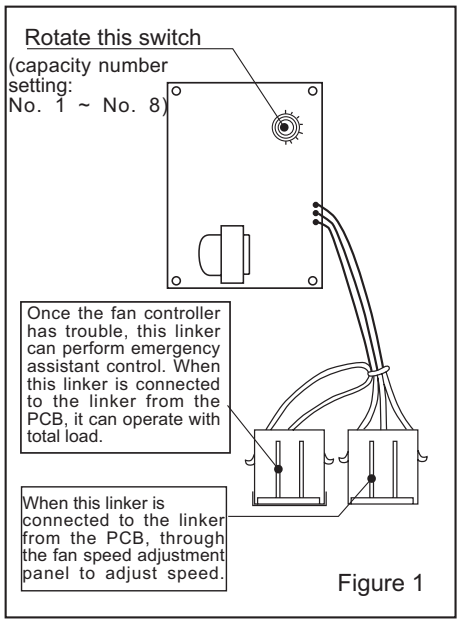


Figure 1

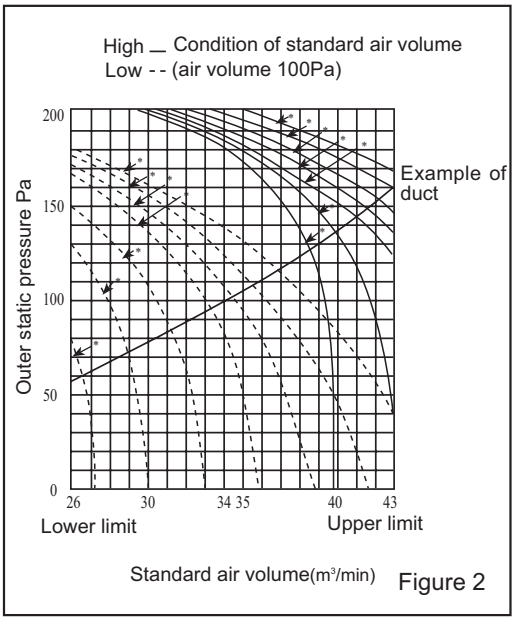


Figure 2

● The example of the method of choosing capacity number:

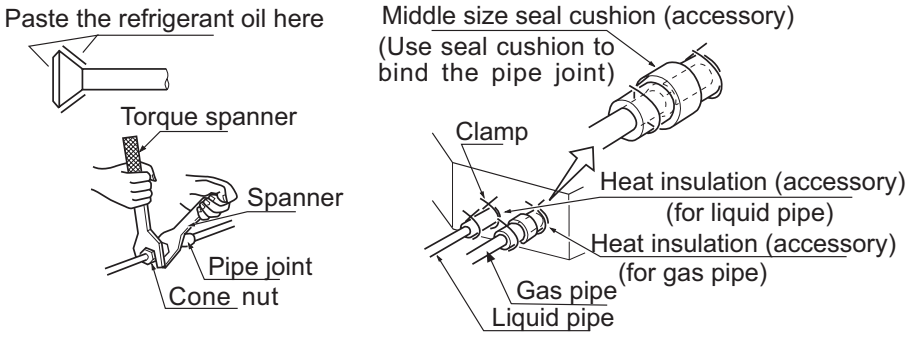
1) If the unit is in high-speed operation, needing take outer static pressure is 180Pa in capacity air volume 34m^3/min as working condition point, according to Figure II □The characteristic chart of air volume□, the capacity number of fan controller is No. 2.
2) If the unit is in low speed operation, needing take outer static pressure is 60Pa in capacity air volume 32m^3/min as working condition point, according to Figure II □The characteristic chart of air volume□, the capacity number of fan controller is No. 4.

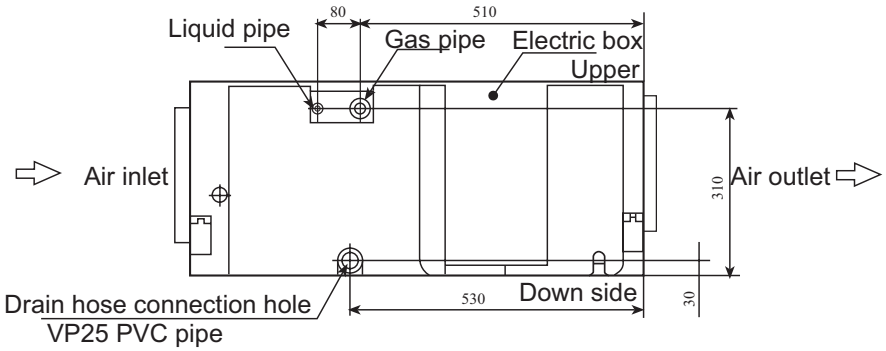
11. Refrigerant pipe

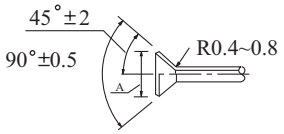
[The air side pipe, liquid side pipe must be faithfully heat insulated, if no heat insulation, it may cause water leakage.]

● The outdoor unit has been charged with refrigerant.

- When connect the pipe to the unit or dismantling the pipe from the unit, please follow the figure shown, use spanner and torque spanner together.
- When connect cone nut, the inner side and outside of cone nut should paste with refrigerant oil. Use hand to twist 3-4 rings, then fasten with spanner.
- Referring to Table I to confirm the fasten torque. (too tight may damage nut leading to leakage)
- Check if the connection pipe leaks, then do heat insulation treatment, as below figure shown.
- Only use seal cushion to bind the joint part of air pipe and heat insulation parts.





Specification of pipe (mm)	Tighten torque	Cone dimension A (mm)	Cone
Φ 9.52	3270~3990 N·cm (333~407 kgf·cm)	12.0~12.4	
Φ 15.88	6180~7540 N·cm (630~770 kgf·cm)	18.6~19.0	
Φ 19.05	9720~11860 N·cm (990~1210 kgf·cm)	22.9~23.3	

5. Electric wiring

⚠WARNING

DANGER OF BODILY INJURY OR DEATH

TURN OFF ELECTRIC POWER AT CIRCUIT BREAKER OR POWER SOURCE BEFORE MAKING ANY ELECTRIC CONNECTIONS. GROUND CONNECTIONS MUST BE COMPLETED BEFORE MAKING LINE VOLTAGE CONNECTIONS.

(1) Selection of size of power supply and interconnecting wires.

Precautions for Electric wiring

- Electric wiring work should be conducted only by authorized personnel.
- Do not connect more than three wires to the terminal block. Always use round type crimped terminal lugs with insulated grip on the ends of the wires.
- Use copper conductor only.

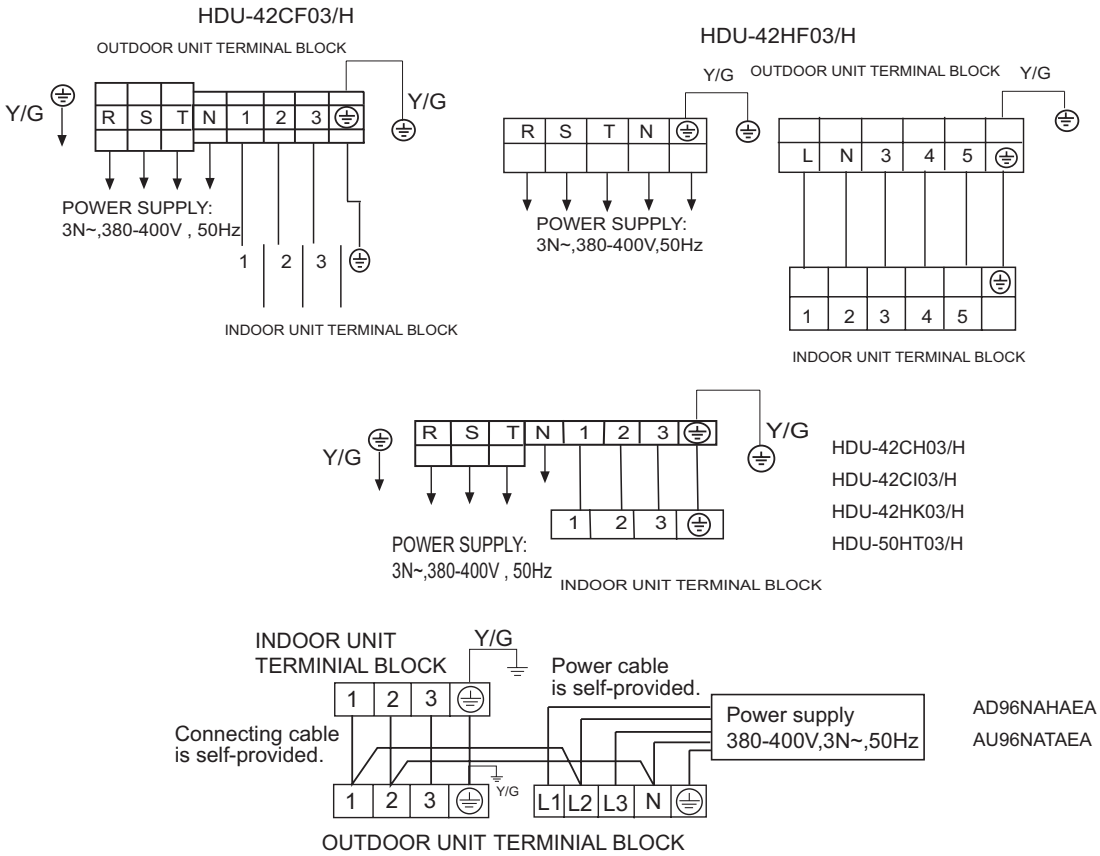
Select wire sizes and circuit protection from table below. (This table shows 20 m length wires with less than 2% voltage drop.)

Item / Model	Phase	Circuit breaker		Power source wire size	Earth leakage breaker	
		Switch breaker (A)	Overcurrent protector		Switch break	Leak curren
HDU-42CF03/H HDU-42CH03/H HDU-42HF03/H HDU-42CI03/H HDU-50HT03/H HDU-42HK03/H	3	30	20	2.5mm^2	30	30mA
AU96NATAEA AD96NAHAEA	3	40	30	6.0mm^2	30	30mA

(2) Wiring connection

Make wiring to supply power to the outdoor unit, so that the power for the indoor unit is supplied by terminals.

Note: For HDU-42CF03/H, HDU-42HF03/H, remember to connect the black terminal of indoor unit with the black terminal of outdoor unit properly using the connecting wire in the accesory bag, and connect the blue terminal of indoor unit with the white terminal of out terminal as the same (For heat pump model). For cooling only unit, just connect the black terminalof indoor unit with the black terminal of outdoor unit properly. Otherwise the wired controller will display "E4" or "E6" malfunction.



Cabinet indoor unit

(HPU-42~HPU-48 and AP96NACAEA)

1. Features

Long Distance Air Sending

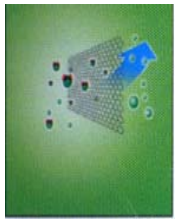
Wide angle 180 kinds of air sending modes, and the distance of air sending can reach to 15m

Auxiliary Electric Heating Function

The unit has a optional auxiliary electric heating function, so if the outdoor temperature is too low, it can be used normally, and heating rapidly

Optional Healthy Module

Healthy Nanometer silver ion filter,Ionizer to bring The refreshing air to your room. Enjoy the feeling of a forest at home.

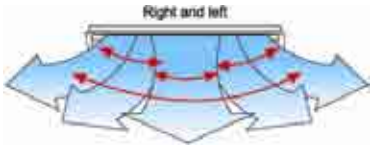


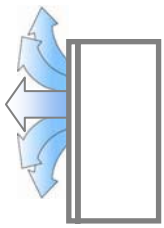
Photic bacteria-killing medium function,it can absorb deleterious gas generated by fitment.

Fresh air function can realize air convection between inside and outside, not only ensure indoor air fresh, but also make interior air keep plus pressure, avoid dirty air enter the room.(need to handtailor)

3-D airflow (for HPU-42CV03, HPU-42HV03 and HPU-48HV03)

The air conditioner adopts two stepping motors to combines vertical and horizontal auto-swing to circulate cool/warm air to the every corner of the room





New Structure Design

Patent “H” shape appearance design and entire closed type air outlet grille, add elegance to any style of interior

Bigger LCD Screen

The cabinet type with the model of HPU-42CV03 HPU-42HV03 and HPU-48HV03 has a very big LCD screen, so operation state of the unit will be clear at a glance, it is very convenient to use

2. Specifications

item				Model		HPU-42CF03	
Function						cooling	heating
Capacity					BTU/h	41000	----
Capacity					kW	12.0	
Sensible heat ratio						75%	----
Total power input					W	4700	----
Max. power input					W	5200	----
EER or COP					W/W	2.55	----
Dehumidifying capacity					10 - ³×m³/h	5.0	
Power cable					section	5×2.5mm^2	
Signal cable					section	4×0.75mm^2	
Connecting cable					section		
Power source					N, V, Hz	3, 380-400V, 50HZ	
Running /Max.Running current					A / A	Cooling 8.5/9.3	
Start Current					A	50	
Class of anti electric shock						CLASS I	
Circuit breaker					A	30	
Max. operating pressure of heat side					Mpa	2.8	
Max. operating pressure of cold side					Mpa	2.8	
Indoor unit	Unit model (color)					HPU-42CF03(IDOOR) (WHITE)	
	Fan	Type × Number				centrifugal × 1	
		Speed(H-M-L)			r/min	540/380/320	
		Fan motor output power			kW	0.15	
		Air-flow(H-M-L)			m³/h	1560	
	Heat exchanger	Type / Diameter			mm	inner grooved/φ7	
		Row/ Fin pitch				2 / 1.45	
		Temp. scope			℃	cooling: 43~60 heating: 2~7	
	Dimension	External	(L×W×H)		mm×mm×mm	1820×530×310	
		Package	(L×W×H)		mm×mm×mm	1905×625×415	
	Air sending angle					160	
	Control type (Remote /wired /model)					Remote	
	Noise level (H-M-L)				dB(A)	56/46/40	
	Weight (Net / Shipping)				kg / kg	60/64	
Outdoor unit	Unit model (color)					HPU-42CF03(OUTDOOR) (WHITE)	
	Compressor	Model / Manufacture				JT160BCBY1L / DAIKIN	
		Oil model				SUNISO 4GSDID-K/DAPHNE SE56P	
		Oil charging				1500-1700	
		Type				SCROLL	
		Protection type				Inner thermal protection	
		Starting method				direct start	
	Fan	Type × Number				Axial*1	
		Speed			r/min	740	
		Fan motor output power			kW	0.15	
		Air-flow(H-M-L)			m³/h	6000	
	Heat exchanger	Type / Diameter			mm	inner grooved/φ9.52	
		Row / Fin pitch				2/1.65	
		Temp. scope			℃	cooling: 43~60 / heating: 2~7	
	Dimension	External	(L×W×H)		mm×mm×mm	1008×447×830	
		Package	(L×W×H)		mm×mm×mm	1130×490×930	
	Refrigerant control method				mm/mm	Capillary tube	
	Defrosting					Automatic	
	Noise level				dB(A)	59	
	Weight (Net / Shipping)				kg / kg	92/100	
PIPING	Refrigerant	Type / Charge			g	R22/3150	
		Recharge			g/m	75	
	Pipe	Liquid			mm	φ9.52	
		Gas			mm	φ19.05	
	Connecting Method					Flared	
	Between I.D &O.D	MAX.Drop			m	30	
		MAX.Piping length			m	50	

item				Model	HPU-42HF03	
Function					cooling	heating
Capacity				BTU/h	41000	44000
Capacity				kW	12.0	13.0
Sensible heat ratio					75%	
Total power input				W	4700	4850
Max. power input				W	5200	5600
EER or COP				W/W	2.55	2.68
Dehumidifying capacity				10 - ³×m³/h	5.0	
Power cable				section	5×2.5mm^2	
Signal cable				section	4×0.75mm^2	
Connecting cable				section		
Power source				N, V, Hz	3, 380-400V, 50HZ	
Running /Max.Running current				A / A	Cooling 8.5/9.3 Heating 8.8/9.6	
Start Current				A	50	
Class of anti electric shock					CLASS I	CLASS I
Circuit breaker				A	30	30
Max. operating pressure of heat side				Mpa	2.8	2.8
Max. operating pressure of cold side				Mpa	2.8	2.8
Indoor unit	Unit model (color)				HPU-42HF03(IDOOR) (WHITE)	
	Fan	Type × Number			centrifugal × 1	
		Speed(H-M-L)		r/min	540/380/320	
		Fan motor output power		kW	0.15	
		Air-flow(H-M-L)		m³/h	1560	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ7	
		Temp. scope		℃	cooling: 43~60 heating:2~7	
	Dimension	External	（L×W×H）	mm×mm×mm	1820×530×310	
		Package	（L×W×H）	mm×mm×mm	1905×625×415	
	Air sending angle				160	
	Control type (Remote /wired /model)				Remote	
	Noise level (H-M-L)			dB(A)	56/46/40	
	Weight (Net / Shipping)			kg / kg	60/64	
Outdoor unit	Unit model (color)				HPU-42HF03(OUTDOOR) (WHITE)	
	Compressor	Model / Manufacture			JT160BCBY1L / DAIKIN	
		Oil model			SUNISO 4GSDID-K/DAPHNE SE56P	
		Oil charging			1500-1700	
		Type			SCROLL	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial*1	
		Speed		r/min	740	
		Fan motor output power		kW	0.15	
		Air-flow(H-M-L)		m³/h	6000	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
		Row / Fin pitch			2/1.65	
		Temp. scope		℃	cooling: 43~60 / heating: 2~7	
	Dimension	External	（L×W×H）	mm×mm×mm	1008×447×830	
		Package	（L×W×H）	mm×mm×mm	1130×490×930	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				Automatic	
	Noise level			dB(A)	59	
	Weight (Net / Shipping)			kg / kg	94/102	
PIPING	Refrigerant	Type / Charge		g	R22/3150	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ19.05	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	30	
		MAX.Piping length		m	50	

item				Model	HPU-42CV03	
Function					cooling	heating
Capacity				BTU/h	41000	----
Capacity				kW	12.0	
Sensible heat ratio					70%	----
Total power input				W	3700	----
Max. power input				W	4400	----
EER or COP				W/W	3.24	----
Dehumidifying capacity				10 - ³×m³/h	5.0	
Power cable				section	5G×2.5mm^2	
Signal cable				section	4G×0.75mm^2	
Connecting cable				section		
Power source				N, V, Hz	3N，380-400V，50HZ	
Running /Max.Running current				A / A	Cooling 6.9A/7.8A	
Start Current				A	50	
Class of anti electric shock					CLASS I	----
Circuit breaker				A	20	
Max. operating pressure of heat side				Mpa	2.8	----
Max. operating pressure of cold side				Mpa	2.8	----
Indoor unit	Unit model (color)				HPU-42CV03(WHITE)	
	Fan	Type × Number			centrifugal × 1	
		Speed(H-M-L)		r/min	430/405/370	
		Fan motor output power		kW	0.09	
		Air-flow(H-M-L)		m³/h	1750	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ7	
		Total Area		m²	0.45	
	Dimension	External	（L×W×H）	mm×mm×mm	1850×600×350	
		Package	（L×W×H）	mm×mm×mm	1980×660×420	
	Control type (Remote /wired /model)				Remote	
	Noise level (H-M-L)			dB(A)	51/48/44	
	Weight (Net / Shipping)			kg / kg	59/70	
Outdoor unit	Unit model (color)				HPU-42CV03(WHITE)	
	Compressor	Model / Manufacture			VR54KS-TFP-542/COPELAND	
		Oil type			3GS	
		Oil charging			1360CC	
		Type			SCROLL	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial*2	
		Speed		r/min	840	
		Fan motor output power		kW	0.06	
		Air-flow(H-M-L)		m³/h	6000	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
		Row / Fin pitch			2/1.6	
	Dimension	External	（L×W×H）	mm×mm×mm	948*340*1250	
		Package	（L×W×H）	mm×mm×mm	1090*410*1350	
	Refrigerant control method			mm/mm	Capillary tube	
	Noise level			dB(A)	59	
	Weight (Net / Shipping)			kg / kg	106/111	
PIPING	Refrigerant	Type / Charge		g	R22/3400	
		Recharge quantity		g/m	75	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ19.05	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	30	
		MAX.Piping length		m	50	

item				Model		HPU-42HV03	
Function						cooling	heating
Capacity					BTU/h	41000	44000
Capacity					kW	12.0	13.0
Sensible heat ratio						70%	
Total power input					W	3700	4000
Max. power input					W	4400	4900
EER or COP					W/W	3.24	3.25
Dehumidifying capacity					10 - ³×m³/h	5.0	
Power cable					section	5G×2.5mm^2	
Signal cable					section	4G×0.75mm^2	
Connecting cable					section		
Power source					N, V, Hz	3N，380-400V，50HZ	
Running /Max.Running current					A / A	Cooling 6.9A/7.8A Heating 7.0/8.3	
Start Current					A	50	
Class of anti electric shock						CLASS I	CLASS I
Circuit breaker					A	20	
Max. operating pressure of heat side					Mpa	2.8	2.8
Max. operating pressure of cold side					Mpa	2.8	2.8
Indoor unit	Unit model (color)					HPU-42HV03(WHITE)	
	Fan	Type × Number				centrifugal × 1	
		Speed(H-M-L)			r/min	430/405/370	
		Fan motor output power			kW	0.09	
		Air-flow(H-M-L)			m³/h	1750	
	Heat exchanger	Type / Diameter			mm	inner grooved/φ7	
		Total Area			m²	0.45	
	Dimension	External	（L×W×H）		mm×mm×mm	1850×600×350	
		Package	（L×W×H）		mm×mm×mm	1980×660×420	
	Control type (Remote /wired /model)					Remote	
	Noise level (H-M-L)				dB(A)	51/48/44	
	Weight (Net / Shipping)				kg / kg	59/70	
Outdoor unit	Unit model (color)					HPU-42HV03(WHITE)	
	Compressor	Model / Manufacture				VR54KS-TFP-542/COPELAND	
		Oil type				3GS	
		Oil charging				1360CC	
		Type				SCROLL	
		Protection type				Inner thermal protection	
		Starting method				direct start	
	Fan	Type × Number				Axial*2	
		Speed			r/min	840	
		Fan motor output power			kW	0.06	
		Air-flow(H-M-L)			m³/h	6000	
	Heat exchanger	Type / Diameter			mm	inner grooved/φ9.52	
		Row / Fin pitch				2/1.6	
	Dimension	External	（L×W×H）		mm×mm×mm	948*340*1250	
		Package	（L×W×H）		mm×mm×mm	1090*410*1350	
	Refrigerant control method				mm/mm	Capillary tube	
	Defrosting					Automatic	
	Noise level				dB(A)	59	
	crankcase heater power				W	40	
	Weight (Net / Shipping)				kg / kg	106/111	
PIPING	Refrigerant	Type / Charge			g	R22/3400	
		Recharge quantity			g/m	75	
	Pipe	Liquid			mm	φ9.52	
		Gas			mm	φ19.05	
	Connecting Method					Flared	
	Between I.D &O.D	MAX.Drop			m	30	
		MAX.Piping length			m	50	

item				Model		HPU-48HV03	
Function						cooling	heating
Capacity					BTU/h	48000	52000
Capacity					kW	14.0	15.4
Sensible heat ratio						70%	
Total power input					W	4300	4740
Max. power input					W	5150	5680
EER or COP					W/W	3.24	3.25
Dehumidifying capacity					10 - ³×m³/h	5.0	
Power cable					section	5G×2.5mm^2	
Signal cable					section	4G×0.75mm^2	
Connecting cable					section		
Power source					N, V, Hz	3N，380-400V，50HZ	
Running /Max.Running current					A / A	Cooling 7.5A/9.0A Heating 8.3/9.9A	
Start Current					A	50	
Class of anti electric shock						CLASS I	CLASS I
Circuit breaker					A	20	
Max. operating pressure of heat side					Mpa	2.8	2.8
Max. operating pressure of cold side					Mpa	2.8	2.8
Indoor unit	Unit model (color)					HPU-48HV03(WHITE)	
	Fan	Type × Number				centrifugal × 1	
		Speed(H-M-L)			r/min	430/405/370	
		Fan motor output power			kW	0.09	
		Air-flow(H-M-L)			m³/h	1750	
	Heat exchanger	Type / Diameter			mm	inner grooved/φ7	
		Total Area			m²	0.45	
	Dimension	External	（L×W×H）		mm×mm×mm	1850×600×350	
		Package	（L×W×H）		mm×mm×mm	1980×660×420	
	Control type (Remote /wired /model)					Remote	
	Noise level (H-M-L)				dB(A)	51/48/44	
	Weight (Net / Shipping)				kg / kg	59/70	
Outdoor unit	Unit model (color)					HPU-48HV03(WHITE)	
	Compressor	Model / Manufacture				VR54KS-TFP-542/COPELAND	
		Oil type				3GS	
		Oil charging				1360CC	
		Type				SCROLL	
		Protection type				Inner thermal protection	
		Starting method				direct start	
	Fan	Type × Number				Axial*2	
		Speed			r/min	840	
		Fan motor output power			kW	0.06	
		Air-flow(H-M-L)			m³/h	6000	
	Heat exchanger	Type / Diameter			mm	inner grooved/φ9.52	
		Row / Fin pitch				2/1.6	
	Dimension	External	（L×W×H）		mm×mm×mm	948*340*1250	
		Package	（L×W×H）		mm×mm×mm	1090*410*1350	
	Refrigerant control method				mm/mm	Capillary tube	
	Defrosting					Automatic	
	Noise level				dB(A)	59	
	crankcase heater power				W	40	
	Weight (Net / Shipping)				kg / kg	106/111	
PIPING	Refrigerant	Type / Charge			g	R22/3400	
		Recharge quantity			g/m	75	
	Pipe	Liquid			mm	φ9.52	
		Gas			mm	φ19.05	
	Connecting Method					Flared	
	Between I.D &O.D	MAX.Drop			m	30	
		MAX.Piping length			m	50	

item				Model	HPU-42CH03	
Function					cooling	heating
Capacity				BTU/h	41000	/
Capacity				kW	12.0	/
Sensible heat ratio					70%	
Total power input				W	4700	/
Max. power input				W	5200	/
EER or COP				W/W	2.55	/
Dehumidifying capacity				10 - ³×m³/h	5.0	
Power cable				section	5G×2.5mm^2	
Signal cable				section	4G×0.75mm^2	
Connecting cable				section		
Power source				N, V, Hz	3N，380-400V，50HZ	
Running /Max.Running				A / A	Cooling 8.5A/9.3A	
Start Current				A	50	
Class of anti electric shock					CLASS I	/
Circuit breaker				A	20	
Max. operating pressure of heat side				Mpa	2.8	/
Max. operating pressure of cold side				Mpa	2.8	/
Indoor unit	Unit model (color)				HPU-42CH03(WHITE)	
	Fan	Type × Number			centrifugal*1	
		Speed(H-M-L)		r/min	540/380/320	
		Fan motor output power		kW	0.1	
		Air-flow(H-M-L)		m³/h	1560	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ7	
		Temp. scope		℃	2---7	
	Dimension	External	（L×W×H）	mm×mm×mm	1820× 530× 310	
		Package	（L×W×H）	mm×mm×mm	1905×625×415	
	Air sending angle				160	
	Control type (Remote /wired /model)				Remote	
	Outlet distribution hole dimension			mm	70	
	Noise level (H-M-L)			dB(A)	56/46/40	
	Weight (Net / Shipping)			kg / kg	52/61	
Outdoor unit	Unit model (color)				HPU-42CH03(WHITE)	
	Compressor	Model / Manufacture			JT160GABY1L/XIANDAKIN	
		Oil model			R22	
		Oil type			DAPHNE SE56P	
		Oil charging			1400CC	
		Type			SCROLL	
		Protection type			Inner thermal protection	
		Starting method			direct start	
	Fan	Type × Number			Axial*1	
		Speed		r/min	740	
		Fan motor output power		kW	0.15	
		Air-flow(H-M-L)		m³/h	5500	
	Heat exchanger	Type / Diameter		mm	inner grooved/φ9.52	
		Row / Fin pitch			2/1.6	
		Temp. scope		℃	43---60	
	Dimension	External	（L×W×H）	mm×mm×mm	1008×447×830	
		Package	（L×W×H）	mm×mm×mm	1130×490×930	
	Refrigerant control method			mm/mm	Capillary tube	
	Volume of Accumulator			L	2.5	
	Noise level			dB(A)	59	
	Weight (Net / Shipping)			kg / kg	91/100	
PIPING	Refrigerant	Type / Charge		g	R22/3150	
		Recharge quantity		g/m	75	
	Pipe	Liquid		mm	φ9.52	
		Gas		mm	φ19.05	
	Connecting Method				Flared	
	Between I.D &O.D	MAX.Drop		m	30	
		MAX.Piping length		m	50	

item				Model		HPU-42HI03	
Function						cooling	heating
Capacity					BTU/h	41000	44000
Capacity					KW	12.0	14.0
Sensible heat ratio						70%	
Total power input					W	4600	5000
Max. power input					W	5400	5800
EER or COP					W/W	2.6	2.8
Dehumidifying capacity					10 - ³×m³/h	5.0	
Power cable					section	5G×2.5mm^2	
Signal cable					section	4G×0.75mm^2	
Connecting cable					section		
Power source					N, V, Hz	3N，380-400V，50HZ	
Running /Max.Running					A / A	Cooling 7.8A/10.4A Heating 8.4/10.6A	
Start Current					A	50	
Class of anti electric shock						CLASS I	CLASS I
Circuit breaker					A	20	
Max. operating pressure of heat side					Mpa	2.8	2.8
Max. operating pressure of cold side					Mpa	2.8	2.8
Indoor unit	Unit model (color)					HPU-42HI03(WHITE)	
	Fan	Type × Number				centrifugal*1	
		Speed(H-M-L)			r/min	540/380/320	
		Fan motor output power			kW	0.15	
		Air-flow(H-M-L)			m³/h	1560	
	Heat exchanger	Type / Diameter			mm	inner grooved/φ7	
		Temp. scope			℃	2---7	
	Dimension	External	（L×W×H）		mm×mm×mm	1820×530×340	
		Package	（L×W×H）		mm×mm×mm	1952×660×455mm	
	Air sending angle					160	160
	Control type (Remote /wired /model)					Remote	
	Outlet distribution hole dimension				mm	70	
	Noise level (H-M-L)				dB(A)	56/46/40	
	Weight (Net / Shipping)				kg / kg	52/61	
Outdoor unit	Unit model (color)					HPU-42HI03(WHITE)	
	Compressor	Model / Manufacture				JT160GABY1L/XIAN DAKIN	
		Oil model				R22	
		Oil type				DAPHNE SE56P	
		Oil charging				1400CC	
		Type				SCROLL	
		Protection type				Inner thermal protection	
		Starting method				direct start	
	Fan	Type × Number				Axial*2	
		Speed			r/min	840	
		Fan motor output power			kW	0.06	
		Air-flow(H-M-L)			m³/h	6000	
	Heat exchanger	Type / Diameter			mm	inner grooved/φ9.52	
		Row / Fin pitch				2/1.6	
		Temp. scope			℃	43--60	
	Dimension	External	（L×W×H）		mm×mm×mm	1250×960×380	
		Package	（L×W×H）		mm×mm×mm	1375×1080×440	
	Refrigerant control method				mm/mm	Capillary tube	
	Defrosting					Automatic	
	Volume of Accumulator				L	2.5	
	Noise level				dB(A)	59	
	Type of Four way valve					DHF	
	crankcase heater power				W	40	
	Weight (Net / Shipping)				kg / kg	101/112	
PIPING	Refrigerant	Type / Charge			g	R22/3580	
		Recharge quantity			g/m	75	
	Pipe	Liquid			mm	φ9.52	
		Gas			mm	φ19.05	
	Connecting Method					Flared	
	Between I.D &O.D	MAX.Drop			m	30	
		MAX.Piping length			m	50	

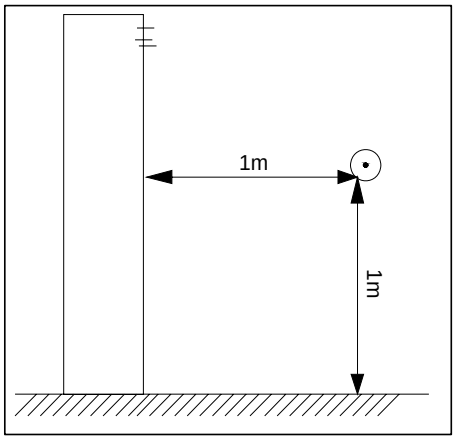
item				Model	AP96NACAEA	
Function					cooling	heating
Capacity				BTU/h	92000	96000
Capacity				kW	27000	28000
Sensible heat ratio					75%	/
Total power input				W	10000	9000
Max. power input				W	13000	13000
EER or COP				W/W	2.70	3.11
Dehumidifying capacity				10 - ³×m³/h	10	
Power source				N，V，Hz	1，220-230，50	
Running /Max.Running current				A / A	cooling 18/22.8 heating16.5/22.8	
Start Current				A	80A	
Indoor unit	Unit model (color)				AP96NACAEA	
	Fan	Type × Number			Centrifigal×2	
		Speed(H-M-L)		r/min	490±50/300±40/260±30	
		Fan motor output power		W	120W*2	
		Air-flow(H-M-L)		m³/h	4800	
	Heat exchanger	Type / Diameter		mm	TP2M/Φ9.52	
		Total Area		m²	0.41	
		Temp. scope		℃	2-7	
	Dimension	External	（L×W×H）	mm×mm×mm	1200*320*1850	
		Package	（L×W×H）	mm×mm×mm	1360*510*2030	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 18/20	
	Control type (Remote /wired)				Remote	
	Electricity Heater			kW	0	
	Noise level (H-M-L)			dB(A)	58/-/51	
	Weight (Net / Shipping)			kg / kg	102/115	

Norminal condition: indoor temperature (cooling): 27℃DB/19℃WB, indoor temperature (heating): 20℃DB
Outdoor temperature(cooling): 35℃DB/24℃WB, outdoor temperature(heating): 7℃DB/6℃WB
The noise level will be measured in the third octave band limited values, using a Real Time Analyser calibrated sound intensity meter. It is a sound pressure noise level. The detailed method please refer to the following information:

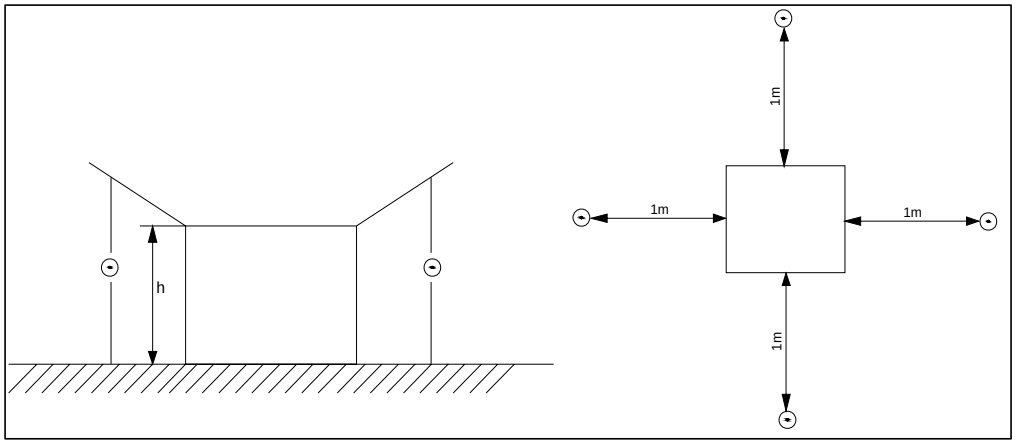
Installation state: the unit should be placed on the flat floor or be mounted in horizontal direction.

Testing method:

standing-on-floor unit: If the unit cooling capacity is over 28000W, the noise level should be measured at the front, left, right directions respectively.



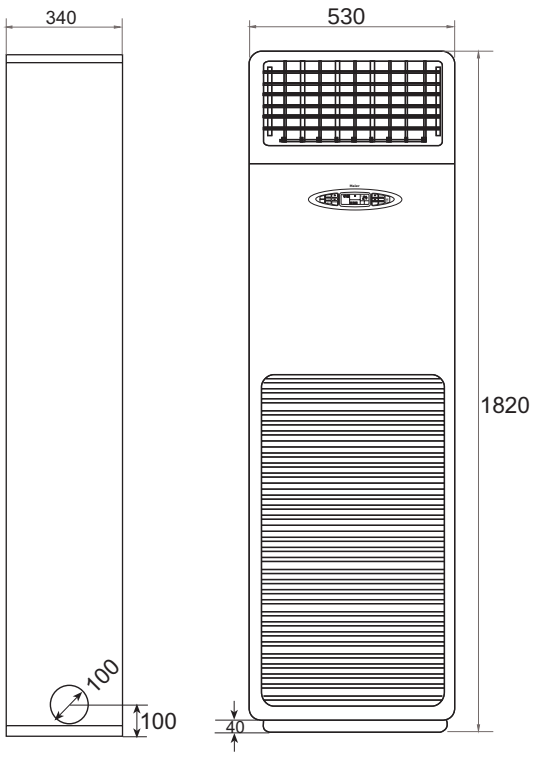
outdoor unit:
1.air outlet from side: the noise level is the average sound pressure level measured from front, left, right directions.
2.air outlet from top: the noise level is the average sound pressure level measured from front, back, left, right directions.
measured point:
H (height to the ground) = (h (unit height) + 1m) /2
and, it is 1m to each side.



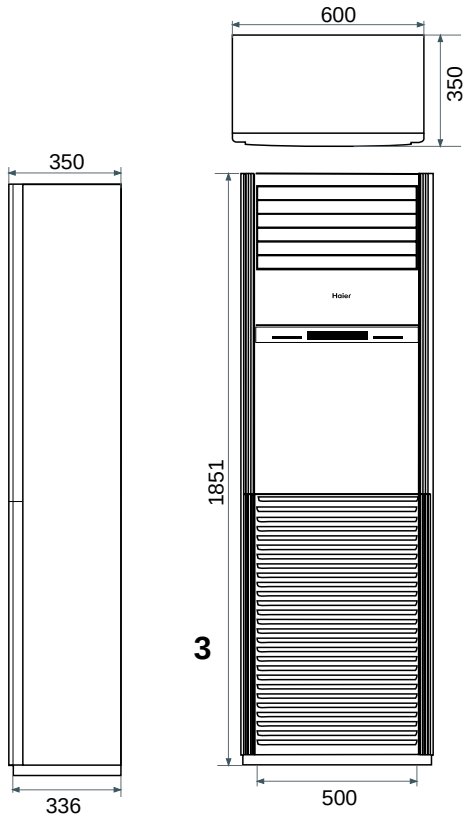
Note: ⊙ is the real time analyser position

3. Dimension

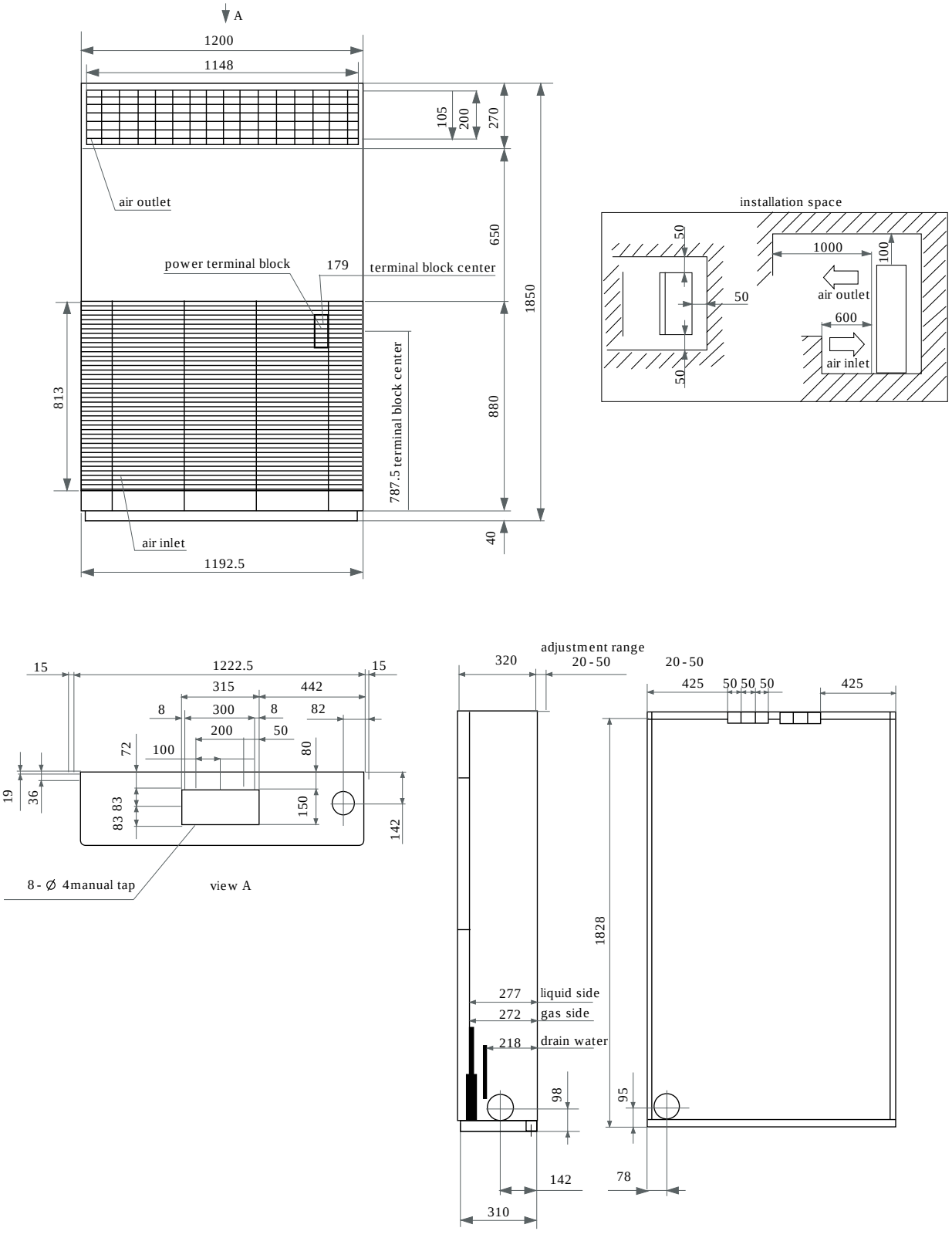
HPU-42CF03, HPU-42HF03, HPU-42CH03, HPU-42HI03



HPU-42CV03, HPU-42HV03, HPU-48HV03



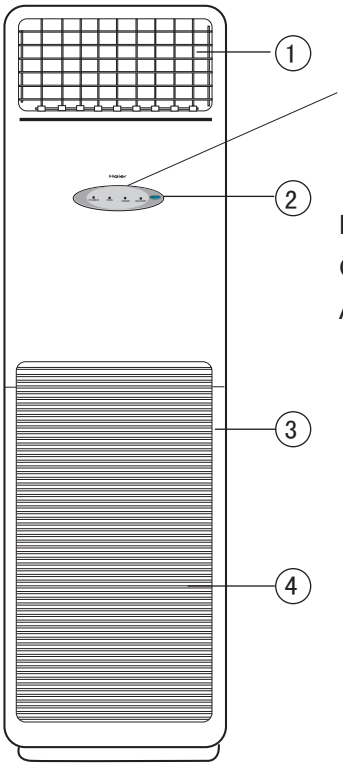
AP96NACAEA

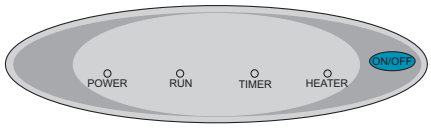


(mm)

4. Part name

HPU-42CF03, HPU-42HF03, HPU-42CH03, HPU-42HI03

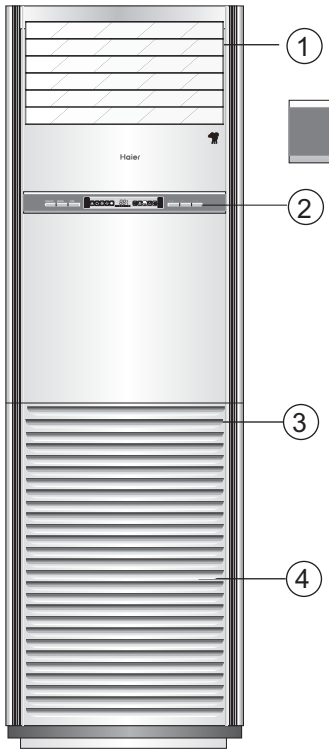


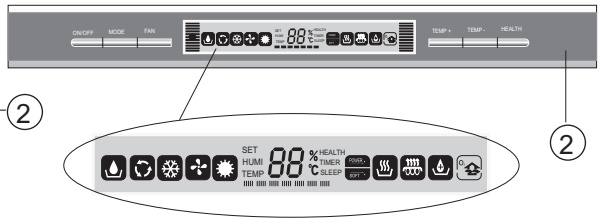


Note:For cooling only unit,the "HEATER" light is invalid;
ON/OFF: If pressing this button,the unit will enter
Auto Run mode according to the room temperature.

① Outlet grill
② Operation panel
③ Inlet grill
④ Air filter [inside the unit]

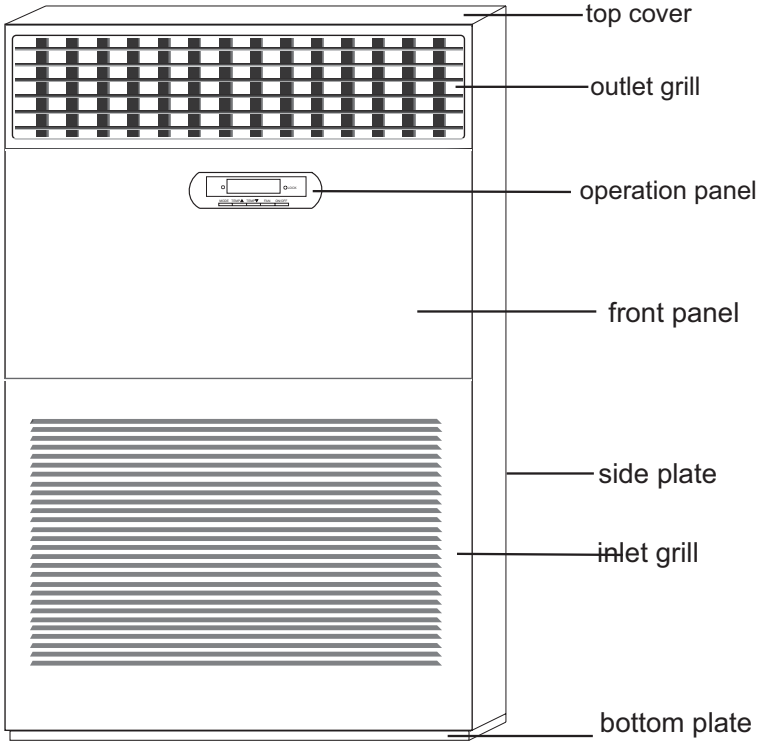
HPU-42CV03, HPU-42HV03, HPU-48HV03





① Outlet grill
② Operation panel
③ Inlet grill
④ Air filter [inside the unit]

AP96NACAEA


top cover
outlet grill
operation panel
front panel
side plate
inlet grill
bottom plate

5. Installation

Tools necessary

1. Screw driver
2. Hacksaw
3. 70mm dia. hole core drill
4. Spanner (dia. 17, 27mm)
5. Spanner (14, 17, 27mm)
6. Pipe cutter
7. Flaring tool
8. Knife
9. Nipper
10. Gas leakage detector or soap water
11. Measuring tape
12. Reamer
13. Refrigerant oil

Standard accessories

Following parts shall be field supplied

Mark	Parts name
Ⓐ	Adhesive tape
Ⓑ	Pipe clip
Ⓒ	Connecting hose
Ⓓ	Insulation material
Ⓔ	Putty
Ⓕ	Drain hose

Selection of installation place

Place where it is easy to route drainage pipe and outdoor piping.

Place away from heat source and with less direct sunlight.

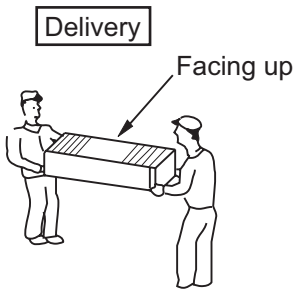
Place where cool and warm air could be delivered evenly to every corner of the room.

Place near power supply socket. Leave enough space around the unit (refer to installation drawings).

Display of whole unit

- Try to bring the packed unit to the installation place.
- When it is necessary to unpack the unit, be careful not to damage the unit. Wrap it with nylon etc.
- After unpacking, be sure to place the unit with the front side to be up.

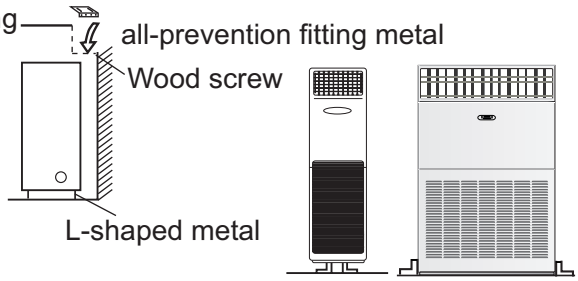
Note: When delivering, don't hold plastic parts such as inlet or outlet grill etc.



Fixing of the unit

For HPU-42CF03, HPU-42HF03, HPU-42CH03, HPU-42HI03 and AP96NACAEA

To prevent it from fall off, please fix the unit with fall-prevention fitting at wall. and L-shaped metal at floor



Please install the whole unit horizontally,with a slop of 1 degree at front and rear,left and right.

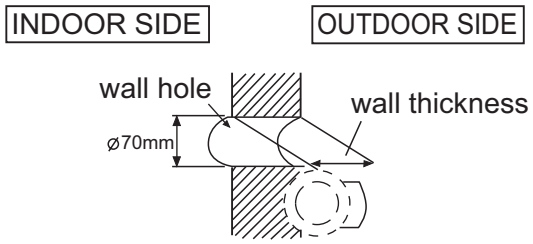
For HPU-42CV03, HPU-42HV03 and HPU-48HV03

Position of the wall hole

- Wall hole should be decided according to installtion place and piping direction. (refer to installation drawings)

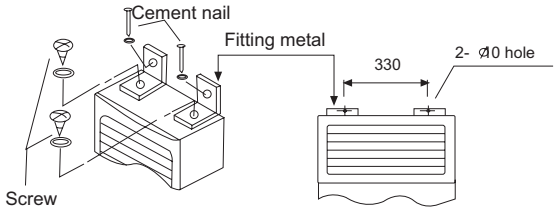
Making a hole

- Drill a hole of 70mm dia. with a little slope towards outside.
- Install piping hole cover and seal it with putty after installation.

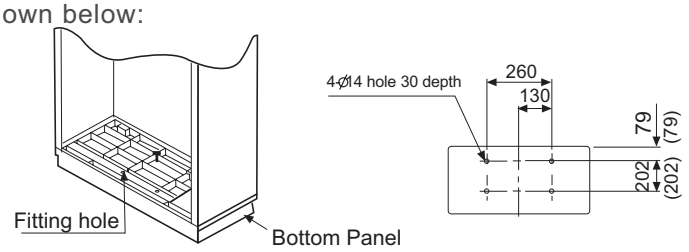


(Cross section of wall hole)

With the unit set up vertically,fix the fitting metal to the unit with screws, then fix the fitting metal to the wall with cement nail and washer, as shown below:



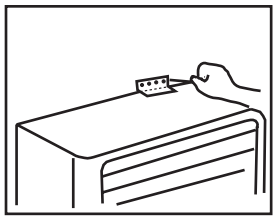
Moreover, if want to fix the unit more firmly, you should fix the bottom panel to the ground with concrete bolts,as shown below:

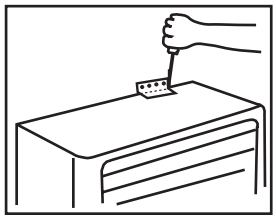


Installation of anti-fall plate:

Fix the anti-fall plate to the wall with screws so that there is no clearance between them.

With the unit set up vertically, fix the anti-fall plate to the unit with screws while making an adjustment at the long portion of the hole so that there is no clearance between the upper surface and the anti-fall plate.

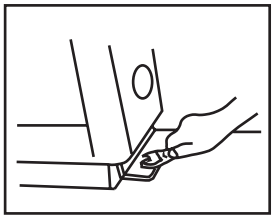


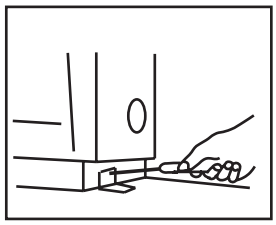


Installation of L-shaped metal

Fix to the unit with screws so that there is no clearance between the anti-fall plate and the unit.

After confirming that the unit has been set up vertically to the floor, fix it to the floor with bolt.





Piping connection

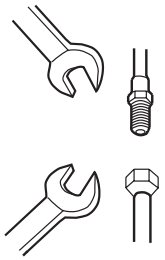
1. Connecting method

Apply refrigerant oil at half union and flare nut.

To bend a pipe, give the roundness as large as possible not to crash the pipe.

When connecting pipe, hold the pipe centre to centre then screw nut on by hand,refer to Fig.

Be careful not to let sundries, such as sands enter the pipe.

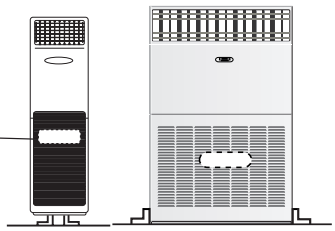


Forced fastening without centering may damage the threads and cause a gas leakage.	
Pipe dia	Fastening torque
Liquid pipe 9.52mm(3/8")	29.4N·m
Gas pipe 15.88mm(5/8")	98.0N·m
Gas pipe 19.05mm(3/4")	117.7N·m

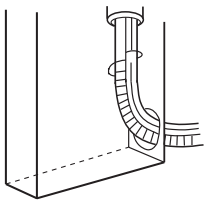
2. Piping connection of indoor unit

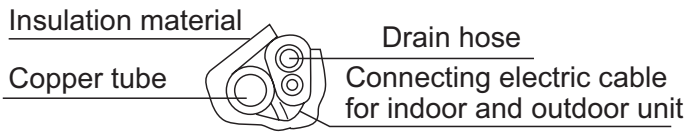
Arrangement of piping and drainage pipe

After opening inlet grill, you will see a control box as shown in the Fig.
Remove the cover before wiring work.



Cut away, with a hammer or a saw, the lid for piping according to piping direction.





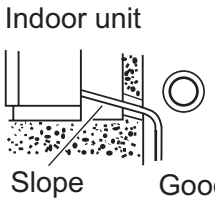
According to the piping method, connect the piping on indoor unit with union of connecting pipe.

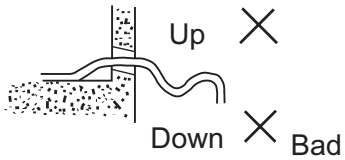
Arrange the piping as per the wall hole and bind drain hose connecting electric cable and piping together with polyethylene tape.

Insert the bound piping connecting electric cable and drain hose through wall hole to connect with outdoor unit.

Arrangement of drain hose

- Drain hose shall be placed in under place.
- There should be a slope when arrange drain hose. Avoid up and down waves in drain hose.





If humidity is high, drain pipe(especially in room and indoor unit) must be covered with insulation material.

3. Piping connection of outdoor unit

Connect the connecting pipe and inlet and outlet liquid pipe according to the piping method.

4.Purging method

Discharge the air out of the indoor unit and the refrigerant pipe by vacuumizing

(1) Fasten all the nuts of the indoor and outdoor pipes to make these parts out of leakage.

(2) Under the condition of the complete close of the indoor and outdoor valve center (both liquid and gas side),dismount the repair valve cap.Vacuumizing through the charge mouth of the repair valve.

(3) After vacuumizing fasten the repair valve,and dismount the cap of the big and small stop valve,then loosen the stop valve center completely and fasten the big and small stop valve.

5.Extra charging amount of the refrigerant

When piping is longer than 5 m, charge additional refrigerant specified in this list.

Pipe length	5m	10m	15m	20m	25m	30m
Refrigerant charge (g)	——	325	650	975	1300	1625

Electric wiring

Note:

Electric wiring must be done by qualified person.

The power cable is self-provided.

The power supply connects from the outdoor unit.

Wiring of indoor unit

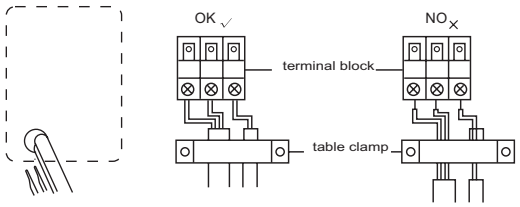
Insert the cable from outside the wall hole where piping already exist.

Pull it out from front.

Loosen terminal screws and insert cable end fully into terminal block, then tighten it.

Pull the cable gently to make sure it is tight.

Replace cover after wiring.



Wiring of outdoor unit

Insert the cable from inside the wall hole where piping already exists.

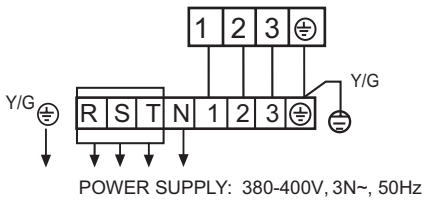
Pull it out from front.

Loose terminal screw and insert cable end fully into terminal block, then tighten it.

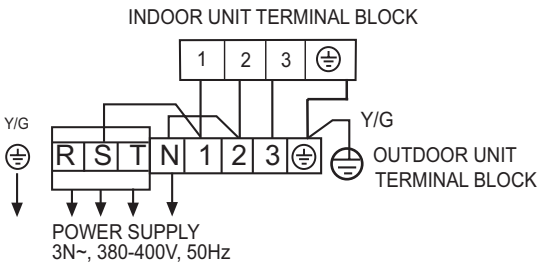
Pull the cable gently to make sure it is tight.

Replace cover after wiring.

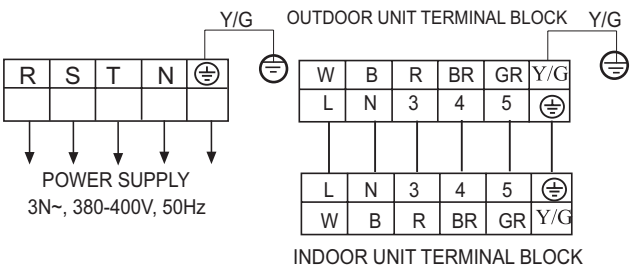
HPU-42CV03
HPU-42HV03
HPU-48HV03



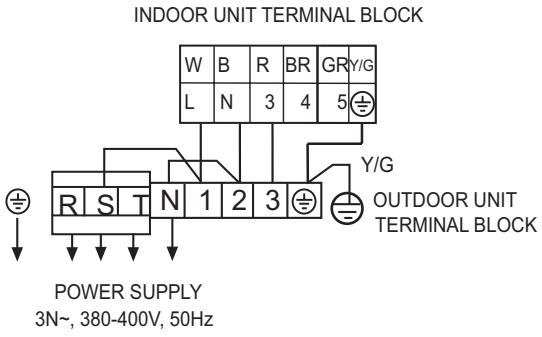
HPU-42CH03 HPU-42HI03



HPU-42HF03



HPU-42CF03

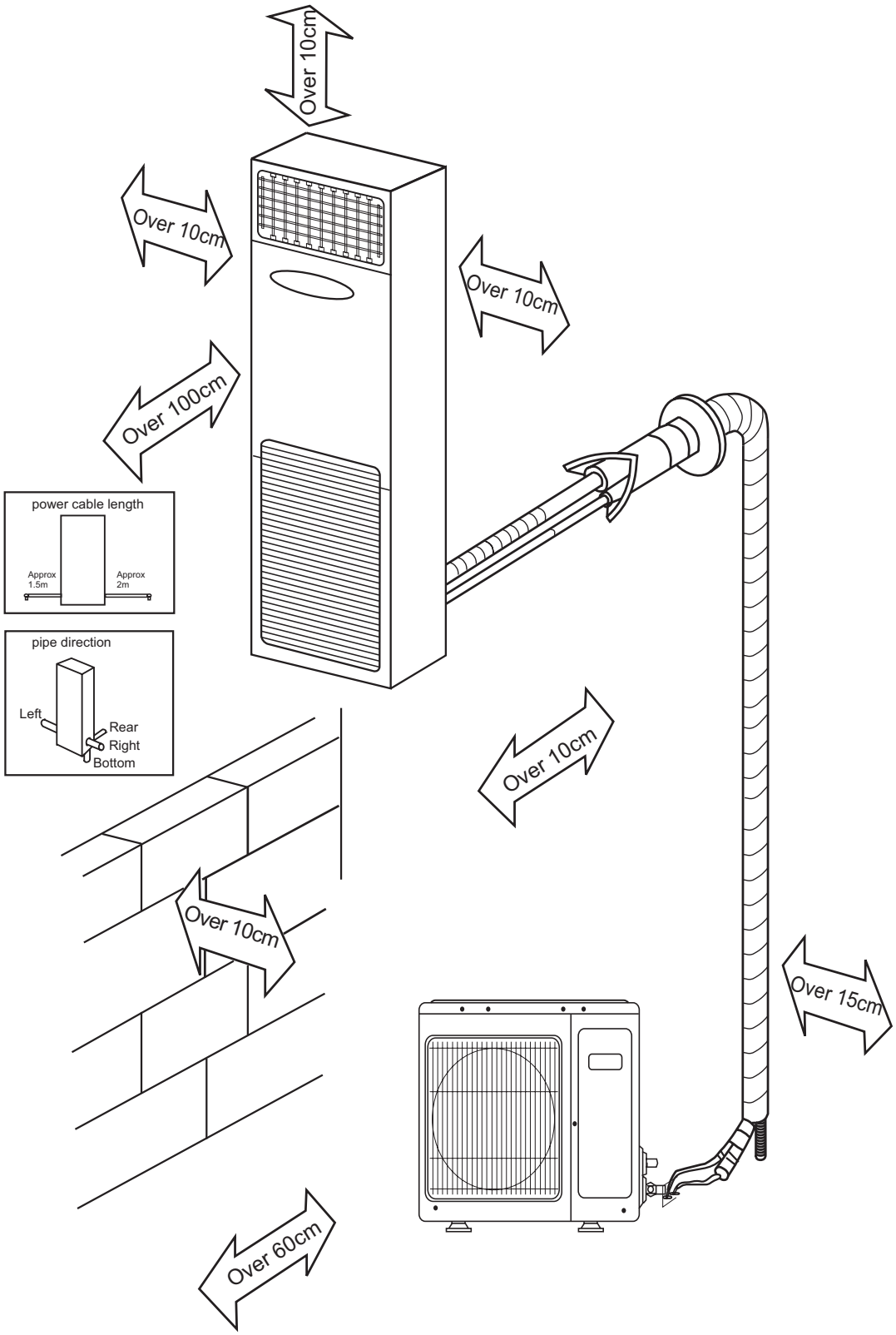


Note:

- When connecting indoor and outdoor wire, check the number on indoor and outdoor terminal blocks. Terminals of same number and same color shall be connected by the same wire.
- Incorrect wiring may damage air conditioner's controller or cause operation failure.

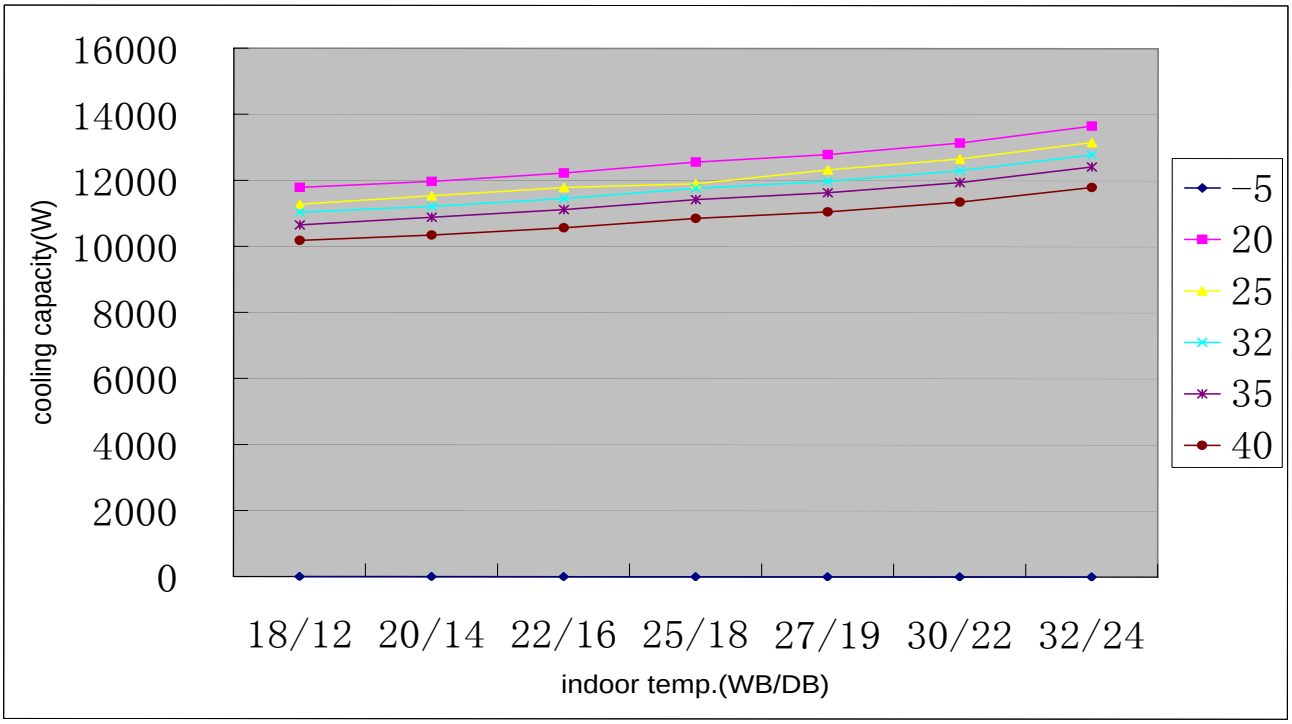
Indoor & outdoor unit connection

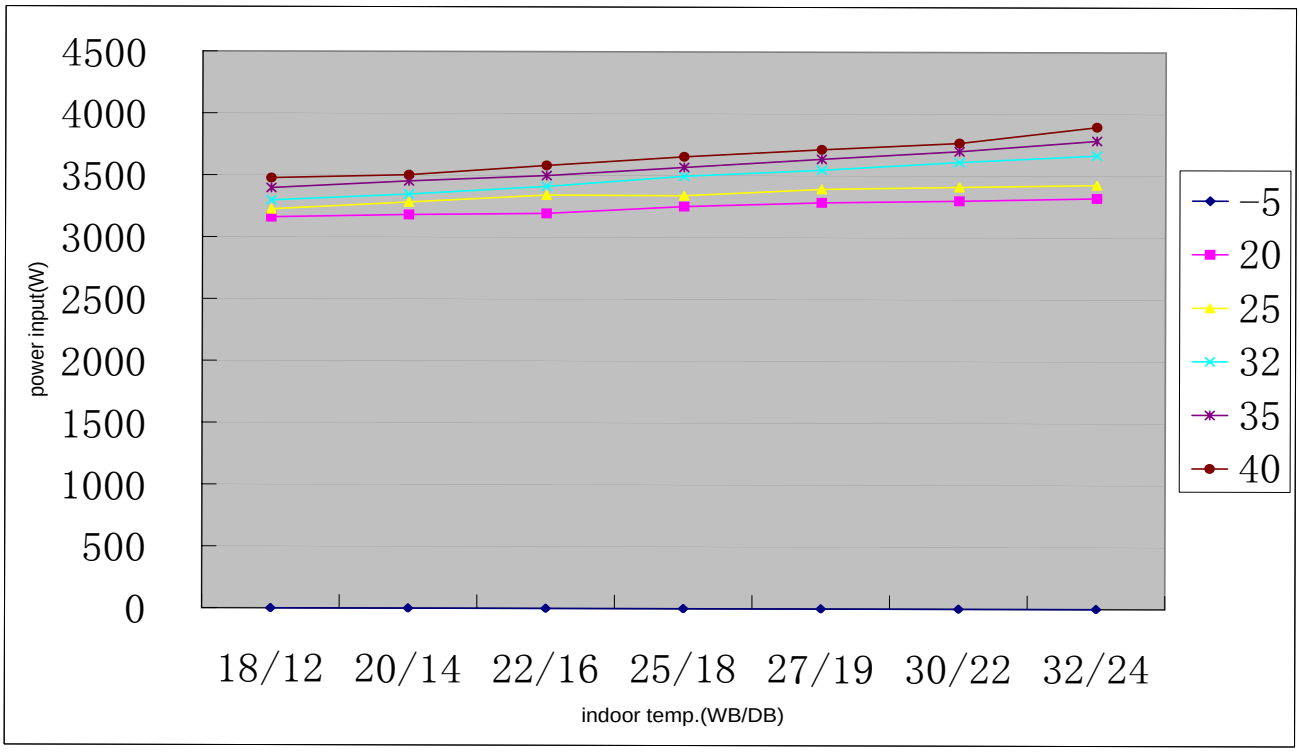
Take HPU-42CF03 as an example.



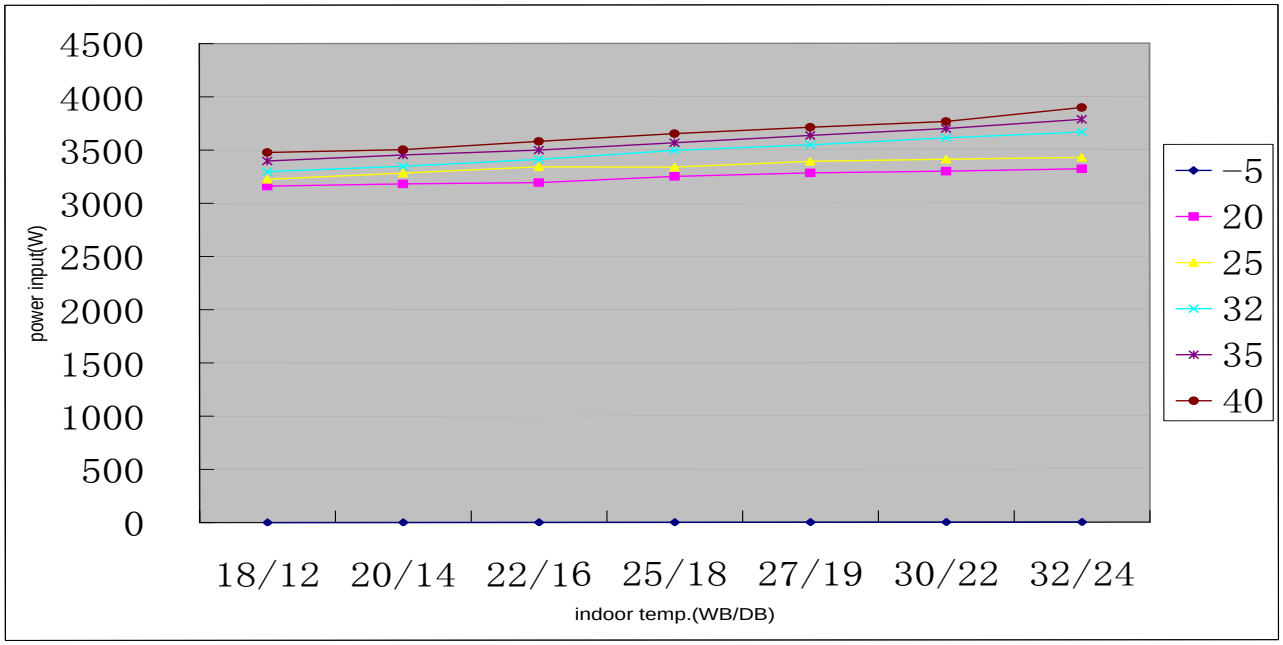
6. Performance Curves

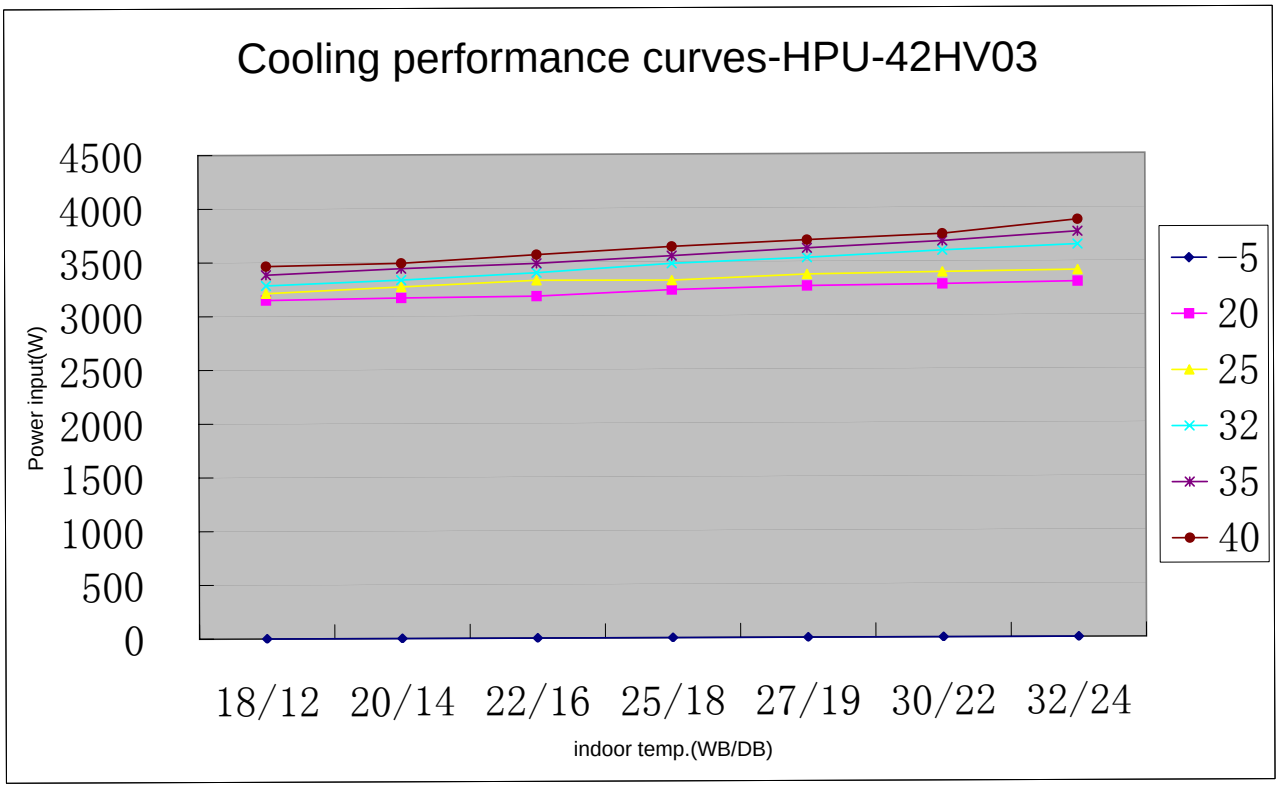
HPU-42CV03

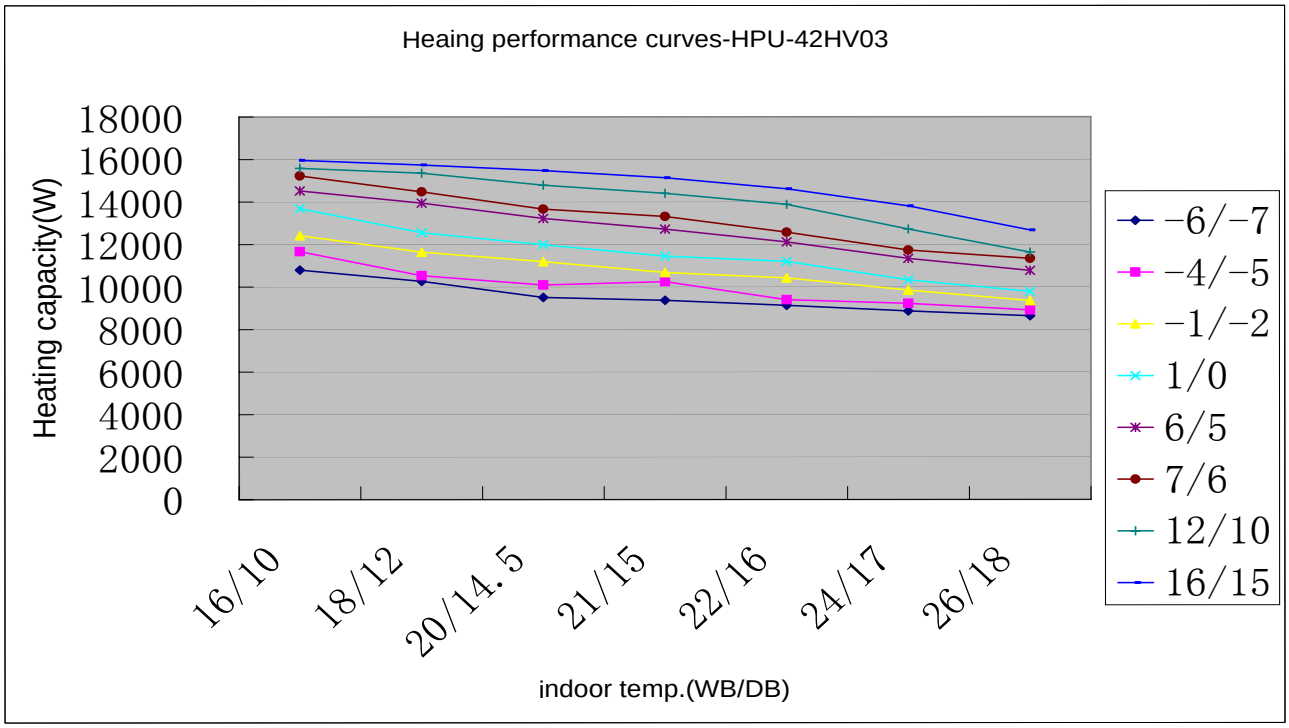


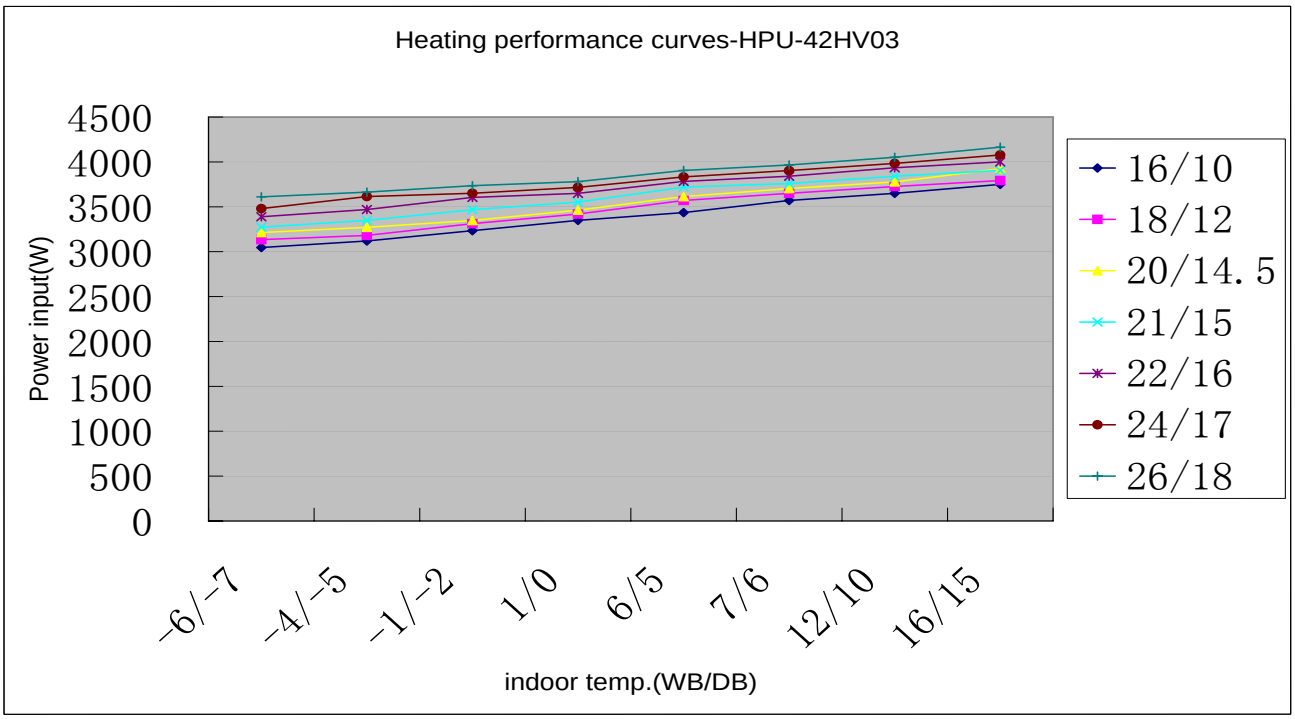


HPU-42HV03


4500
4000
3500
3000
2500
2000
1500
1000
500
0
power input(W)
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor temp.(WB/DB)
-5
20
25
32
35
40


Cooling performance curves-HPU-42HV03
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Power input(W)
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor temp.(WB/DB)
-5
20
25
32
35
40


Heaing performance curves-HPU-42HV03
Heating capacity(W)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
16/10
18/12
20/14.5
21/15
22/16
24/17
26/18
indoor temp.(WB/DB)
-6/-7
-4/-5
-1/-2
1/0
6/5
7/6
12/10
16/15


Heating performance curves-HPU-42HV03
Power input(W)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-6/-7
-4/-5
-1/-2
1/0
6/5
7/6
12/10
16/15
indoor temp.(WB/DB)
16/10
18/12
20/14.5
21/15
22/16
24/17
26/18

Part 3 Outdoor Units

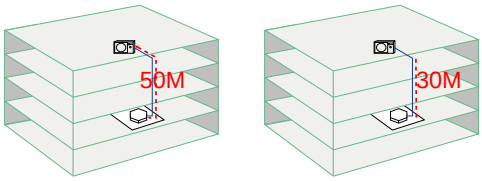
1. Features

Fixed frequency unit

T3 climate for HDU-50HT03/H

Long distribution pipe and high drop

The unit can realize long distribution pipe and high drop, the detailed information please refer to the specification, consequently, the installation can be more free, and can meet various need of the customer.



Quiet operation

Adopting optimum designed blower and new designed insulation material amoug the pipe or out of the compresspr, outdoor unit with well-known brand compressor, reducing the operation noise. For some unit, the electric control systerm can adjust the noise by fixing the frequency.

Optional safety devices and much more precision control device

a. Ambient **temperature sensor**, coil temperature sensor and compressor temperature make the temperature control and defrosting control more precise.

b. **High/low pressure switch** can feel the discharging pipe pressure and suction pipe pressure on time and precisely. If the pressure is too high or too low, it will stop the compressor to prevent it being damaged for the sake of pressure.

c. **3 minutes delay protection** for the compressor. The device can protect the compressor from some damages and make the compressor have a long life.

Auto checking malfunction

Failure codes displayed by LED or controllers are so detailed for us to find the fail place more quickly, and can judge the failure content easily

2. Specifications

item					Model	AU96NATAEA	
Function						cooling	heating
Capacity					BTU/h	92000	96000
Capacity					W	27000	28000
Sensible heat ratio						75%	/
Total power input					W	10000	9000
Max. power input					W	13000	13000
EER or COP					W/W	2.70	3.11
Dehumidifying capacity					10 - ³×m³/h	10	
Power cable						5G 6.0mm2	
Signal cable					section	4G 2.0mm2	
Connecting cable					section		
Power source					N，V，Hz	3，380-400，50	
Running /Max.Running					A / A	cooling 18/22.8 heating16.5/22.8	
Start Current					A	80A	
Circuit breaker					A	50A	
Max. operating pressure of heat side					Mpa	3.0	
Max. operating pressure of cold side					Mpa	3.0	
Outdoor unit	Unit model (color)					AU96NATAEA（WHITE）	
	Compressor	Model / Manufacture				JT300D-Y1L×1	
		Oil type				MINERAL	
		Oil charging			cm³	3000	
		Type				scroll	
		Protection type				UP28TY081-400	
		Starting method				direct startup	
	Fan	Type × Number				Axial × 1	
		Speed			r/min	850±50/720±50	
		Fan motor output power			W	600	
		Air-flow(H-M-L)			m³/h	10000/-/6000	
	Heat exchanger	Type / Diameter			mm	TP2M / 9.52x0.35	
		Total area			m²	about 1.8	
		Temp. scope			℃	cooling: 43~60 / heating: 6~7	
	Dimension	External	（L×W×H）		mm×mm×mm	990*760*1700	
		Package	（L×W×H）		mm×mm×mm	1150*925*1870	
	Refrigerant control method				mm/mm	Capillary tube	
	Defrosting					Automatic	
	Volume of Accumulator				L	NO	
	Noise level				dB(A)	≤65	
	crankcase heater power				W	40*2	
	Weight (Net / Shipping)				kg / kg	161/185	
PIPING	Refrigerant	Type / Charge			g	R22/8500	
		Recharge quantity			g/m	115	
	Pipe	Liquid			mm	12.7	
		Gas			mm	28.58	
	Connecting Method					flared for liquid pipe, joint for gas pipe	
	Between I.D &O.	MAX.Drop			m	30	
		MAX.Piping length			m	50	

Norminal condition: indoor temperature (cooling): 27℃DB/19℃WB, indoor temperature (heating): 20℃DB
Outdoor temperature(cooling): 35℃DB/24℃WB, outdoor temperature(heating): 7℃DB/6℃WB
The noise level will be measured in the third octave band limited values, using a Real Time Analyser calibrated sound intensity meter. It is a sound pressure noise level. The detailed method please refer to the following information:

The specifications for other outdoor units please refer to the corresponding indoor unit specification.

Installation state: the unit should be placed on the flat floor or be mounted in horizontal direction.

Testing method:

outdoor unit:

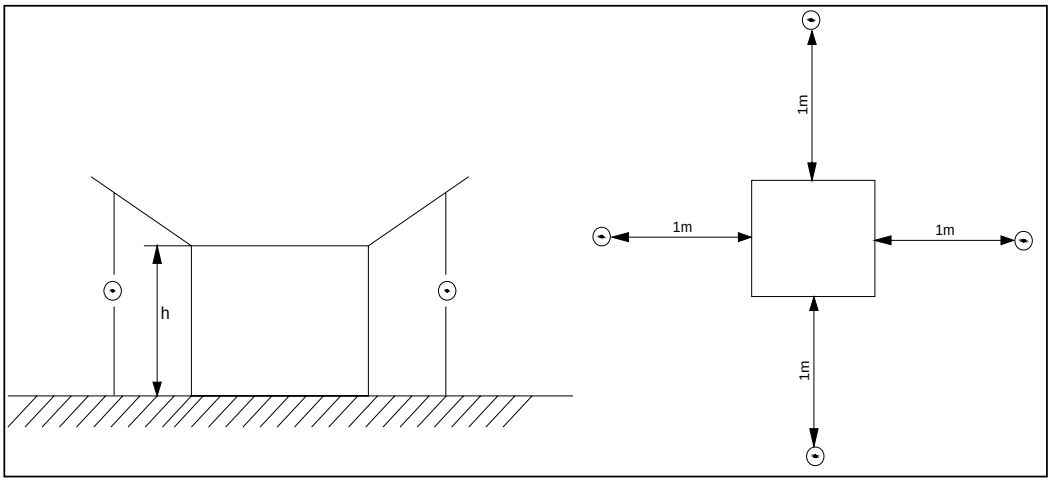
1.air outlet from side: the noise level is the average sound pressure level measured from front, left, right directions.

2.air outlet from top: the noise level is the average sound pressure level measured from front, back, left, right directions.

measured point:

H (height to the ground) = (h (unit height) + 1m) /2

and, it is 1m to each side.



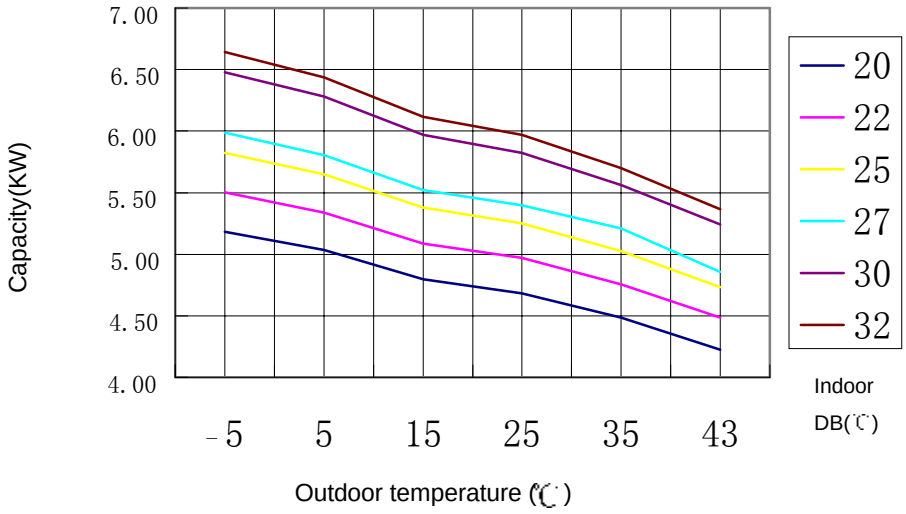
Note: ⊙ is the real time analyser position

3. Curves

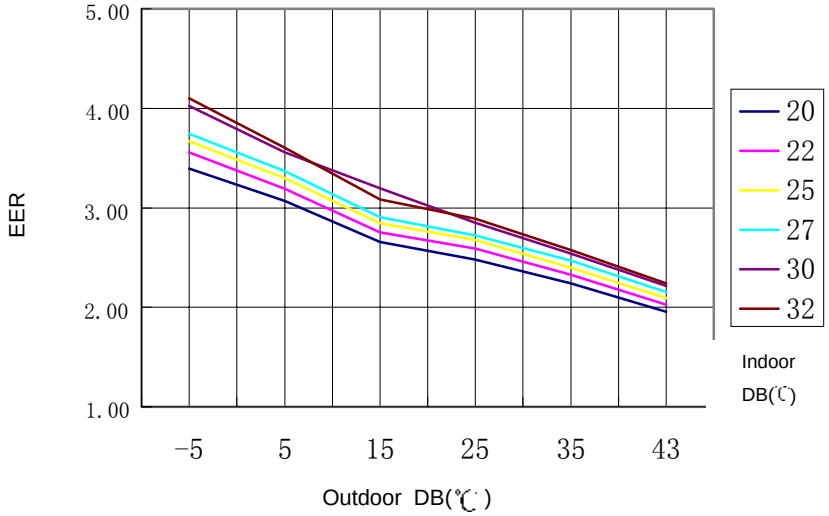
3.1 Performance curves

3.1.1 For 18 model

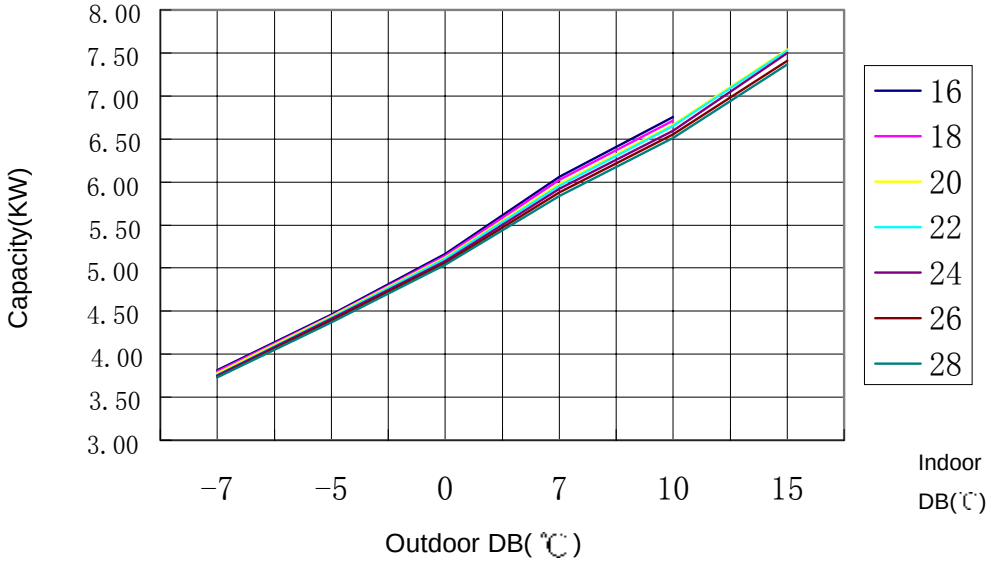
a. Cool capacity graph



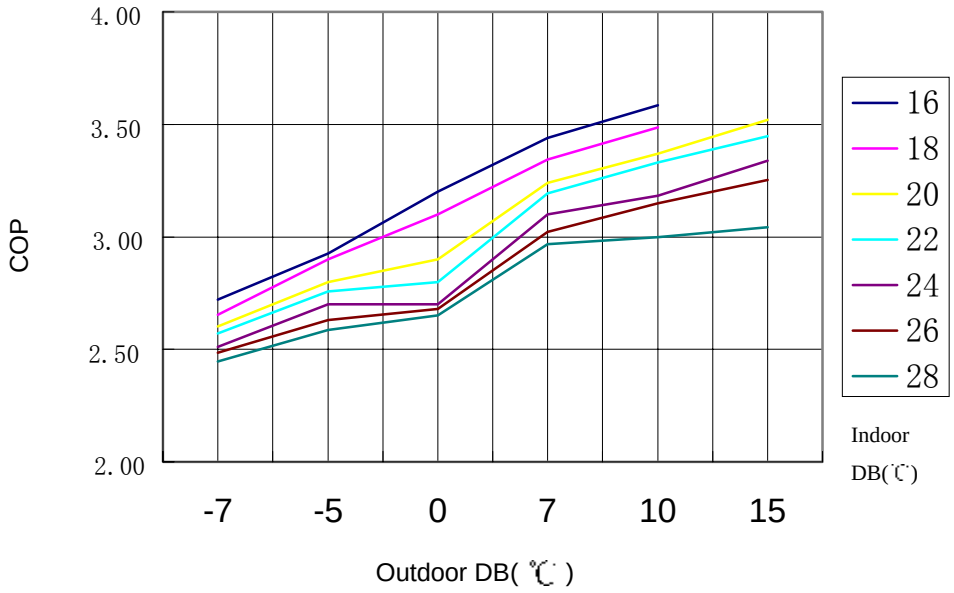
b. EER graph



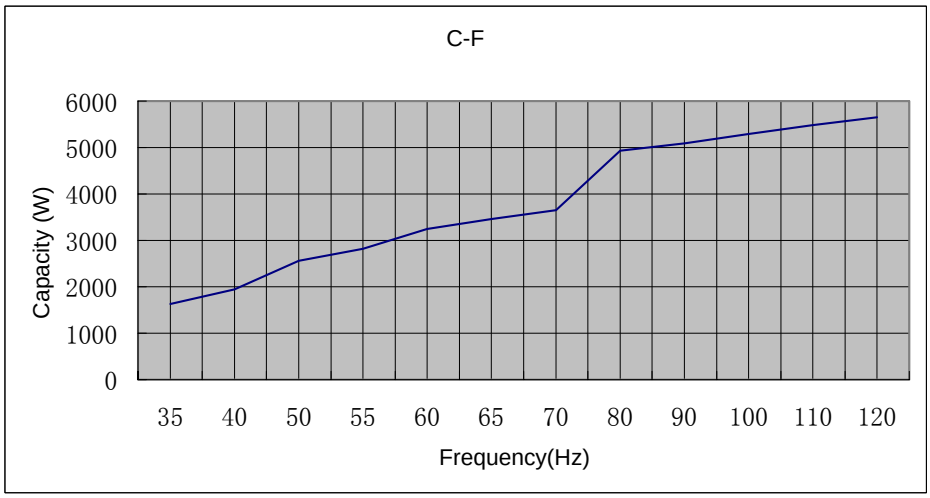
c. Heat capacity graph (only heat type available)



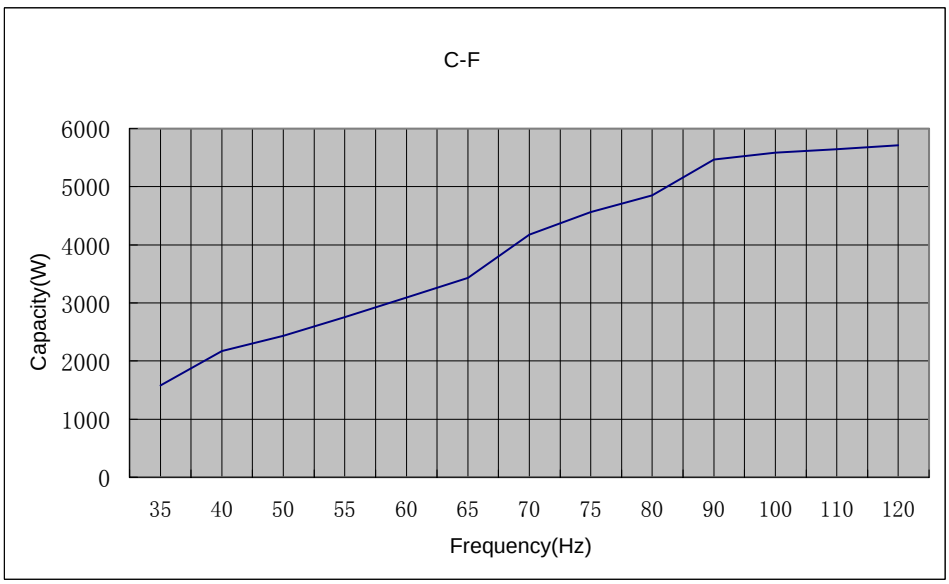
d. COP graph (only heat type available)

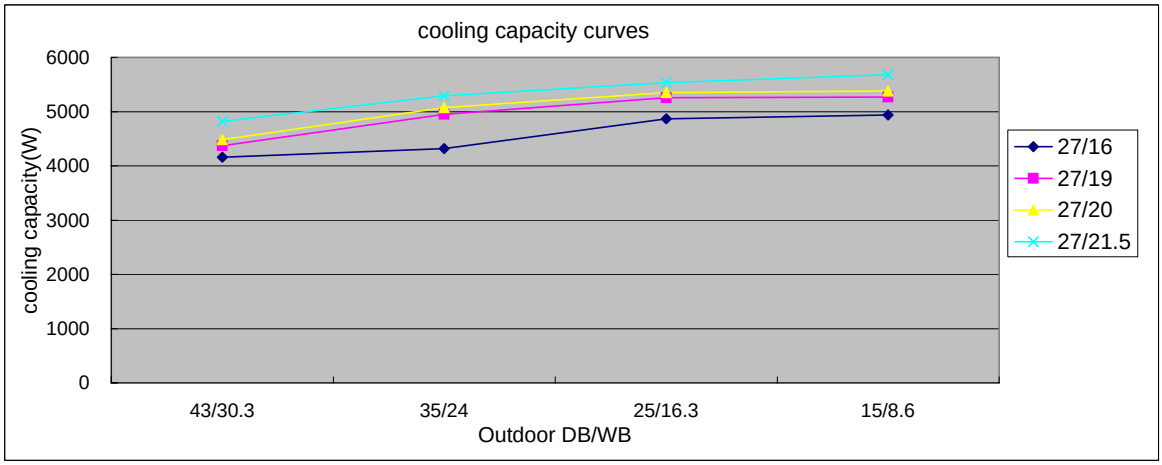


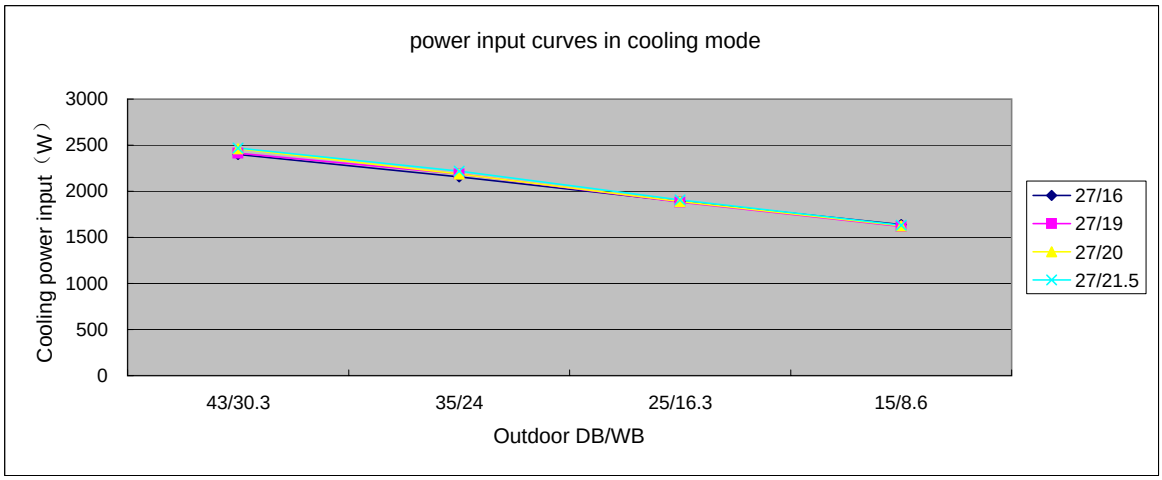
F-C curve-COOLING

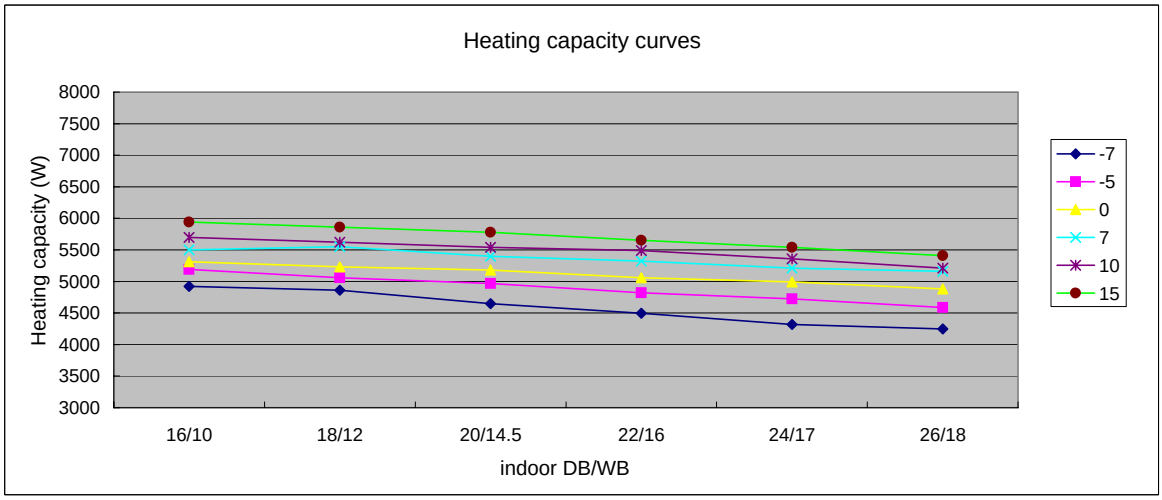


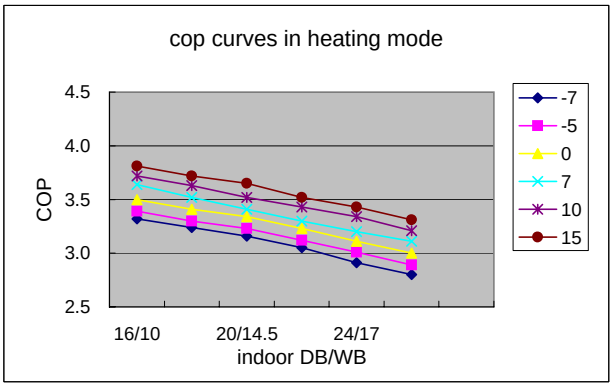
F-C curve –HEATING




cooling capacity curves
cooling capacity(W)
6000
5000
4000
3000
2000
1000
0
43/30.3
35/24
25/16.3
15/8.6
Outdoor DB/WB
27/16
27/19
27/20
27/21.5


power input curves in cooling mode
Cooling power input（W）
3000
2500
2000
1500
1000
500
0
43/30.3
35/24
25/16.3
15/8.6
Outdoor DB/WB
27/16
27/19
27/20
27/21.5


Heating capacity curves
Heating capacity (W)
8000
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
16/10
18/12
20/14.5
22/16
24/17
26/18
indoor DB/WB
-7
-5
0
7
10
15

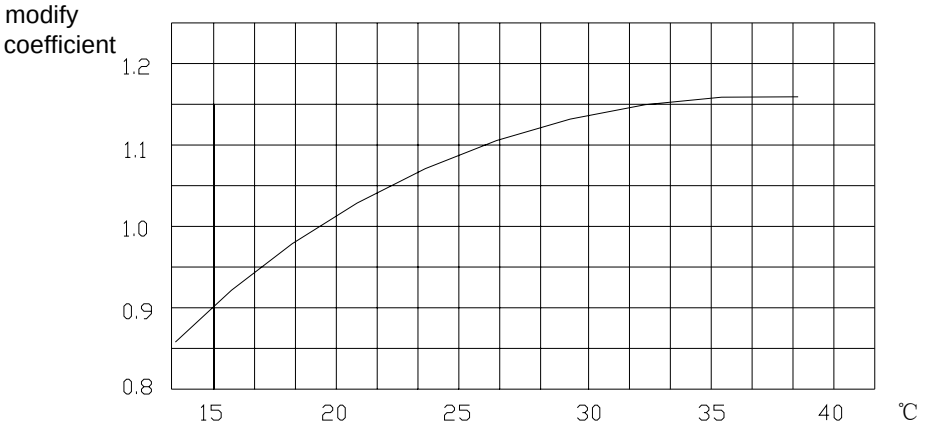

cop curves in heating mode
COP
4.5
4.0
3.5
3.0
2.5
16/10
20/14.5
24/17
indoor DB/WB
-7
-5
0
7
10
15

3.1.2 For 28 model

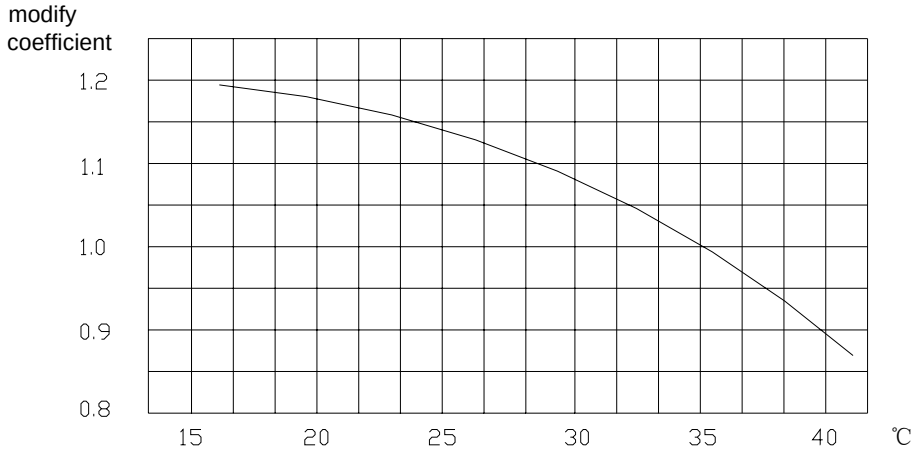
1. Cooling

When air conditioner operate on cooling status, the indoor air humid ball and outdoor air dry ball which means humid degree of indoor and dry degree of outdoor unit make important mean on cooling capacity.

1) Chart of humid ball of indoor unit air



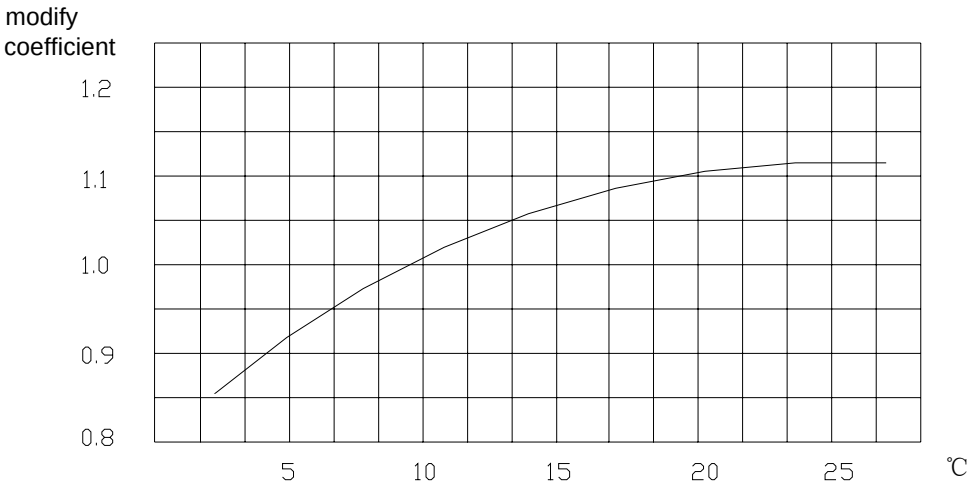
2) Chart of dry ball of outdoor unit air



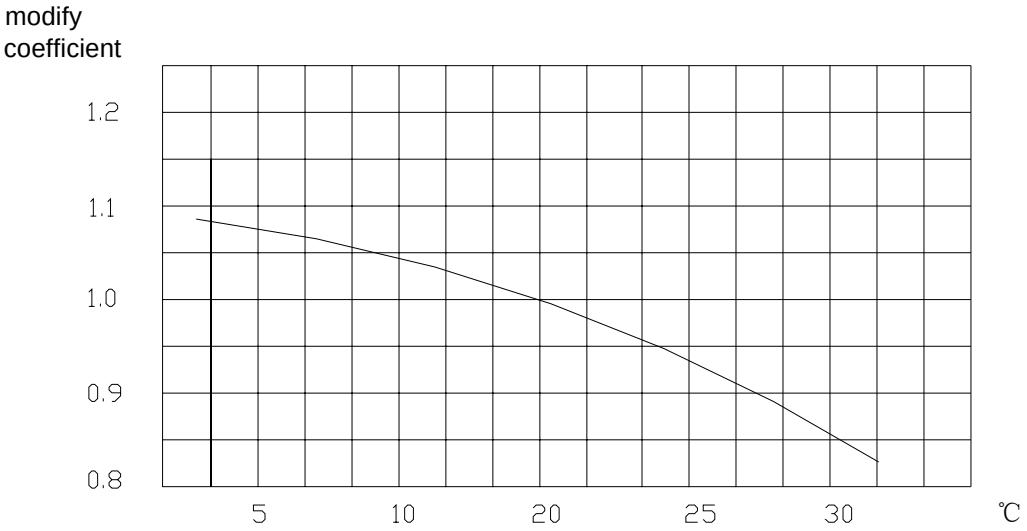
2. Heating

When air conditioner operate on heating status,the outdoor air humid ball and indoor air dry ball which means humid degree of outdoor and dry degree of indoor unit also make important mean on heating capacity.

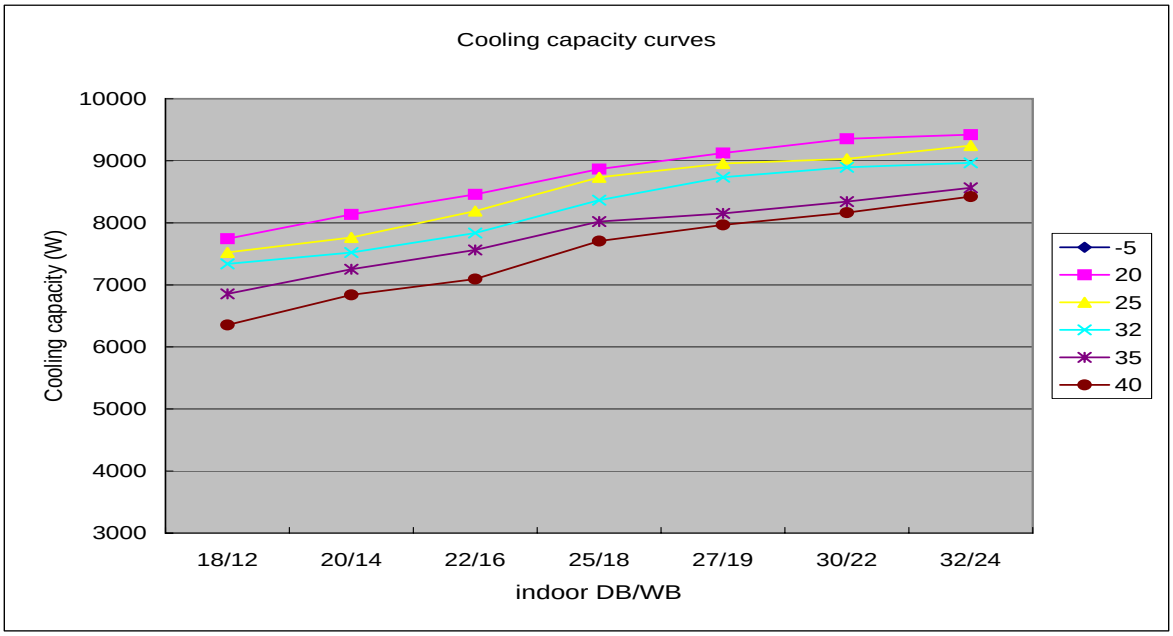
1)Chart of humid ball of outdoor unit air

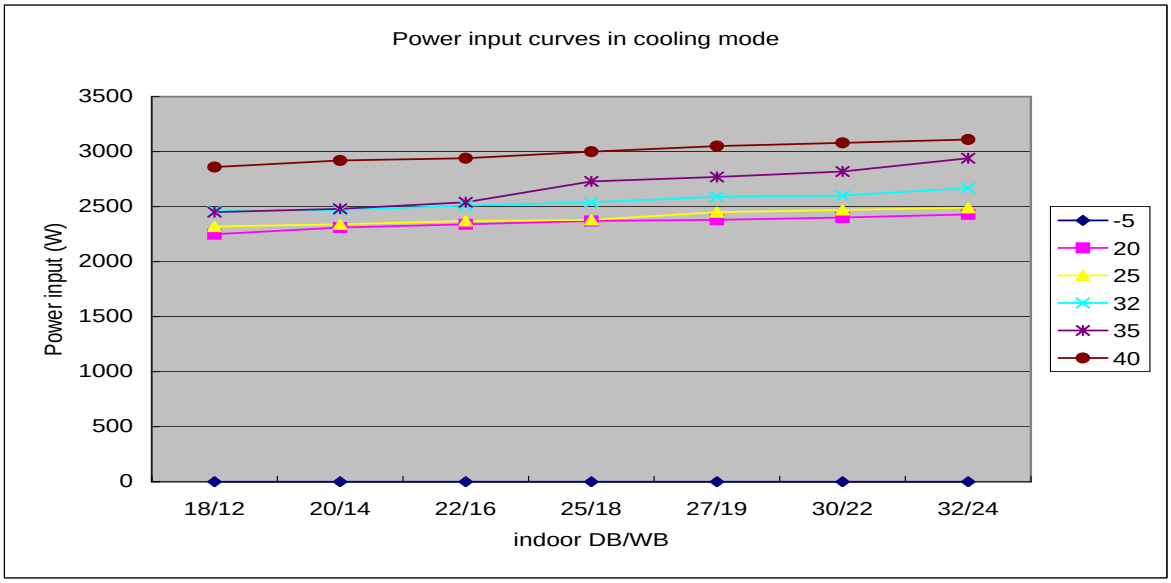


2)Chart of dry ball of indoor unit air

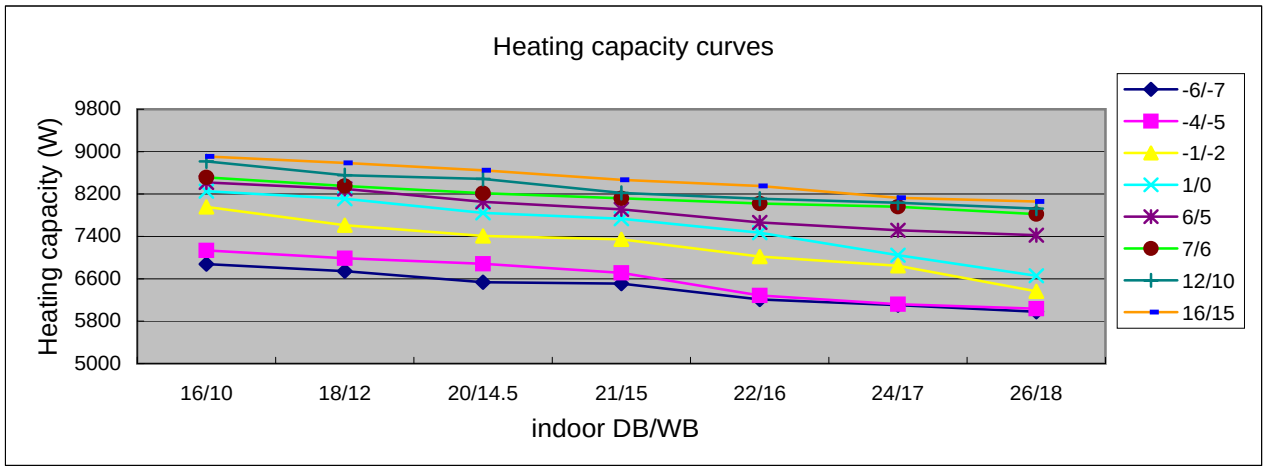


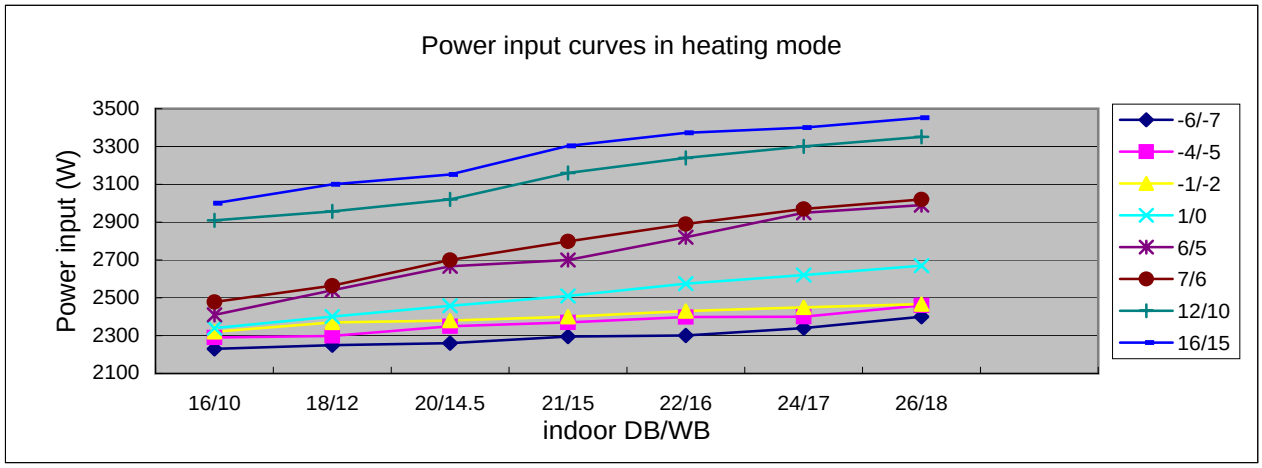
HBU-28CH03 HCFU-28CF03 HDU-28CF03

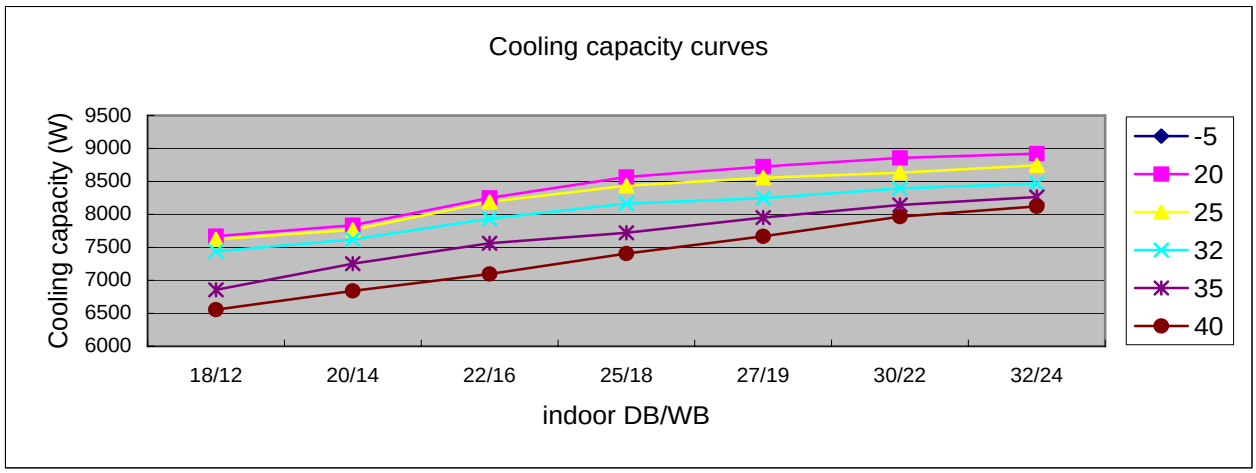


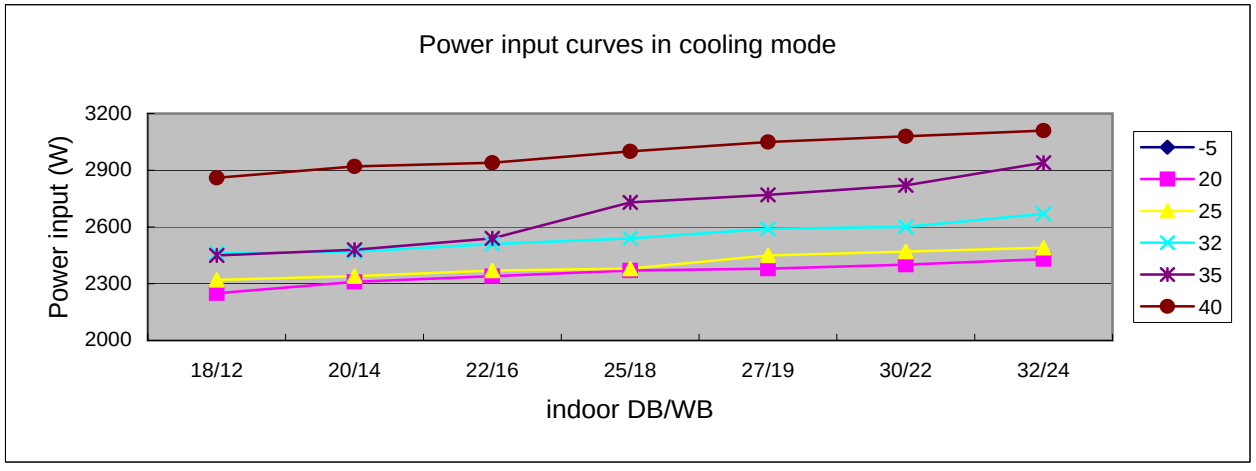


HBU-28HH03 HCFU-28HF03 HDU-28HF03





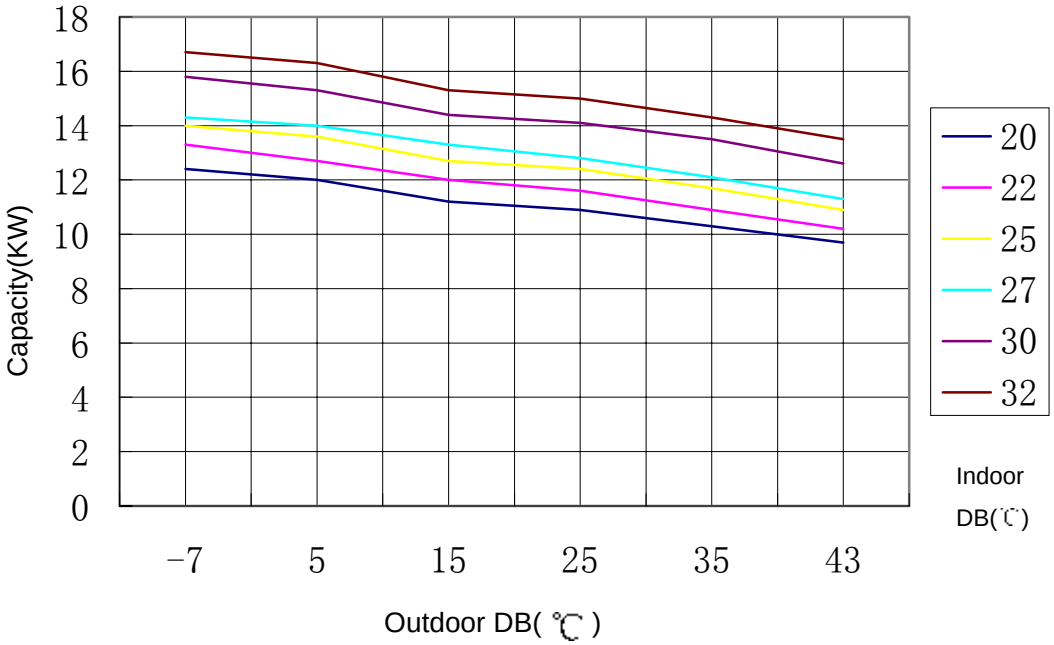




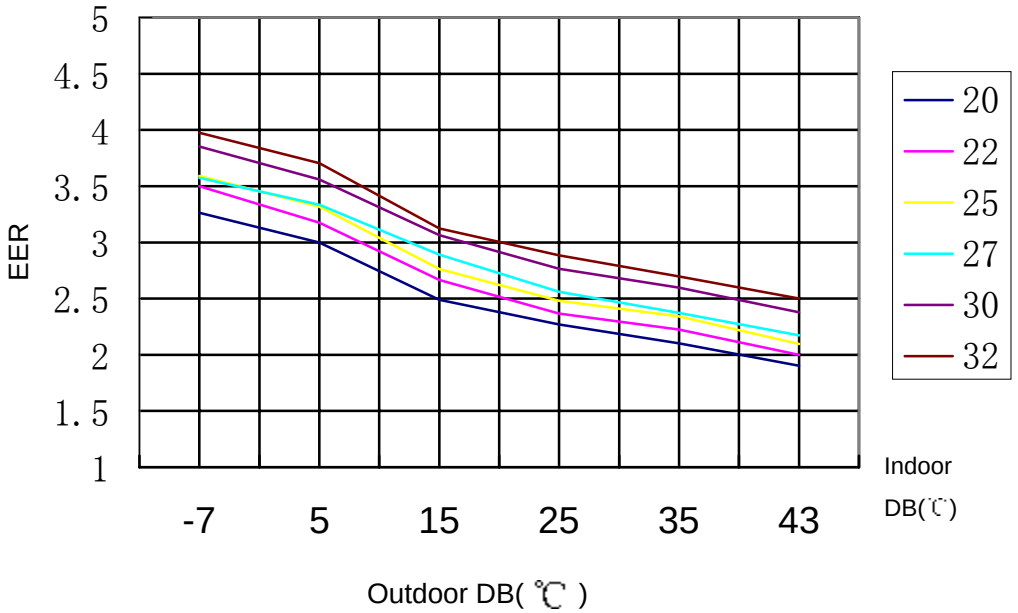
3.1.3 For 42 model

For cassette type

a. Cooling capacity graph

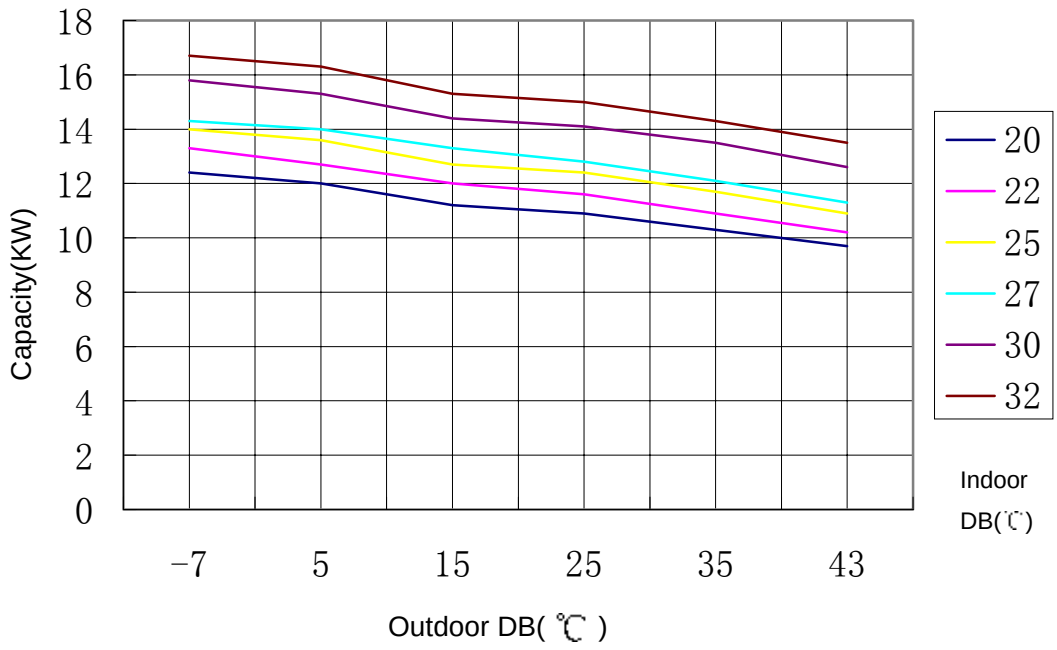


b. EER graph

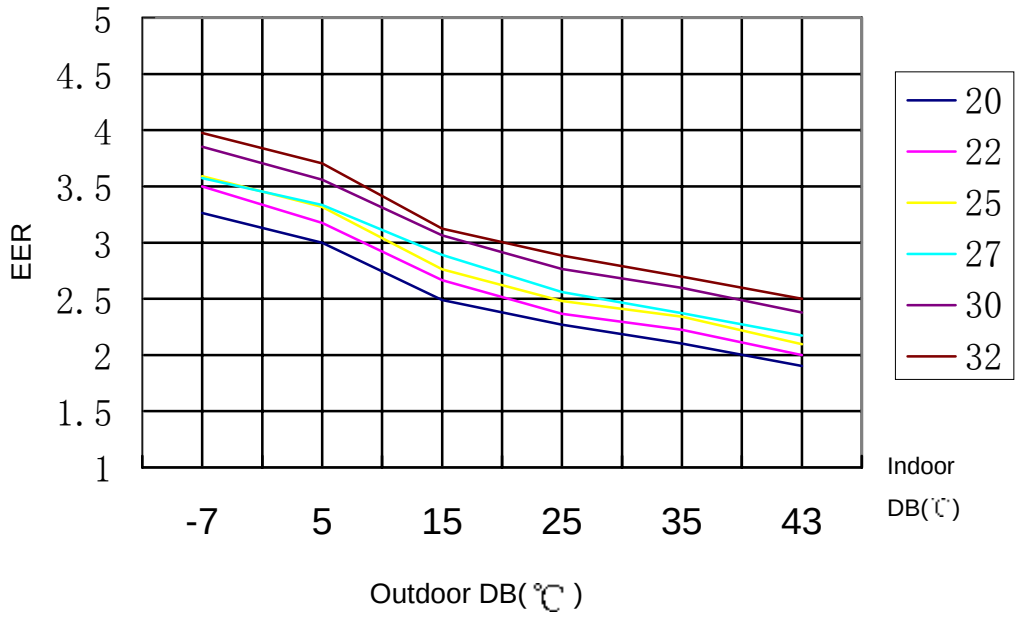


For convertible type

Cool capacity graph

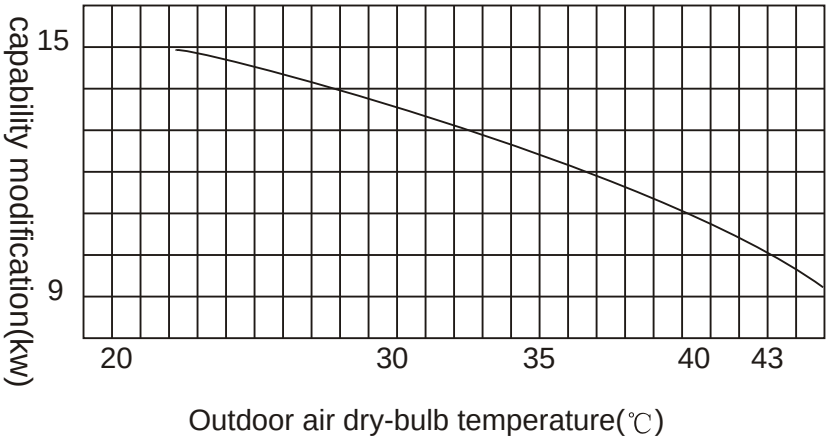


EER graph

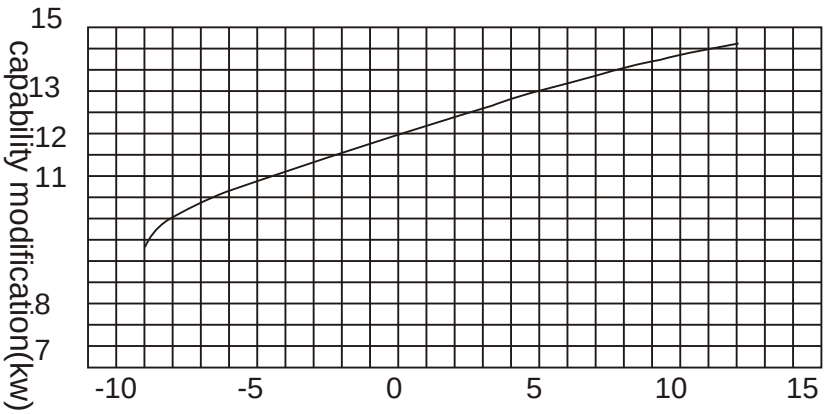


Capability modification curves

Alteration curve of outdoor air dry-bulb temperature

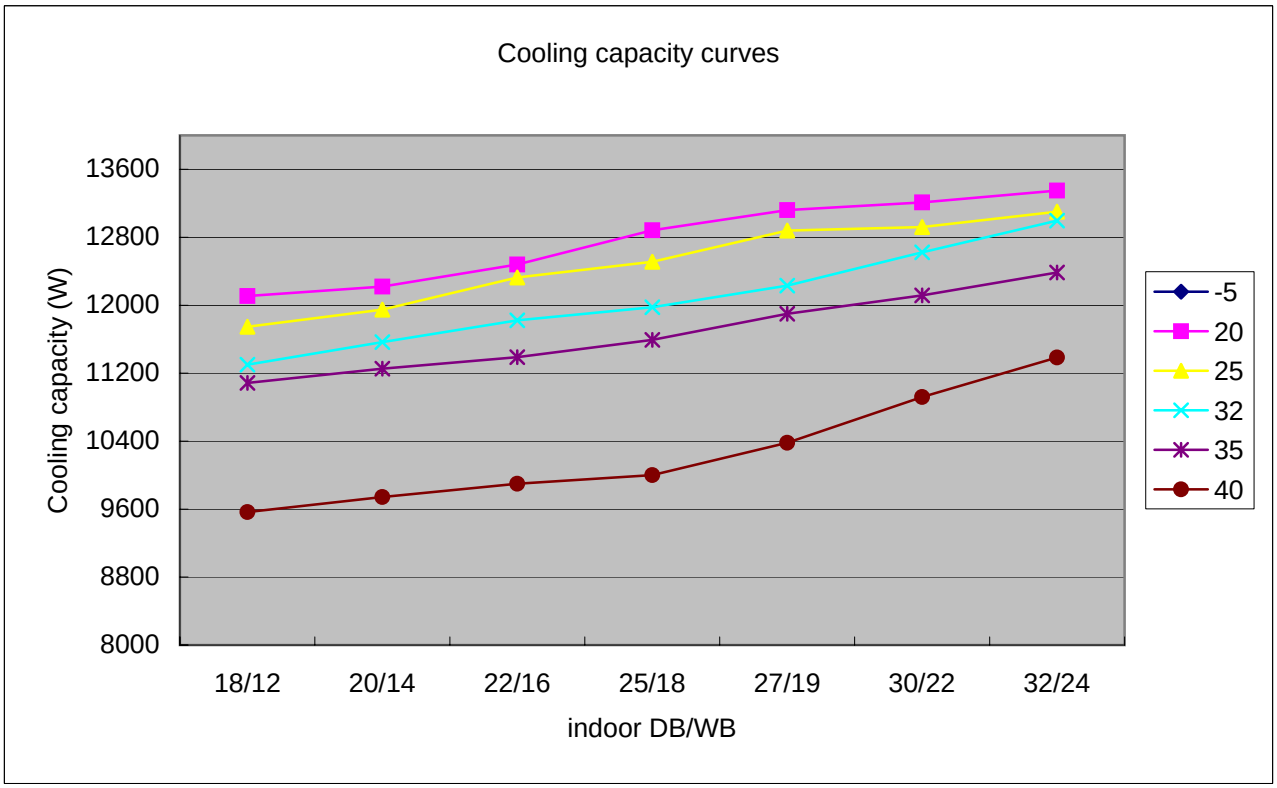


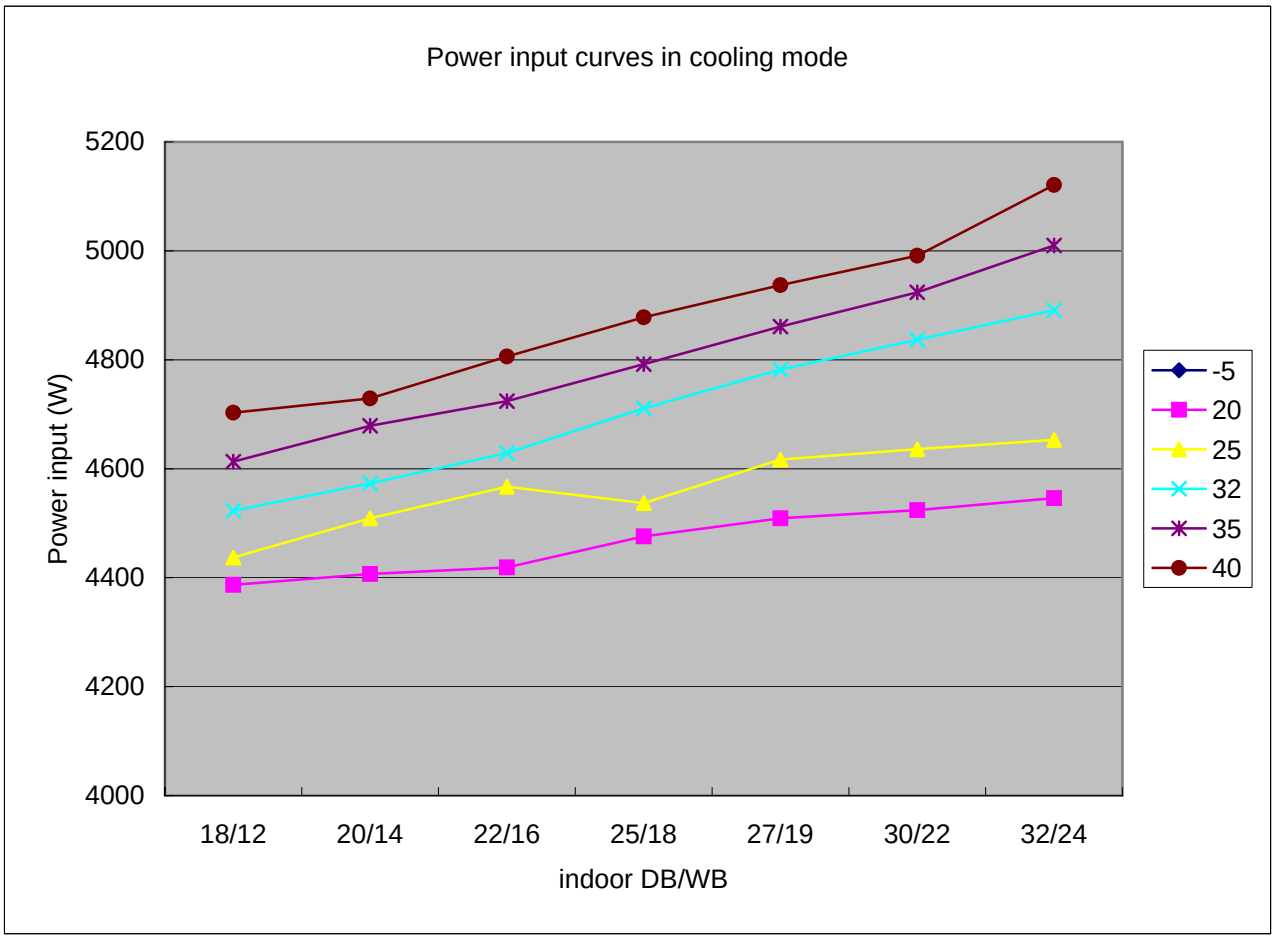
Alteration curve of outdoor air wet-bulb temperature



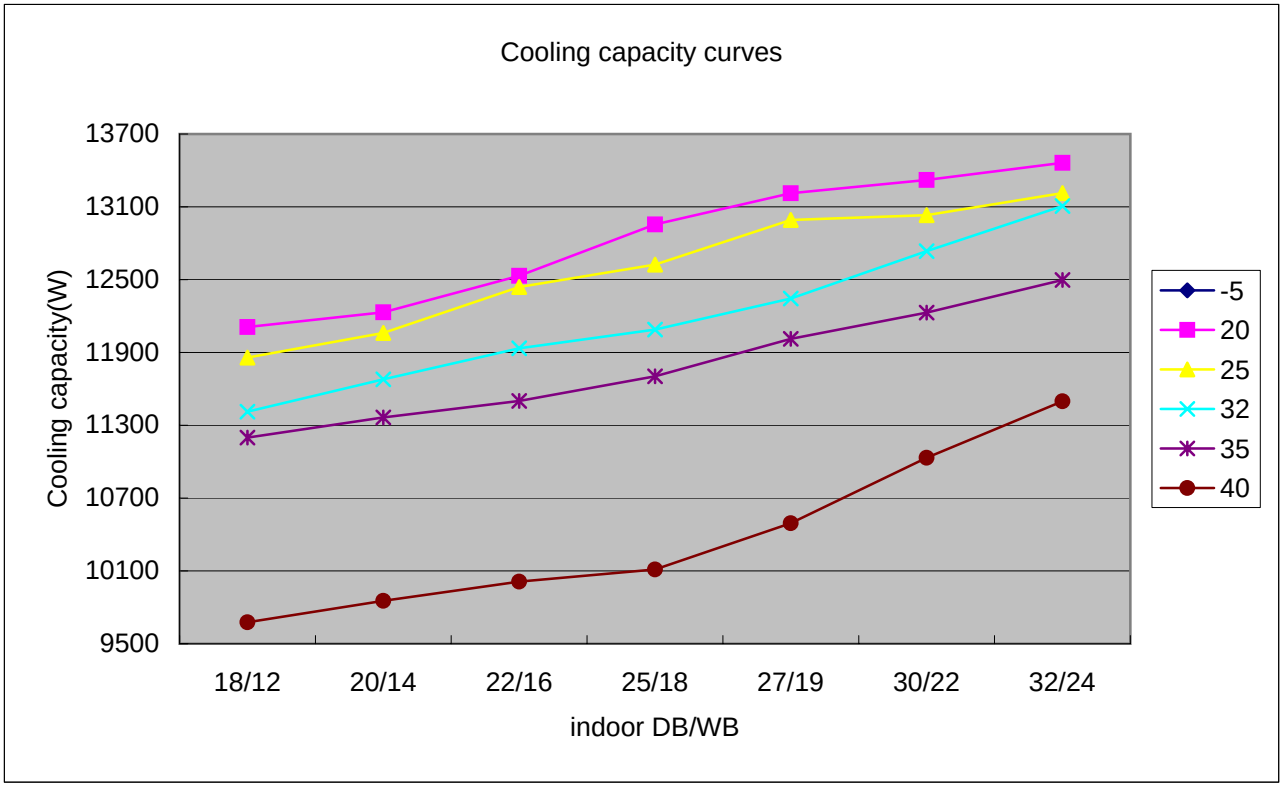
For duct type

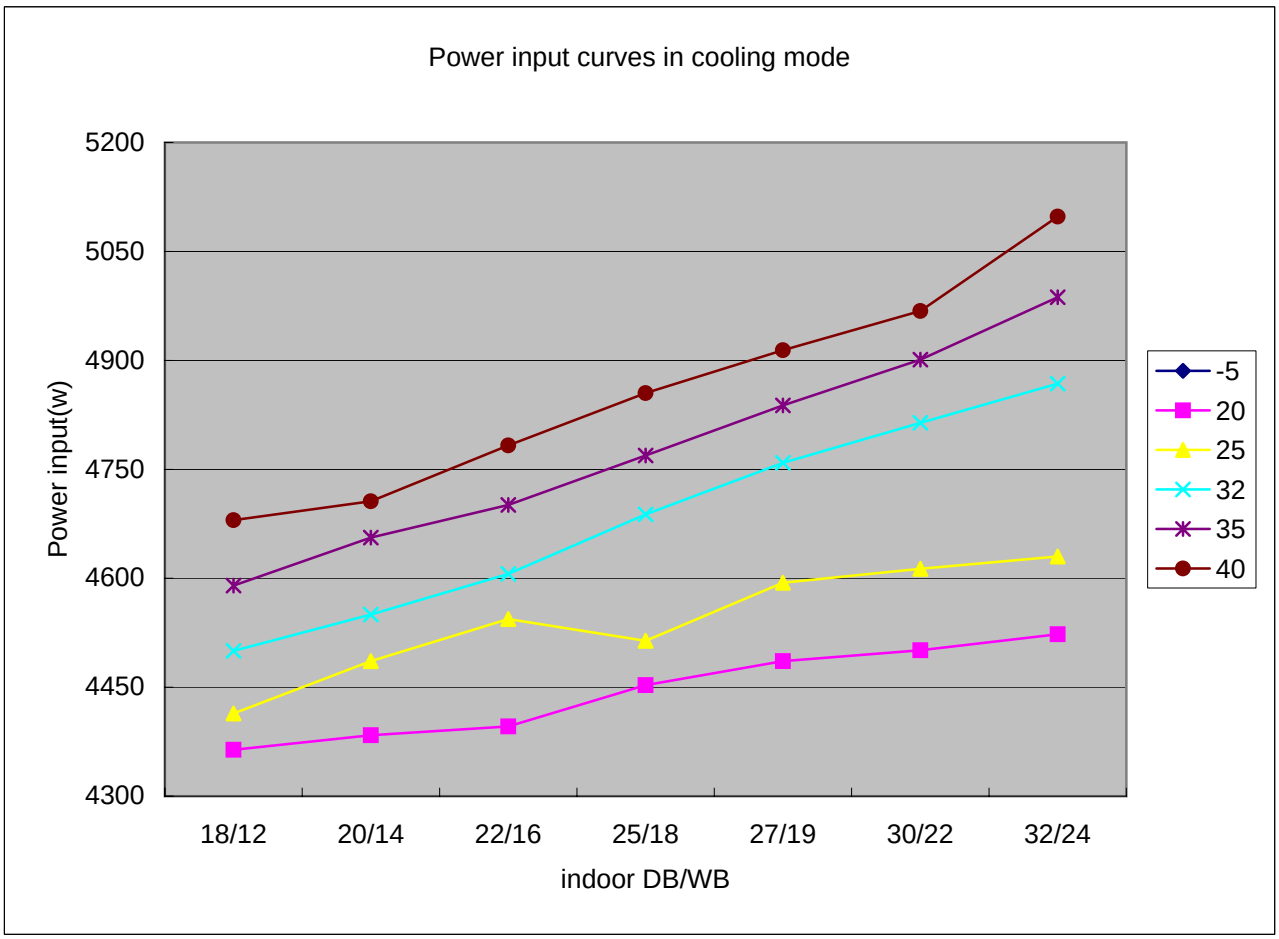
HDU-42CF03/H



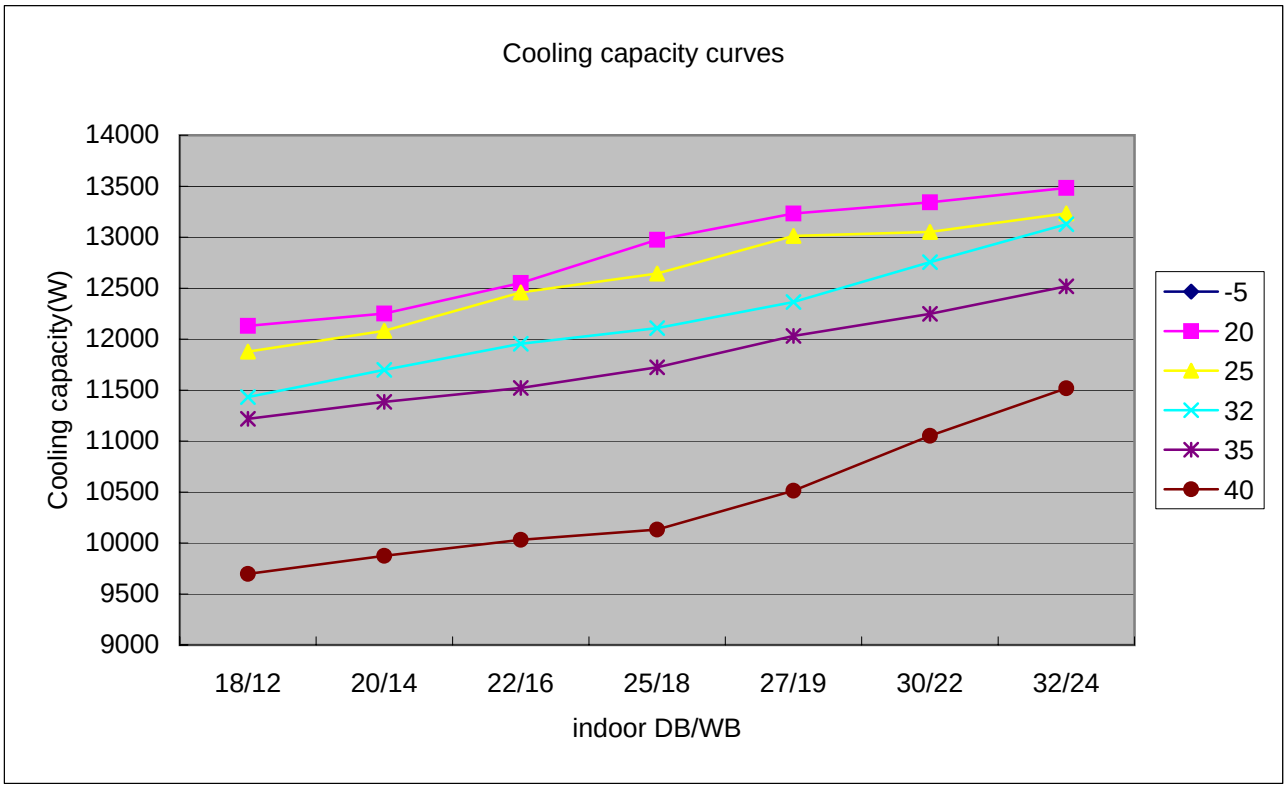


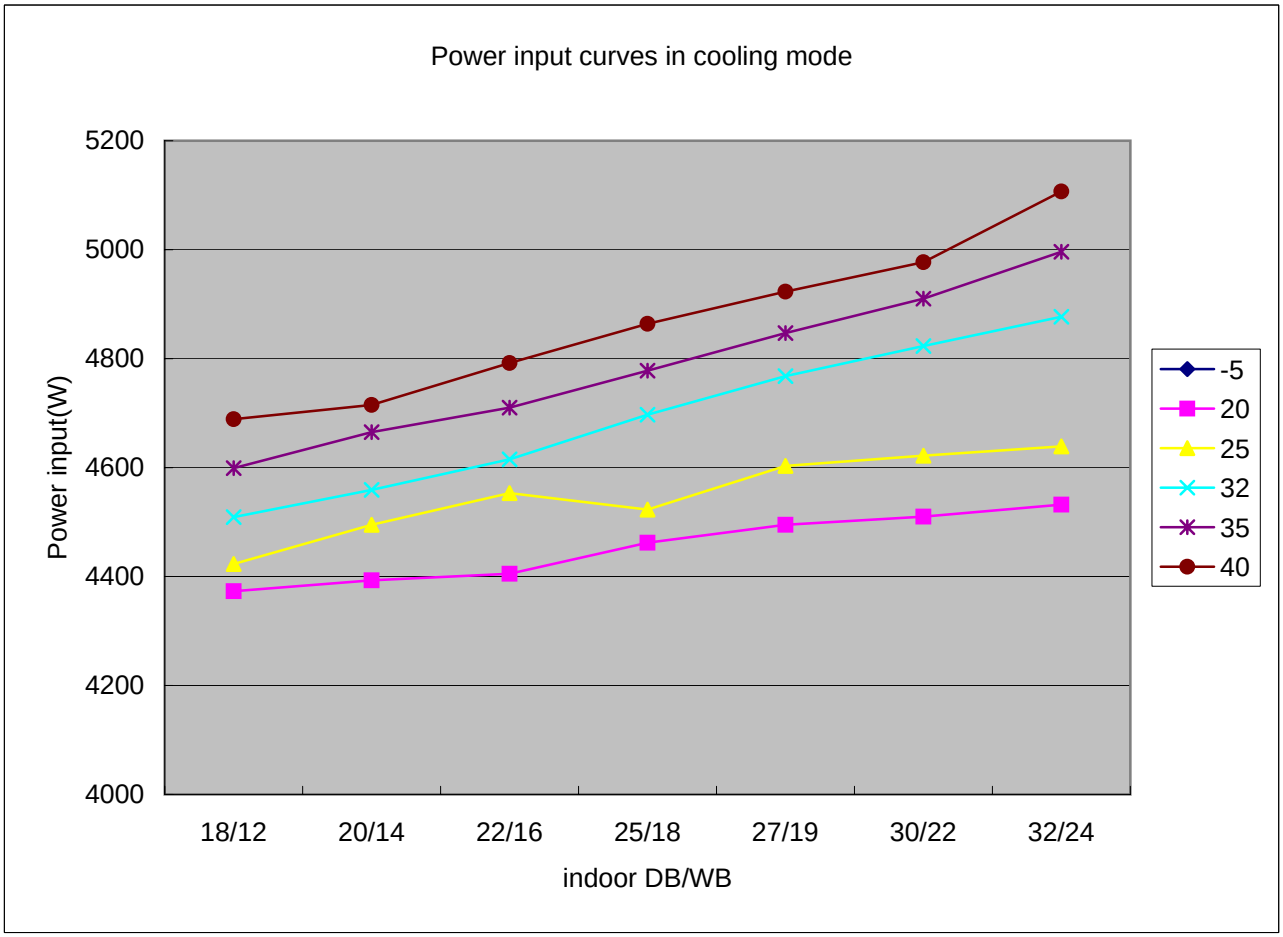
HDU-42CH03/H


Cooling capacity curves
13700
13100
12500
11900
11300
10700
10100
9500
Cooling capacity(W)
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor DB/WB
-5
20
25
32
35
40

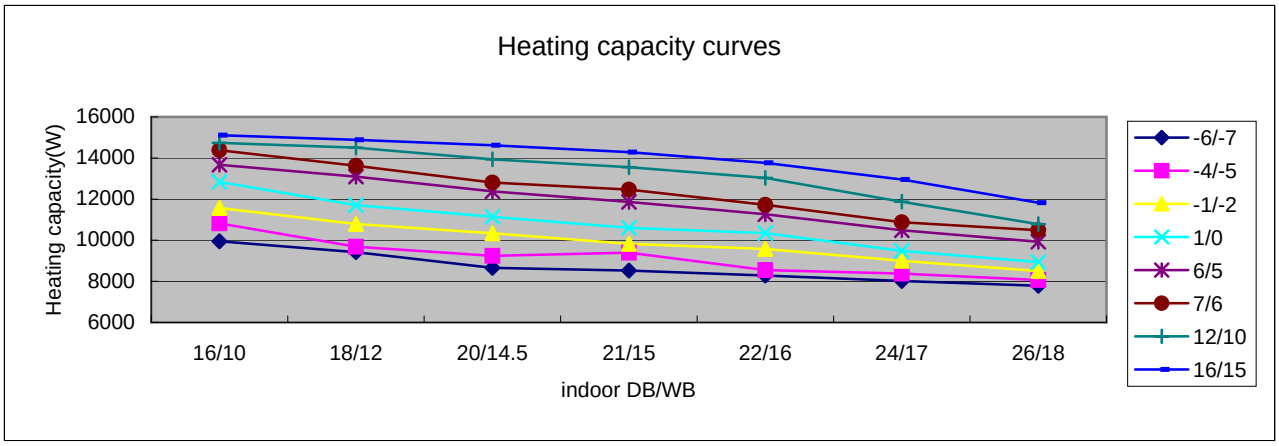

Power input curves in cooling mode
5200
5050
4900
4750
4600
4450
4300
Power input(w)
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor DB/WB
-5
20
25
32
35
40

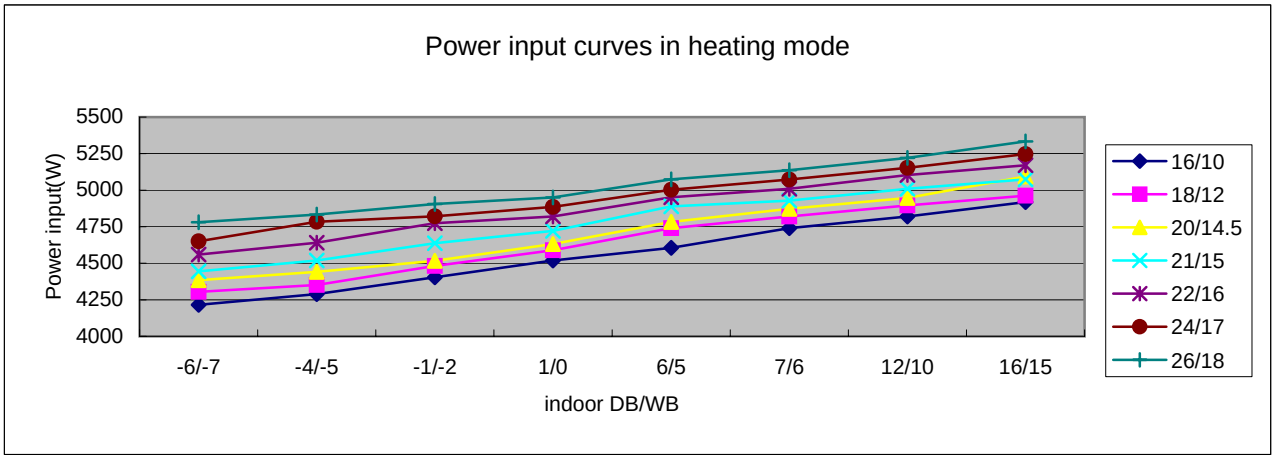
HDU-42CI03/H

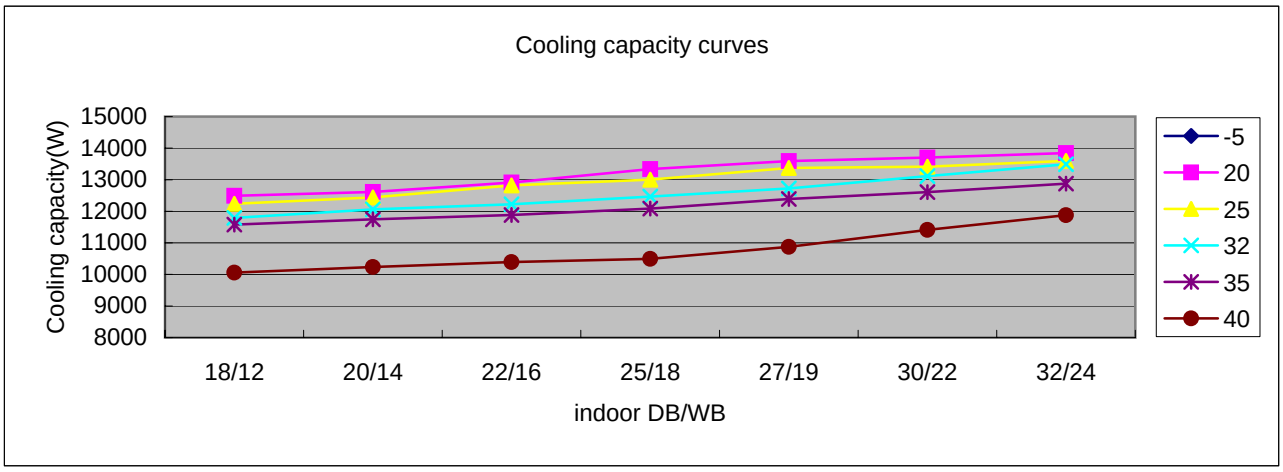

Cooling capacity curves
Cooling capacity(W)
14000
13500
13000
12500
12000
11500
11000
10500
10000
9500
9000
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor DB/WB
-5
20
25
32
35
40

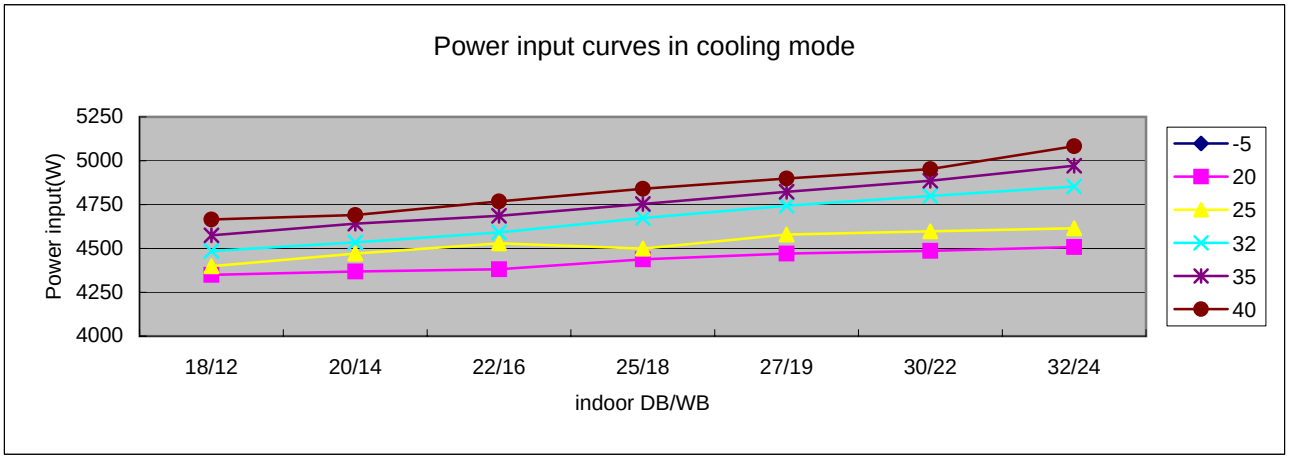

Power input curves in cooling mode
Power input(W)
5200
5000
4800
4600
4400
4200
4000
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor DB/WB
-5
20
25
32
35
40

HDU-42HK03/H

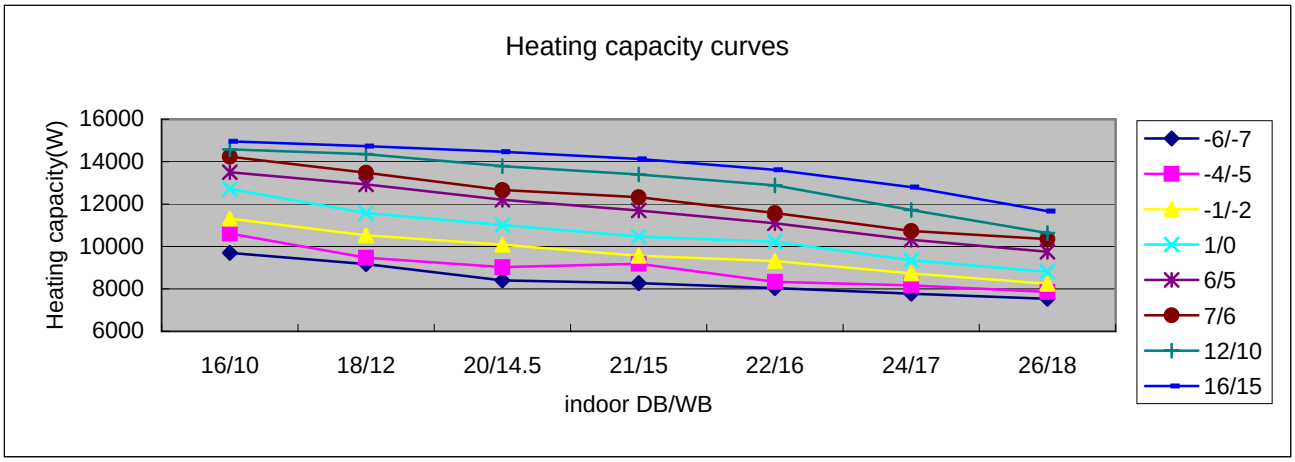

Heating capacity curves
Heating capacity(W)
16000
14000
12000
10000
8000
6000
16/10
18/12
20/14.5
21/15
22/16
24/17
26/18
indoor DB/WB
-6/-7
-4/-5
-1/-2
1/0
6/5
7/6
12/10
16/15

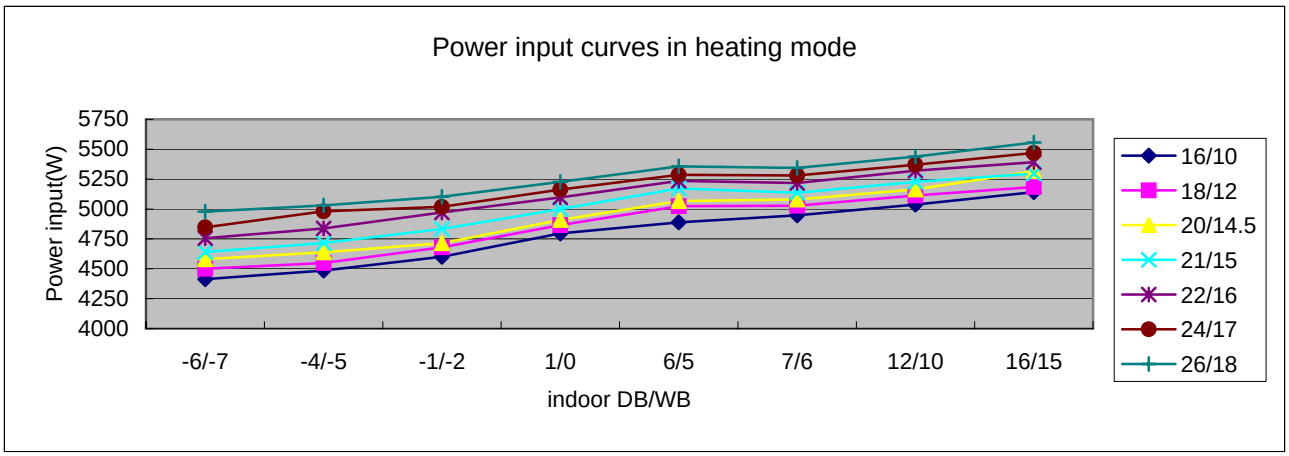

Power input curves in heating mode
Power input(W)
5500
5250
5000
4750
4500
4250
4000
-6/-7
-4/-5
-1/-2
1/0
6/5
7/6
12/10
16/15
indoor DB/WB
16/10
18/12
20/14.5
21/15
22/16
24/17
26/18

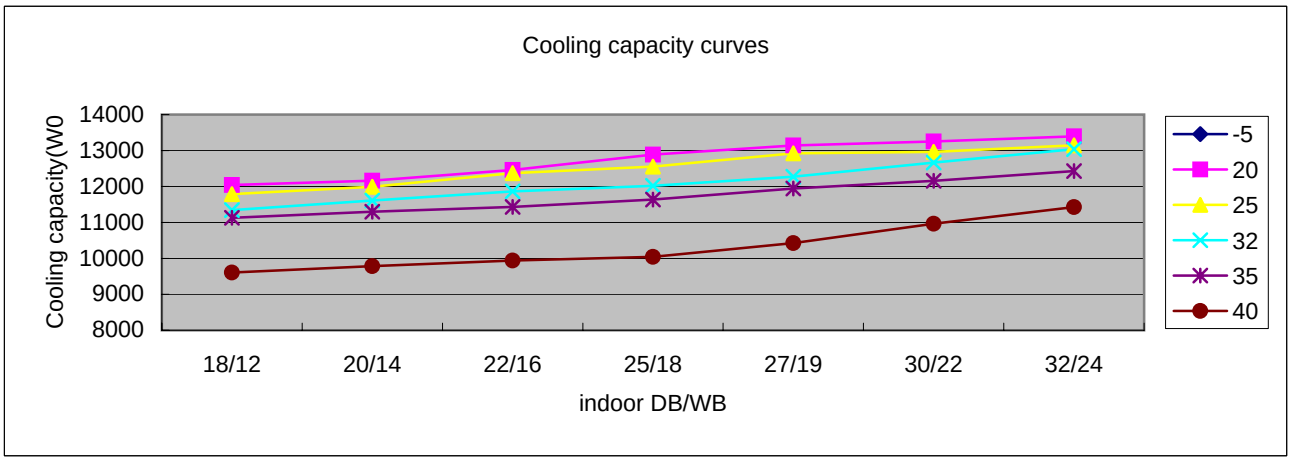

Cooling capacity curves
Cooling capacity(W)
15000
14000
13000
12000
11000
10000
9000
8000
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor DB/WB
-5
20
25
32
35
40

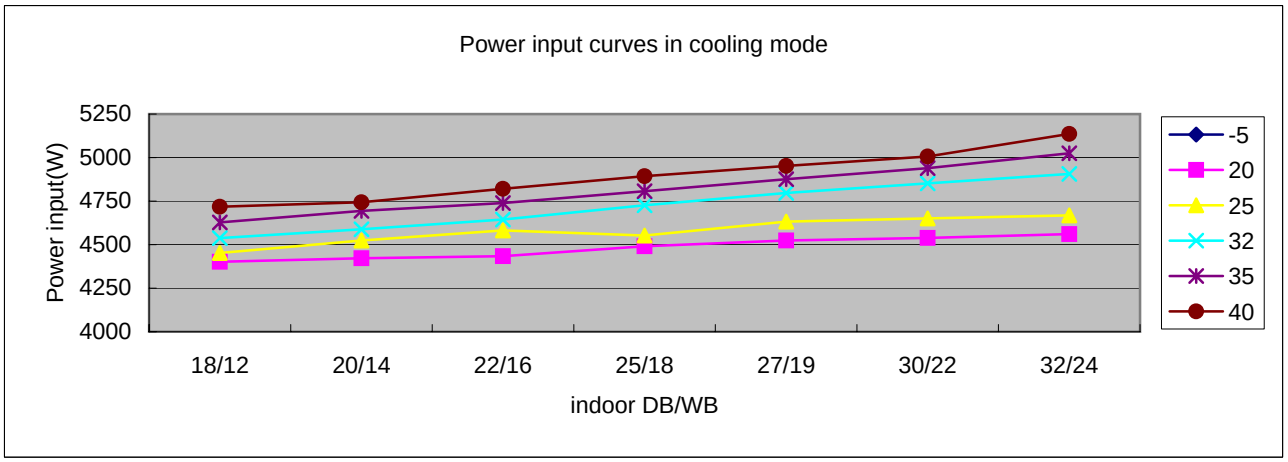

Power input curves in cooling mode
Power input(W)
5250
5000
4750
4500
4250
4000
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor DB/WB
-5
20
25
32
35
40

HDU-42HF03/H

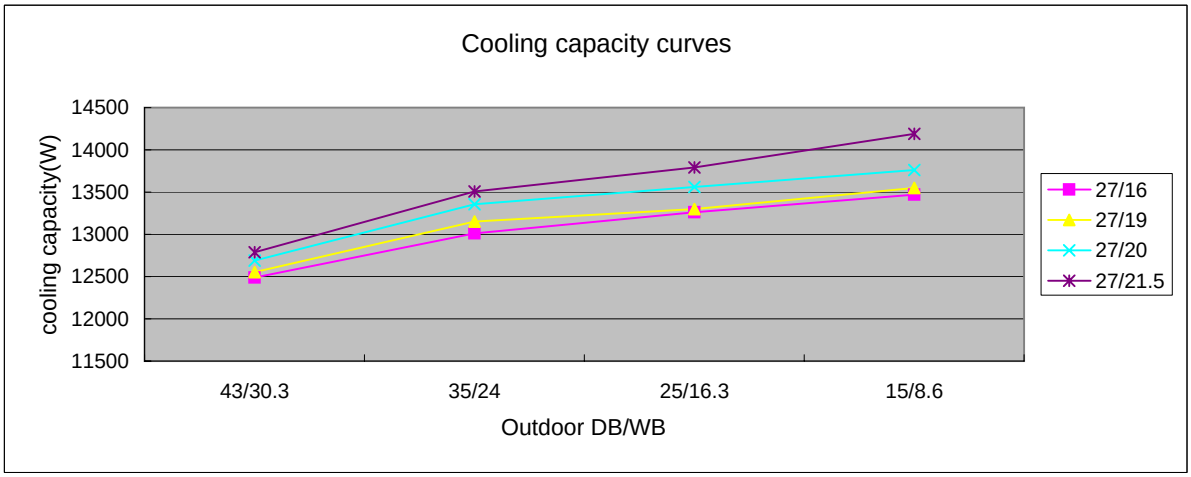

Heating capacity curves
Heating capacity(W)
16000
14000
12000
10000
8000
6000
16/10
18/12
20/14.5
21/15
22/16
24/17
26/18
indoor DB/WB
-6/-7
-4/-5
-1/-2
1/0
6/5
7/6
12/10
16/15

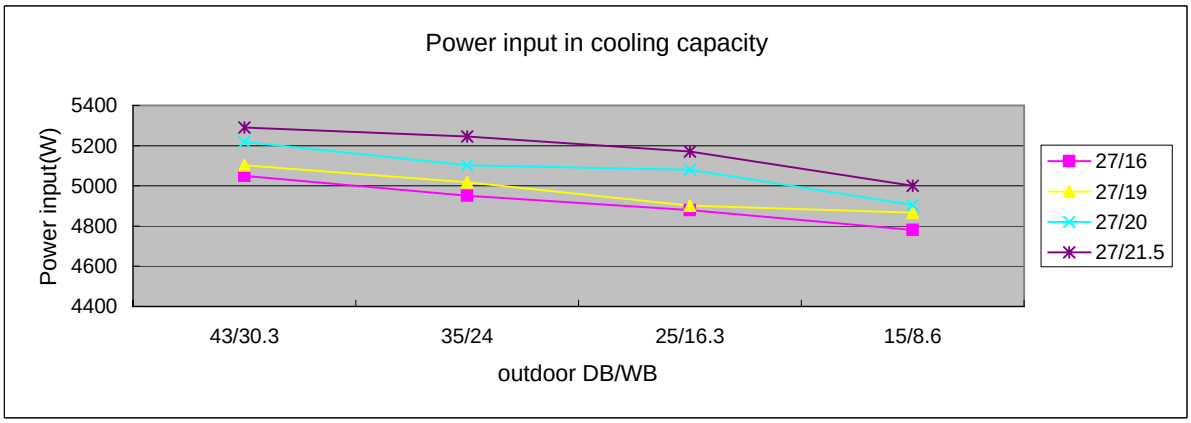

Power input curves in heating mode
Power input(W)
5750
5500
5250
5000
4750
4500
4250
4000
-6/-7
-4/-5
-1/-2
1/0
6/5
7/6
12/10
16/15
indoor DB/WB
16/10
18/12
20/14.5
21/15
22/16
24/17
26/18

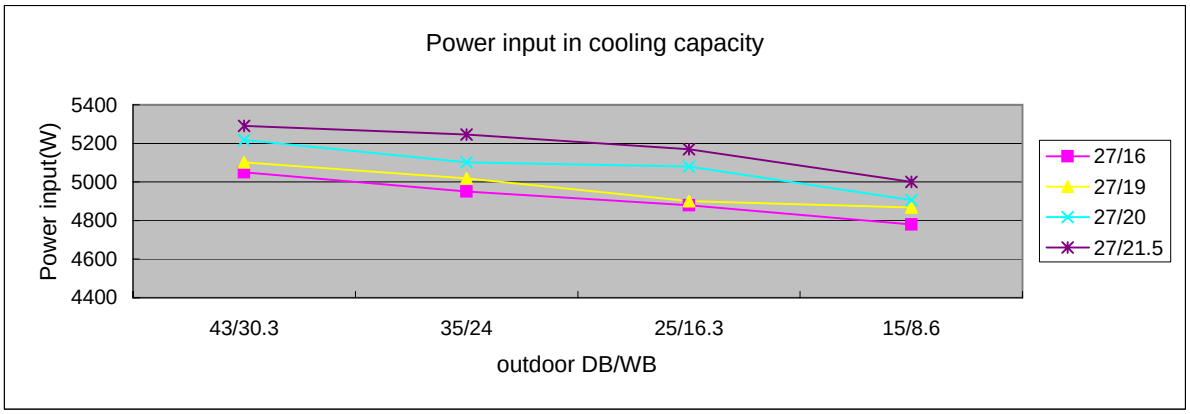

Cooling capacity curves
Cooling capacity(W0
14000
13000
12000
11000
10000
9000
8000
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor DB/WB
-5
20
25
32
35
40

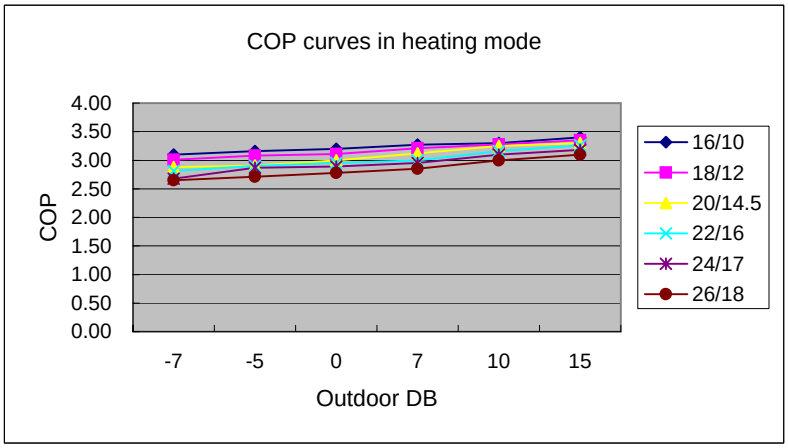

Power input curves in cooling mode
Power input(W)
5250
5000
4750
4500
4250
4000
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor DB/WB
-5
20
25
32
35
40

HDU-50HT03/H

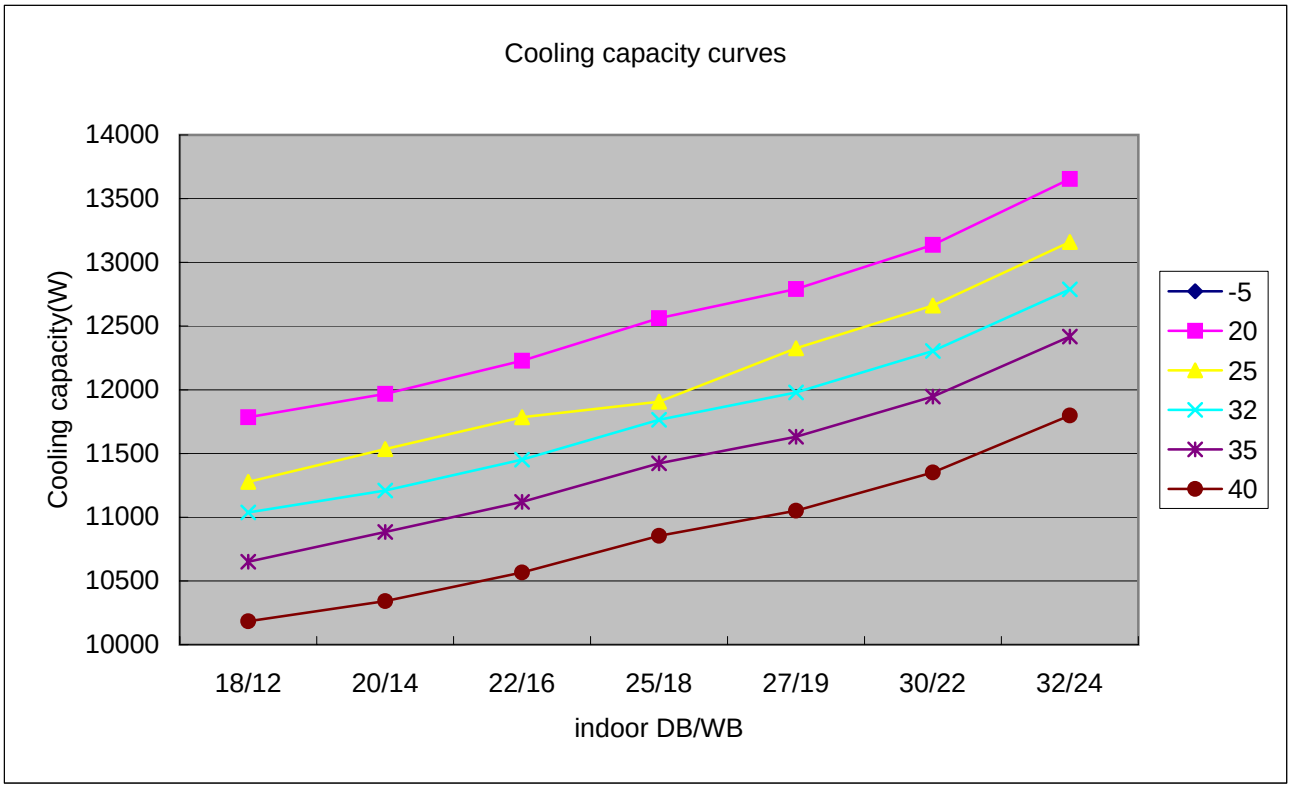

Cooling capacity curves
cooling capacity(W)
14500
14000
13500
13000
12500
12000
11500
43/30.3
35/24
25/16.3
15/8.6
Outdoor DB/WB
27/16
27/19
27/20
27/21.5

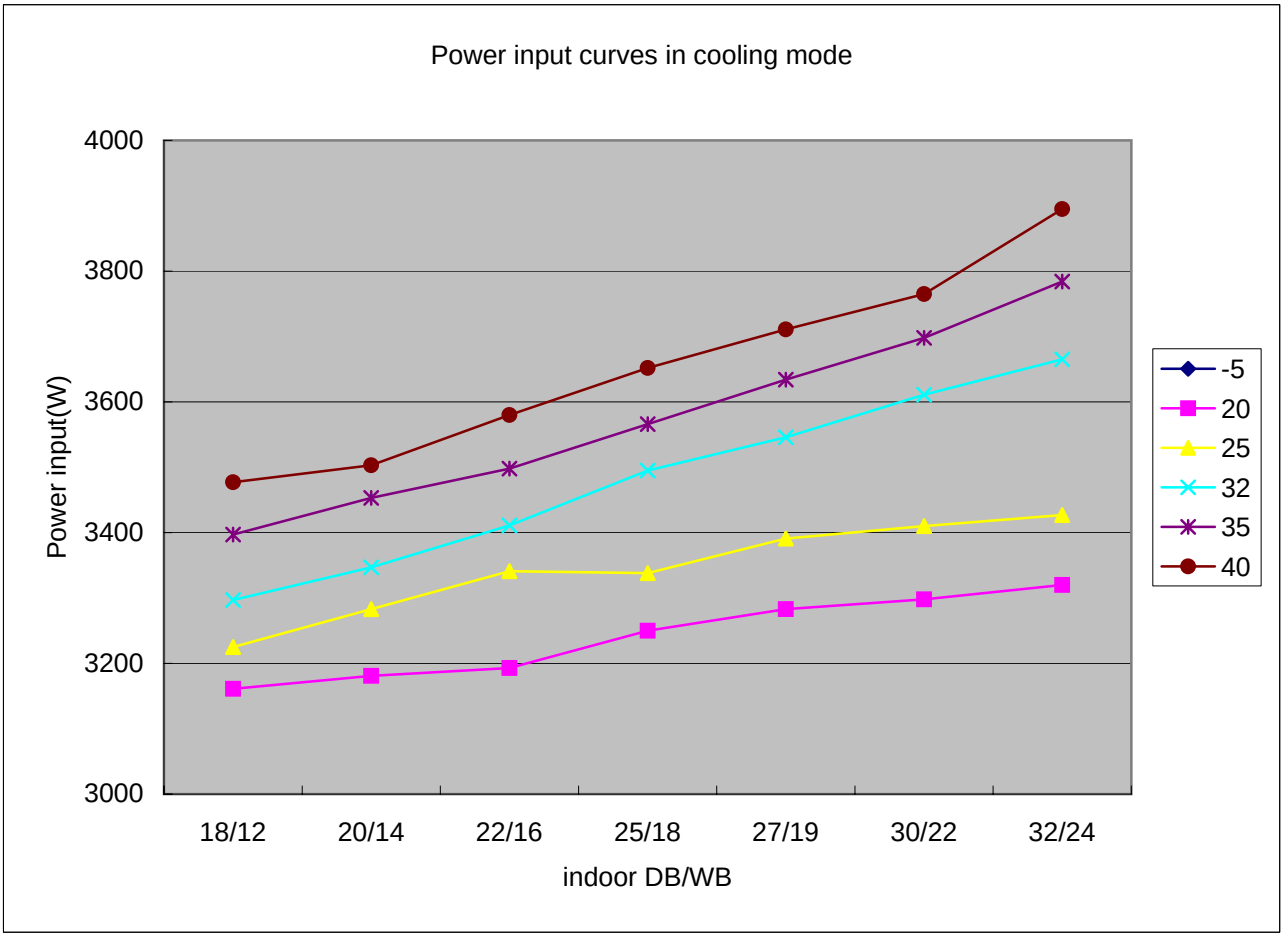

Power input in cooling capacity
Power input(W)
5400
5200
5000
4800
4600
4400
43/30.3
35/24
25/16.3
15/8.6
outdoor DB/WB
27/16
27/19
27/20
27/21.5


Power input in cooling capacity
Power input(W)
5400
5200
5000
4800
4600
4400
43/30.3
35/24
25/16.3
15/8.6
outdoor DB/WB
27/16
27/19
27/20
27/21.5

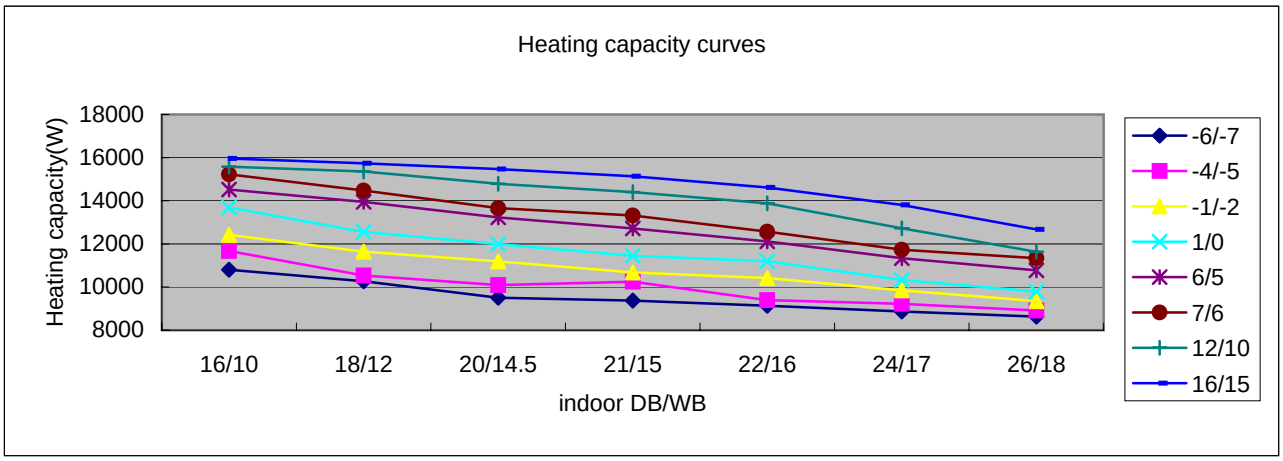

COP curves in heating mode
COP
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-7
-5
0
7
10
15
Outdoor DB
16/10
18/12
20/14.5
22/16
24/17
26/18

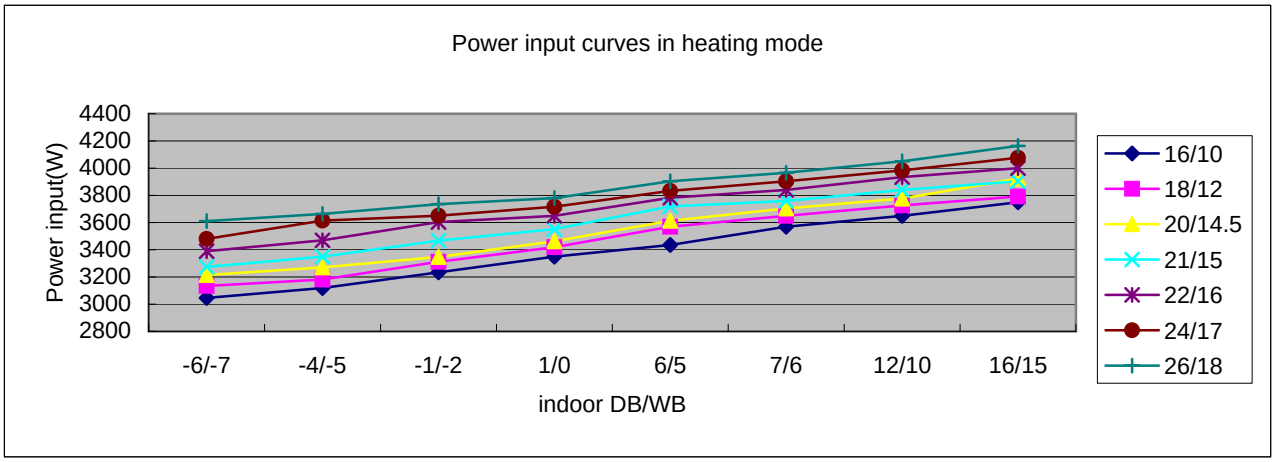
HPU-42CV03

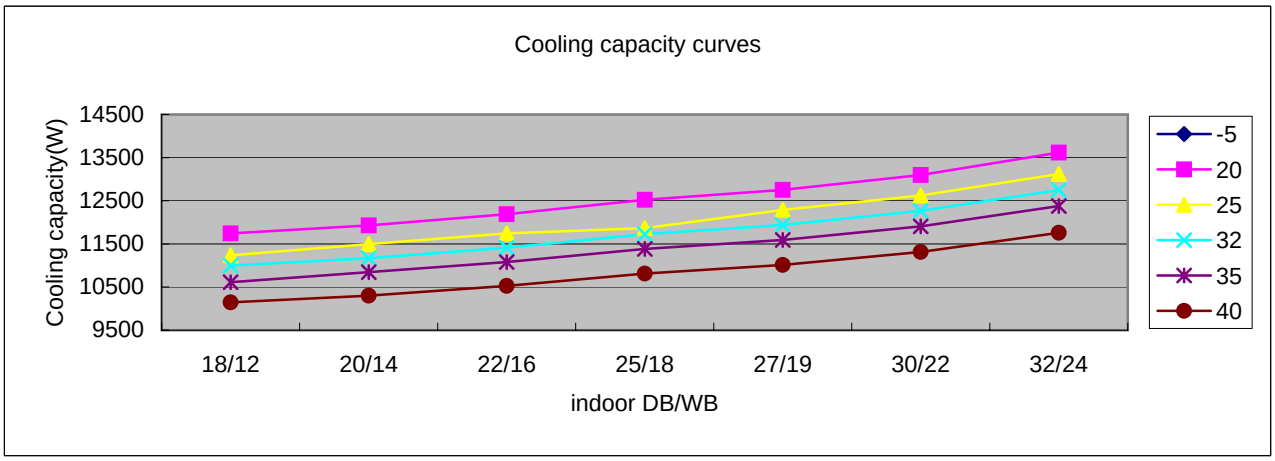

Cooling capacity curves
Cooling capacity(W)
14000
13500
13000
12500
12000
11500
11000
10500
10000
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor DB/WB
-5
20
25
32
35
40

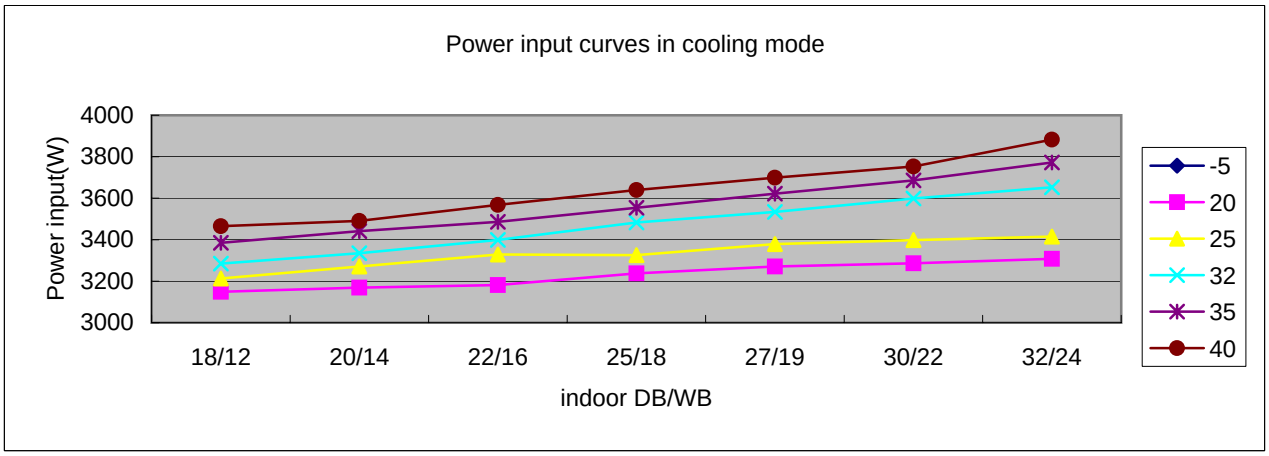

Power input curves in cooling mode
Power input(W)
4000
3800
3600
3400
3200
3000
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor DB/WB
-5
20
25
32
35
40

For cab inet type: HPU-42HV03

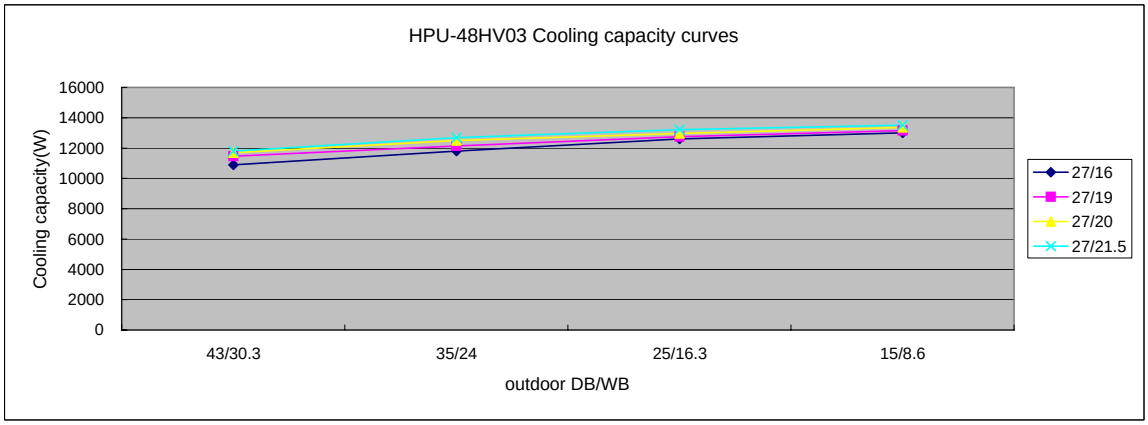


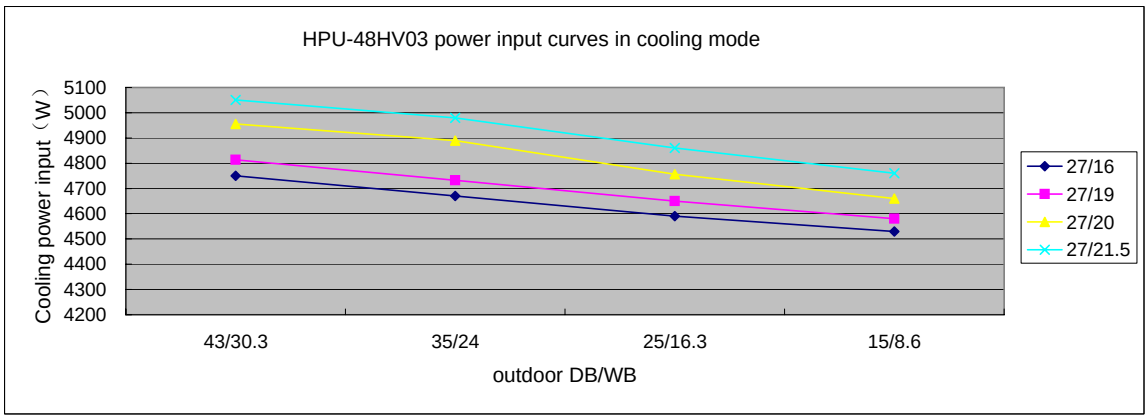


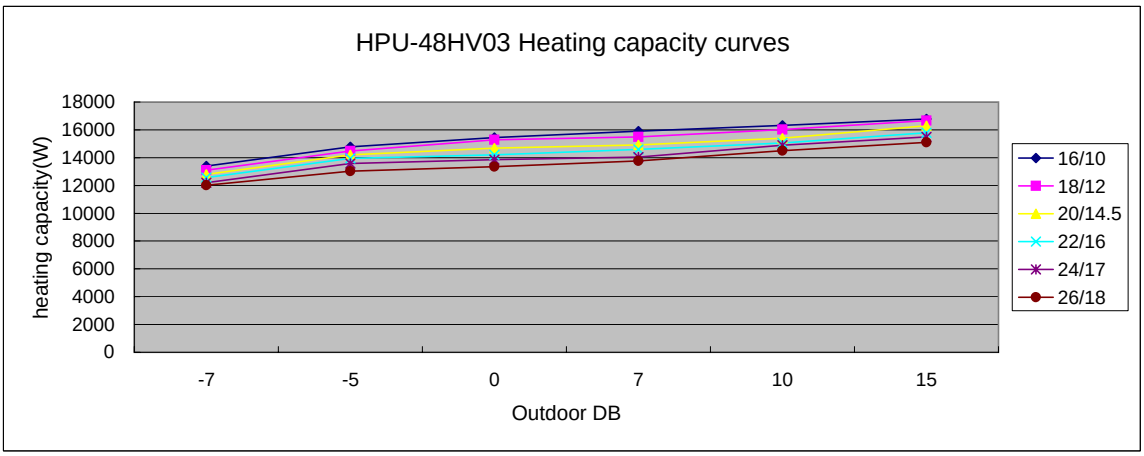


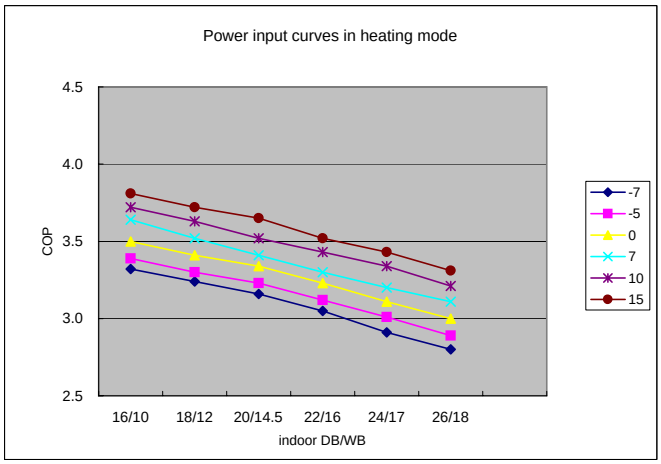


HPU-48HV03

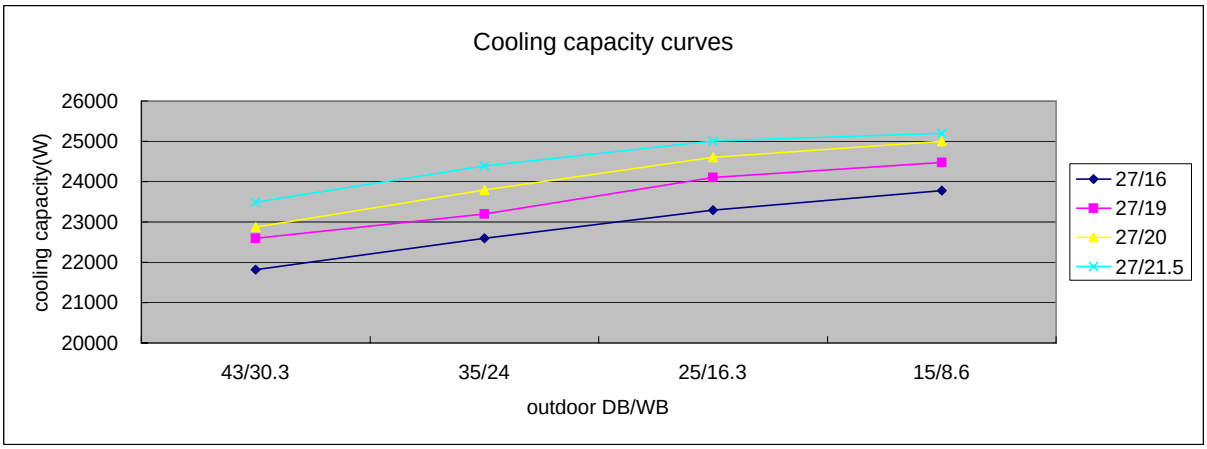

HPU-48HV03 Cooling capacity curves
Cooling capacity(W)
16000
14000
12000
10000
8000
6000
4000
2000
0
43/30.3
35/24
25/16.3
15/8.6
outdoor DB/WB
27/16
27/19
27/20
27/21.5

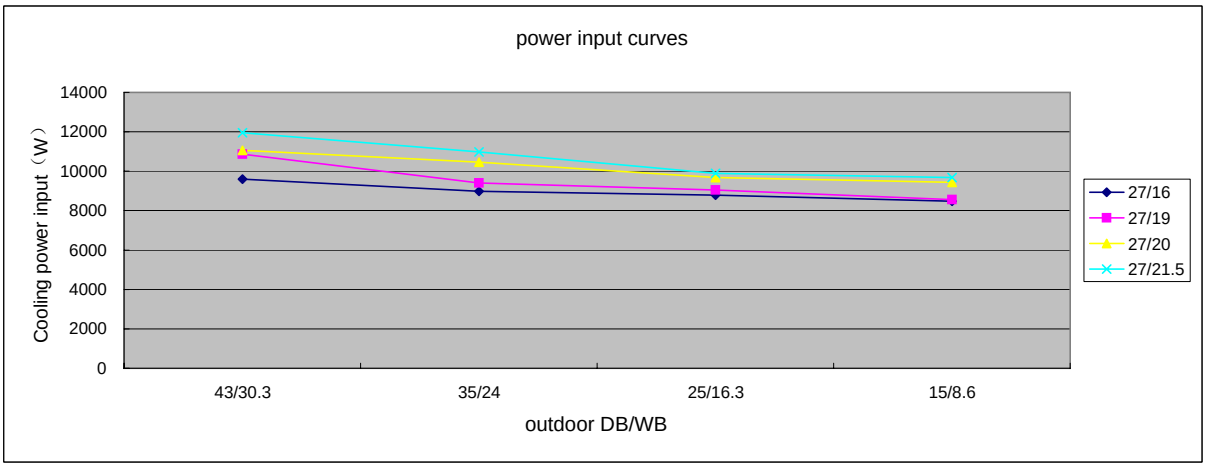

HPU-48HV03 power input curves in cooling mode
Cooling power input（W）
5100
5000
4900
4800
4700
4600
4500
4400
4300
4200
43/30.3
35/24
25/16.3
15/8.6
outdoor DB/WB
27/16
27/19
27/20
27/21.5

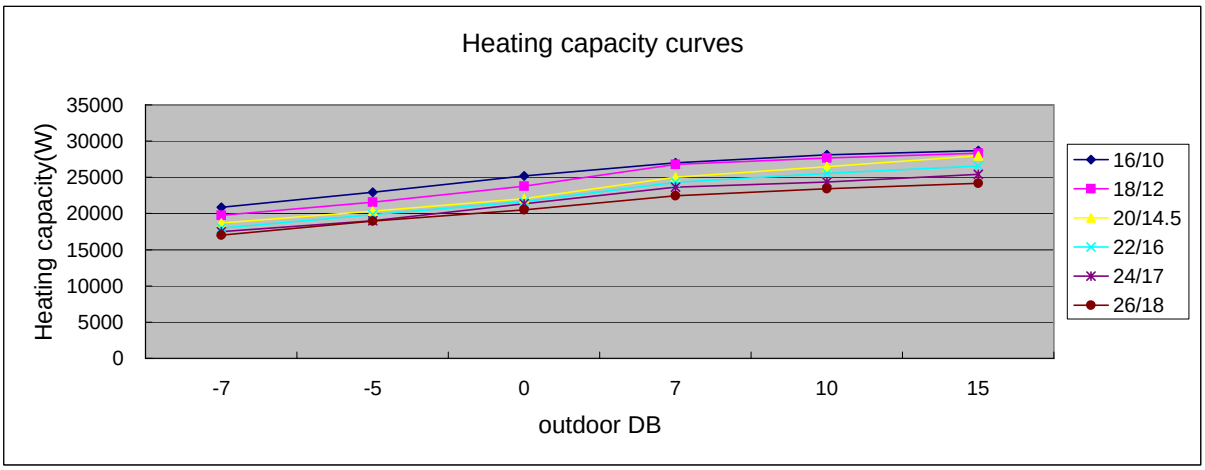

HPU-48HV03 Heating capacity curves
heating capacity(W)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
-7
-5
0
7
10
15
Outdoor DB
16/10
18/12
20/14.5
22/16
24/17
26/18

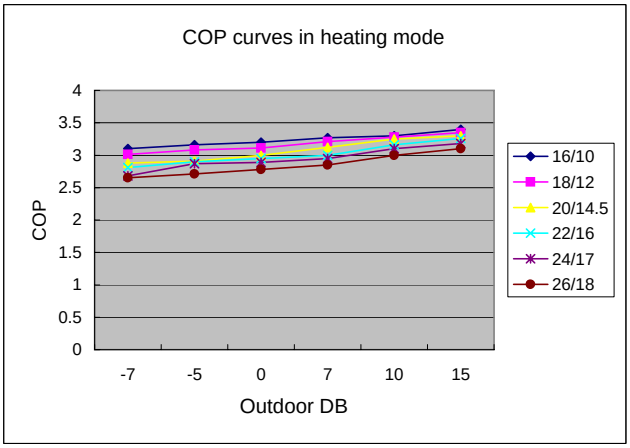

Power input curves in heating mode
COP
4.5
4.0
3.5
3.0
2.5
16/10
18/12
20/14.5
22/16
24/17
26/18
indoor DB/WB
-7
-5
0
7
10
15

For 96 Models

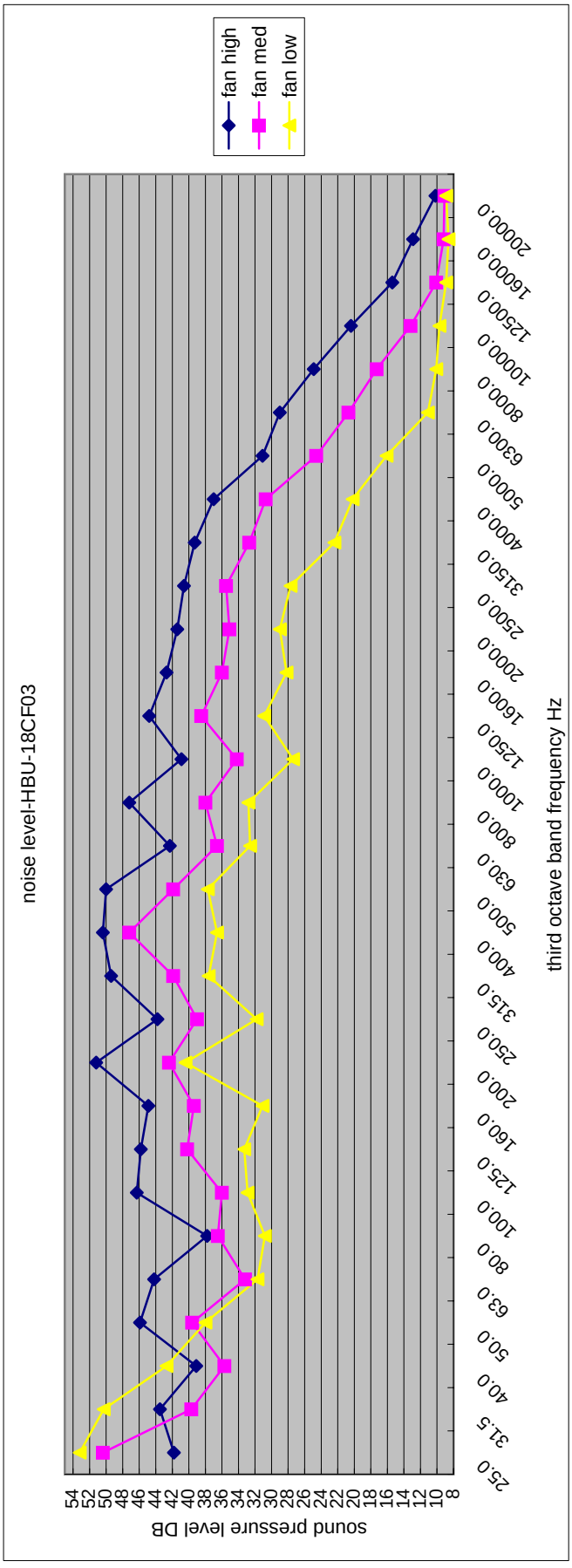


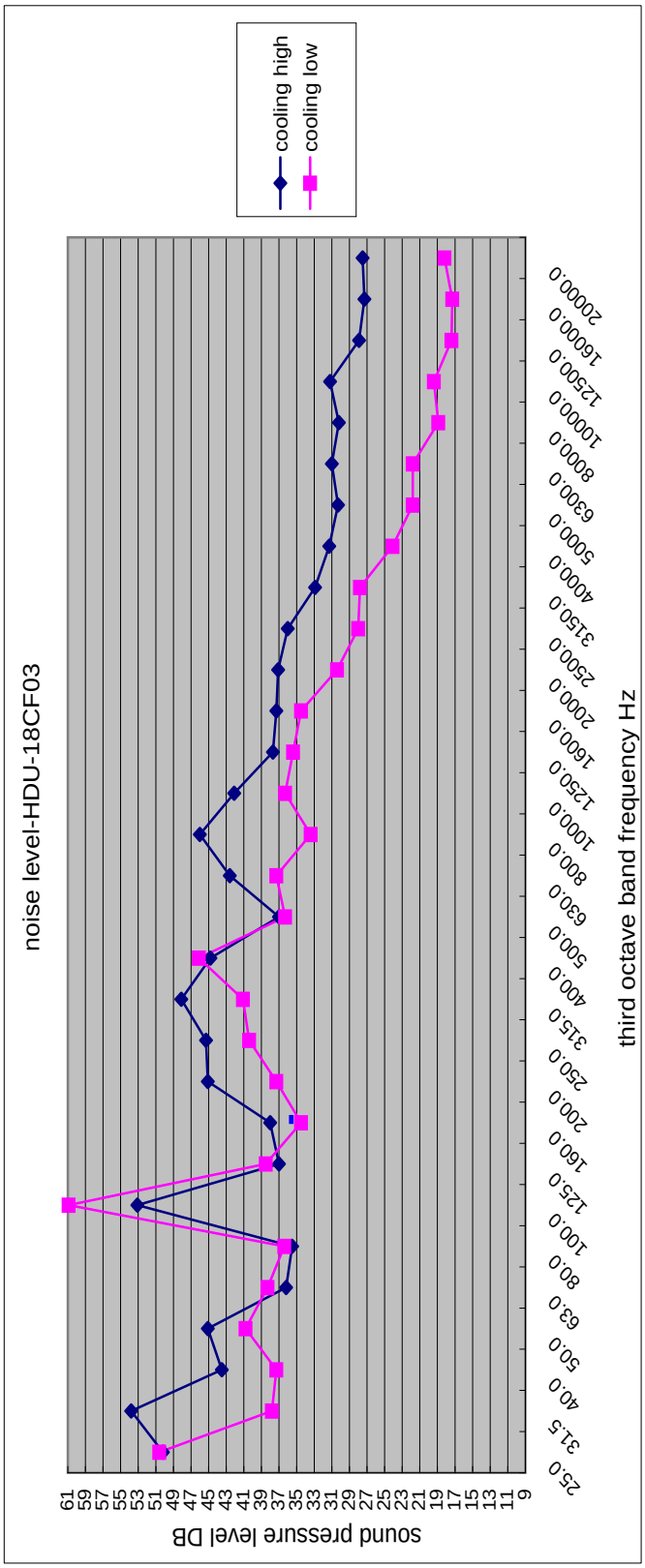


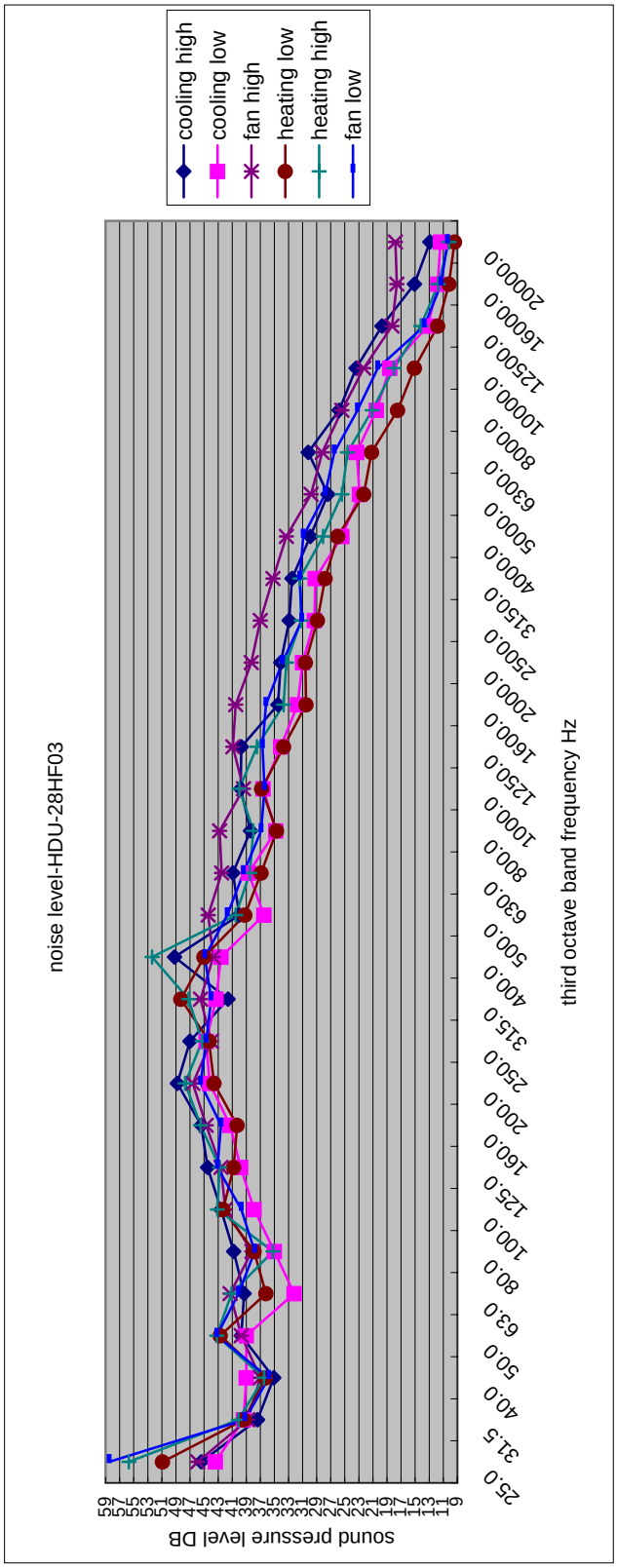


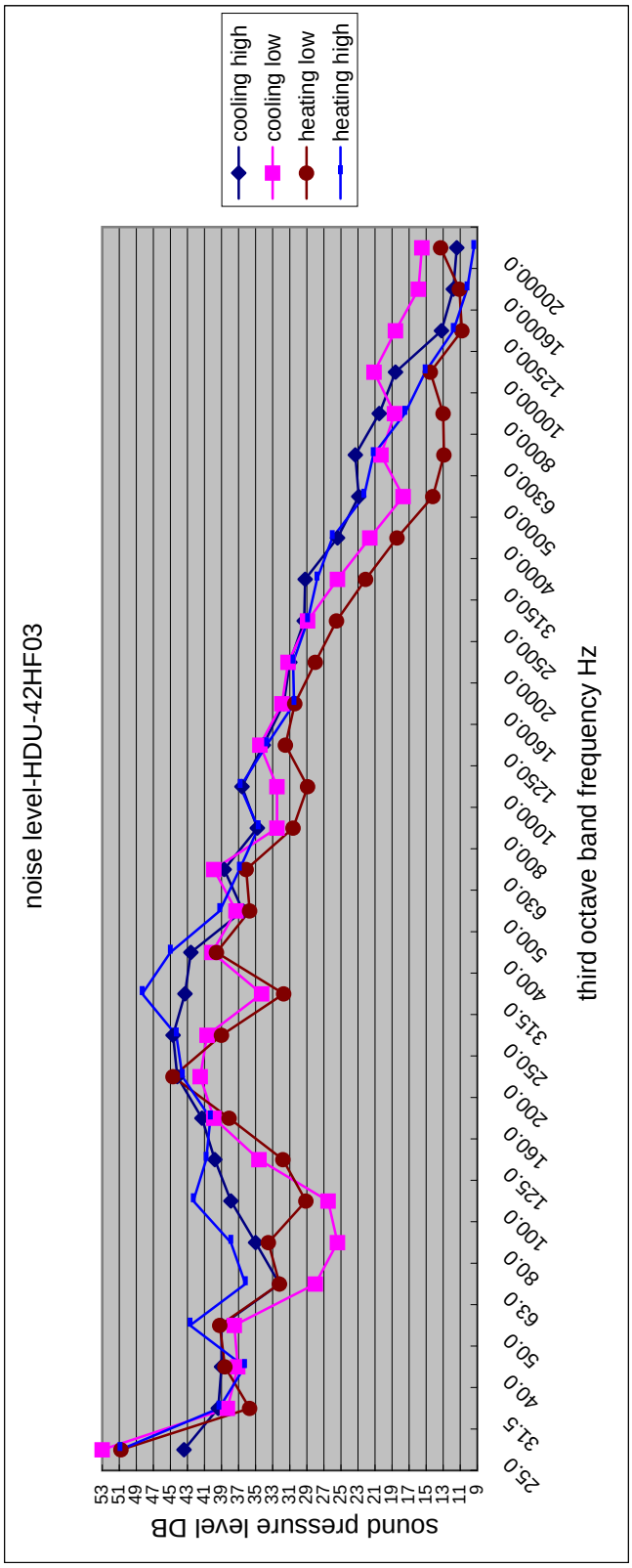


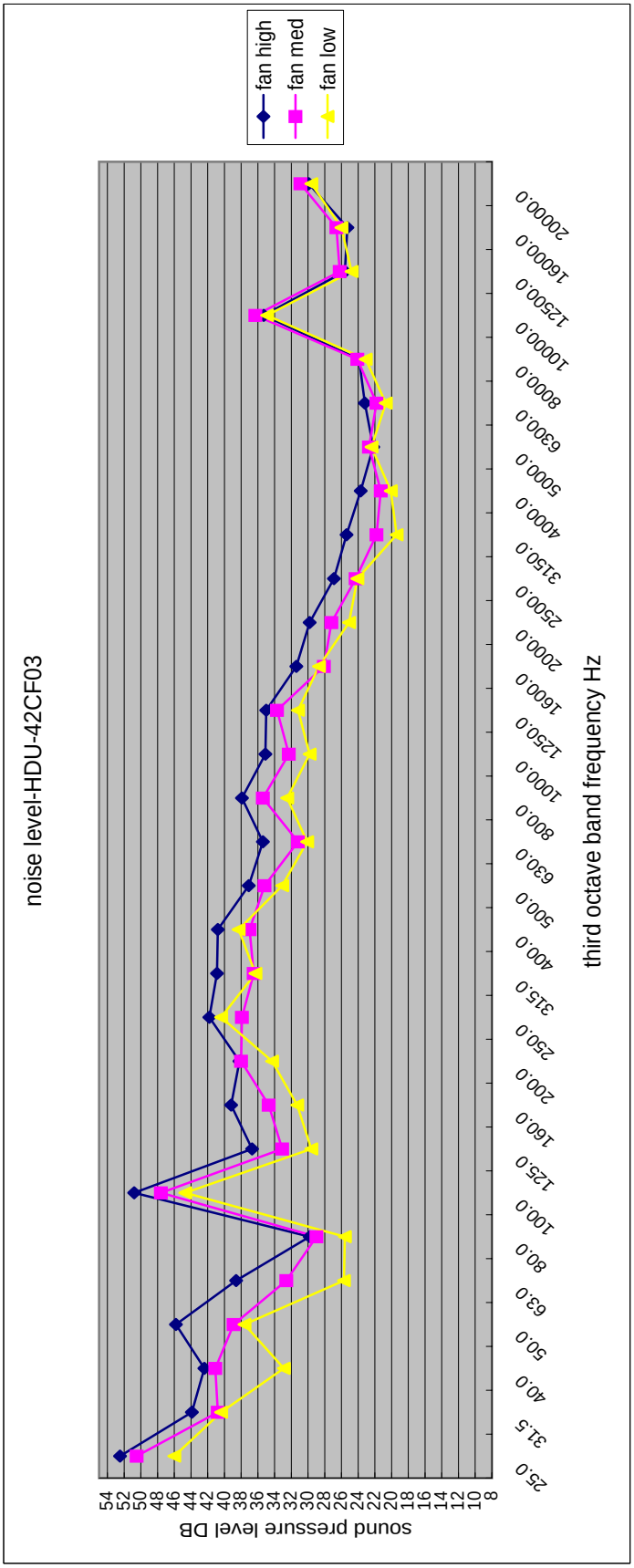
3.2 Noise level

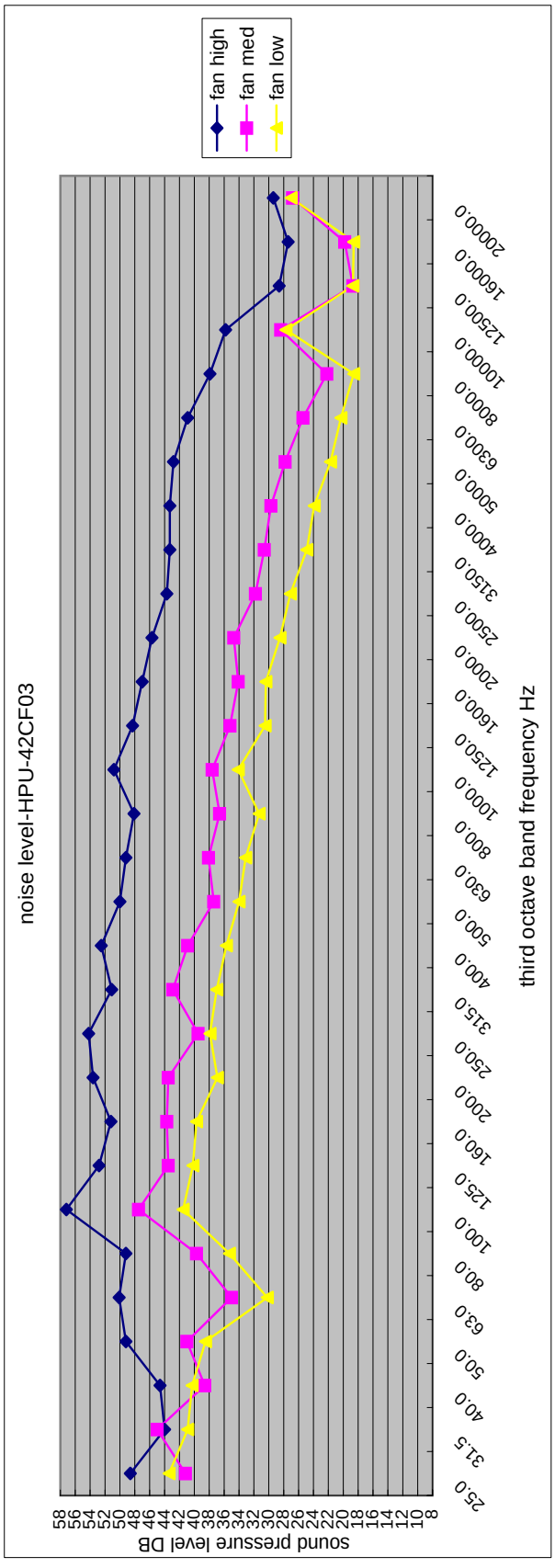


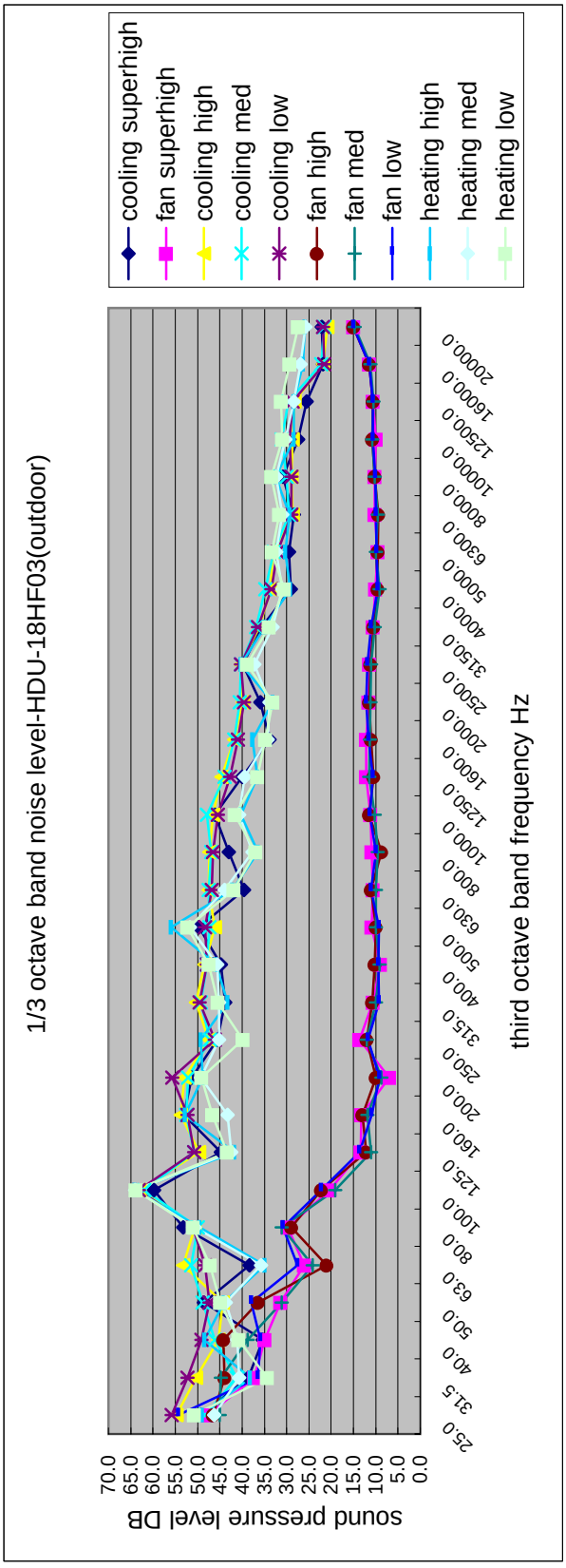


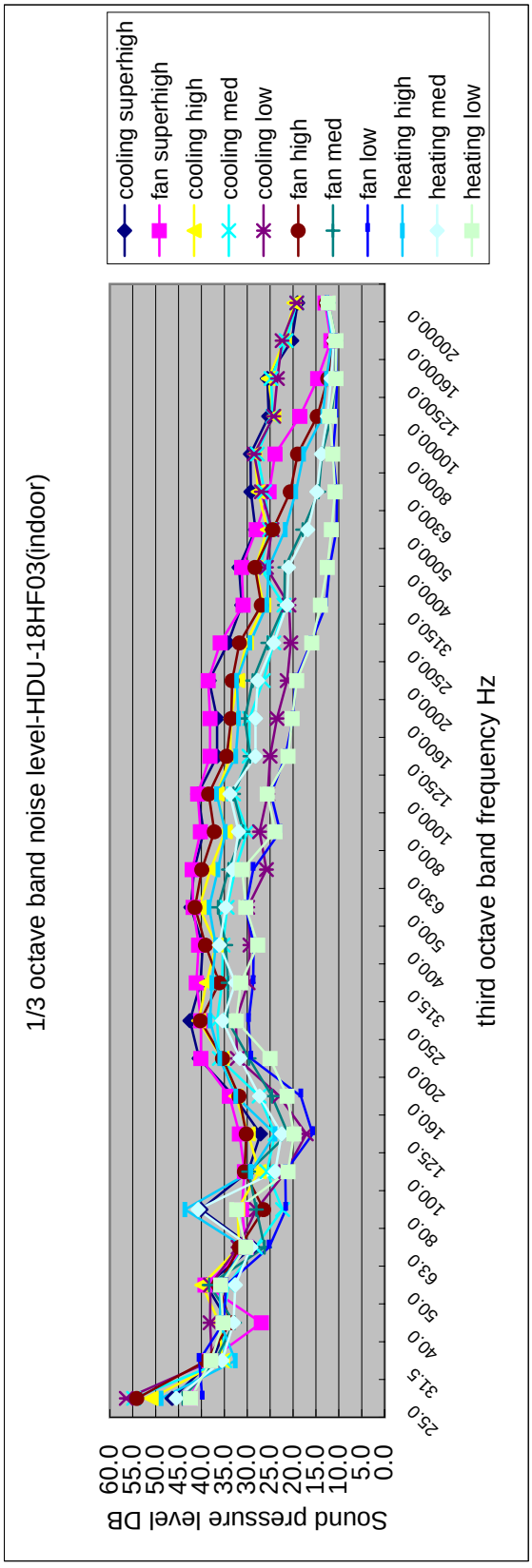

noise level-HDU-28HF03
cooling high
cooling low
fan high
heating low
heating high
fan low
sound pressure level DB
third octave band frequency Hz

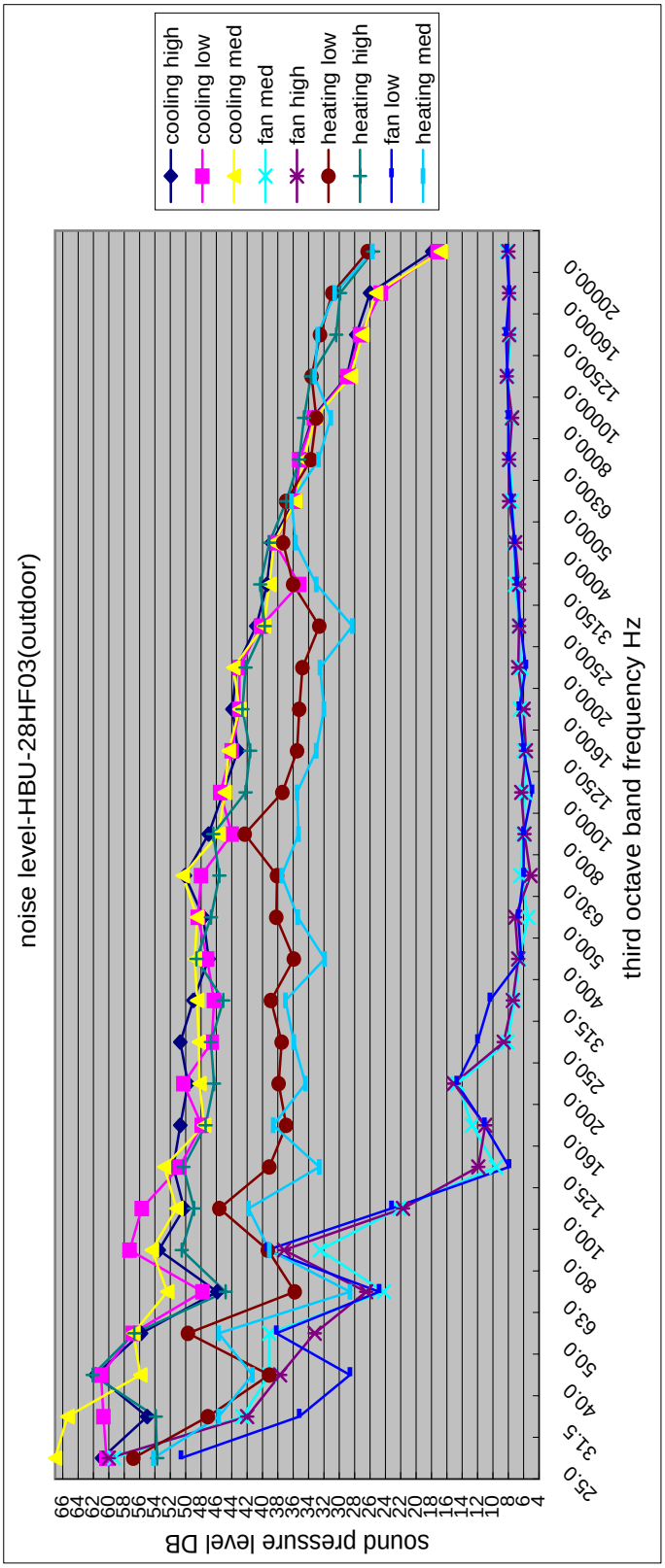

noise level-HDU-42HF03
cooling high
cooling low
heating low
heating high
sound pressure level DB
third octave band frequency Hz

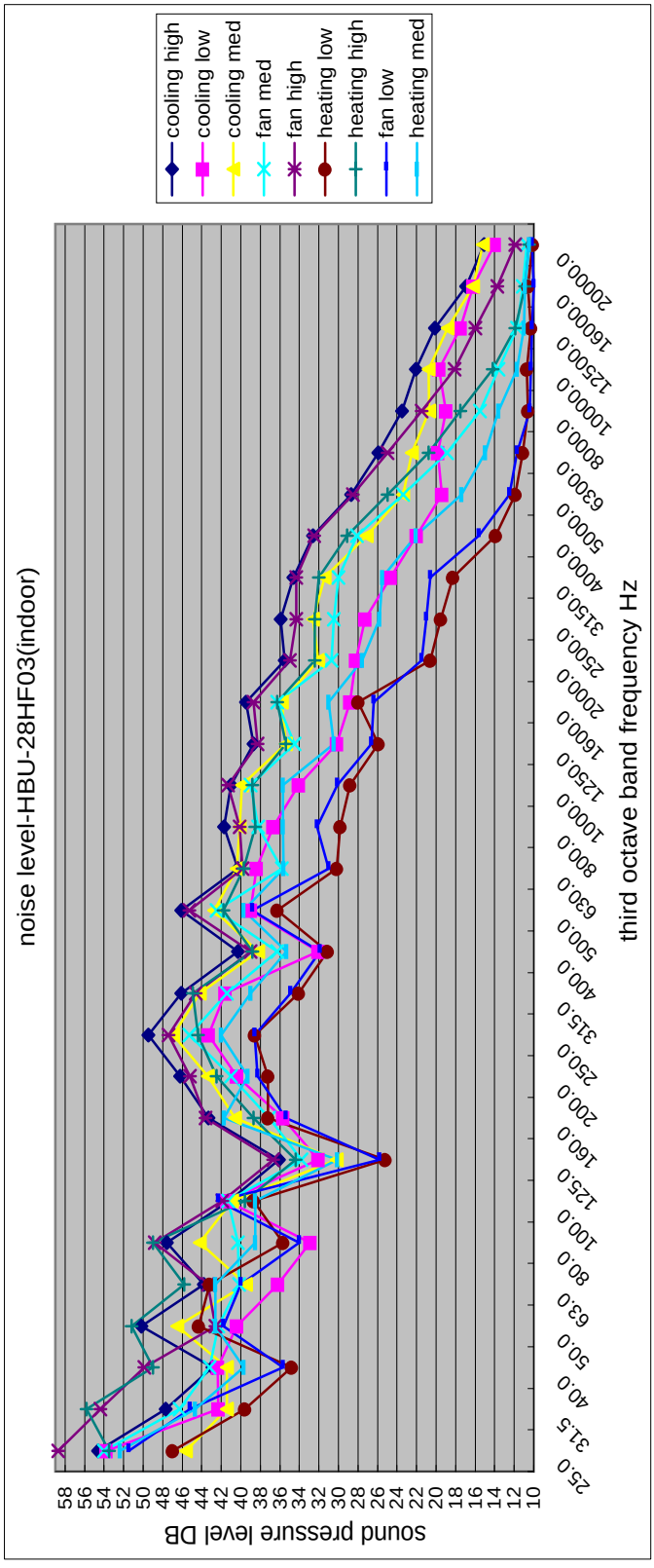

noise level-HDU-42CF03
fan high
fan med
fan low
sound pressure level DB
54 52 50 48 46 44 42 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8
third octave band frequency Hz
25.0 31.5 40.0 50.0 63.0 80.0 100.0 125.0 160.0 200.0 250.0 315.0 400.0 500.0 630.0 800.0 1000.0 1250.0 1600.0 2000.0 2500.0 3150.0 4000.0 5000.0 6300.0 8000.0 10000.0 12500.0 16000.0 20000.0

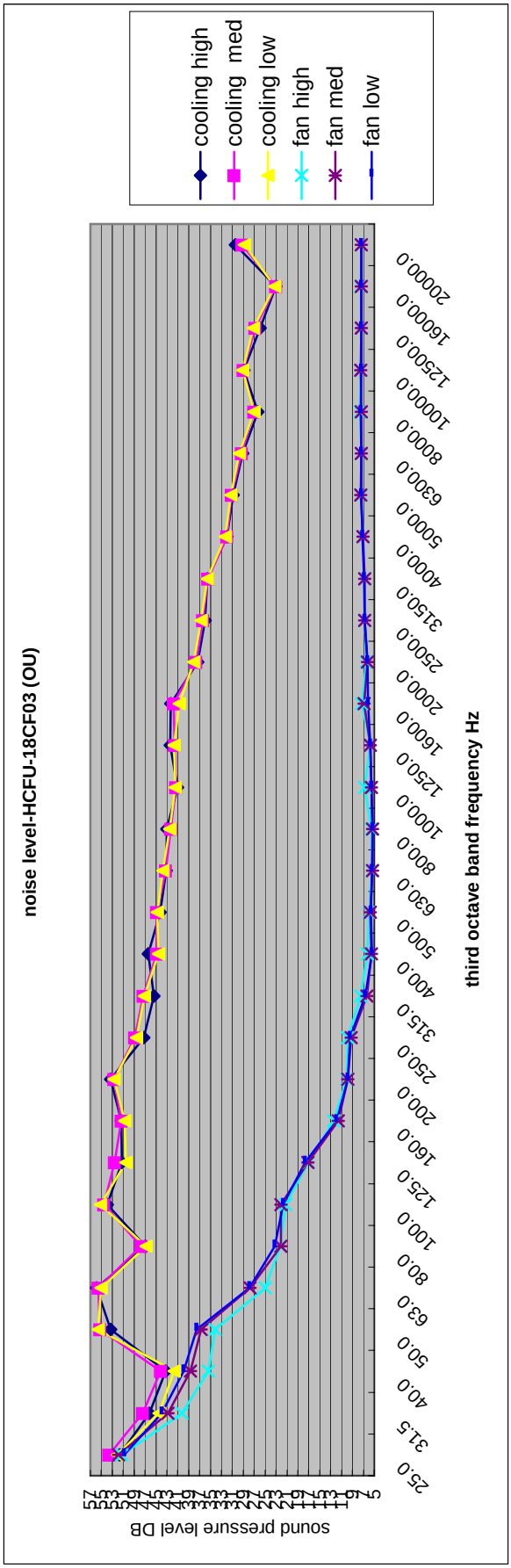

noise level-HPU-42CF03
fan high
fan med
fan low
sound pressure level DB
58 56 54 52 50 48 46 44 42 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8
third octave band frequency Hz
25.0 31.5 40.0 50.0 63.0 80.0 100.0 125.0 160.0 200.0 250.0 315.0 400.0 500.0 630.0 800.0 1000.0 1250.0 1600.0 2000.0 2500.0 3150.0 4000.0 5000.0 6300.0 8000.0 10000.0 12500.0 16000.0 20000.0

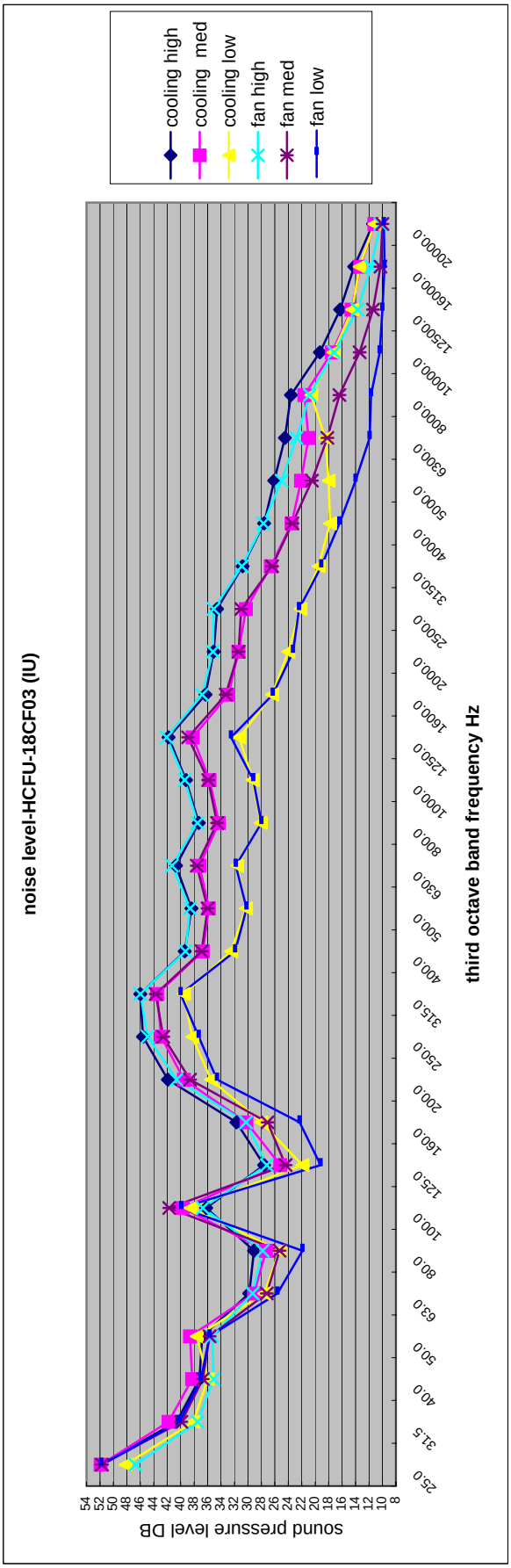

1/3 octave band noise level-HDU-18HF03(outdoor)
cooling superhigh
fan superhigh
cooling high
cooling med
cooling low
fan high
fan med
fan low
heating high
heating med
heating low
sound pressure level DB
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
25.0
31.5
40.0
50.0
63.0
80.0
100.0
125.0
160.0
200.0
250.0
315.0
400.0
500.0
630.0
800.0
1000.0
1250.0
1600.0
2000.0
2500.0
3150.0
4000.0
5000.0
6300.0
8000.0
10000.0
12500.0
16000.0
20000.0
third octave band frequency Hz

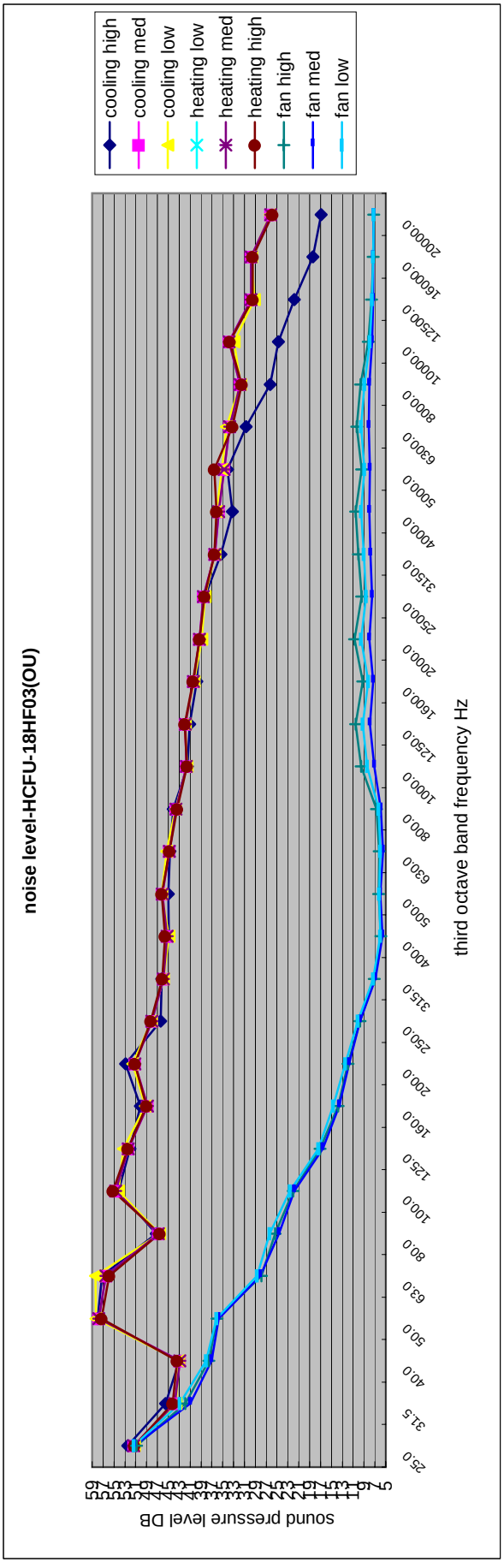

1/3 octave band noise level-HDU-18HF03(indoor)
cooling superhigh
fan superhigh
cooling high
cooling med
cooling low
fan high
fan med
fan low
heating high
heating med
heating low
Sound pressure level DB
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
25.0
31.5
40.0
50.0
63.0
80.0
100.0
125.0
160.0
200.0
250.0
315.0
400.0
500.0
630.0
800.0
1000.0
1250.0
1600.0
2000.0
2500.0
3150.0
4000.0
5000.0
6300.0
8000.0
10000.0
12500.0
16000.0
20000.0
third octave band frequency Hz

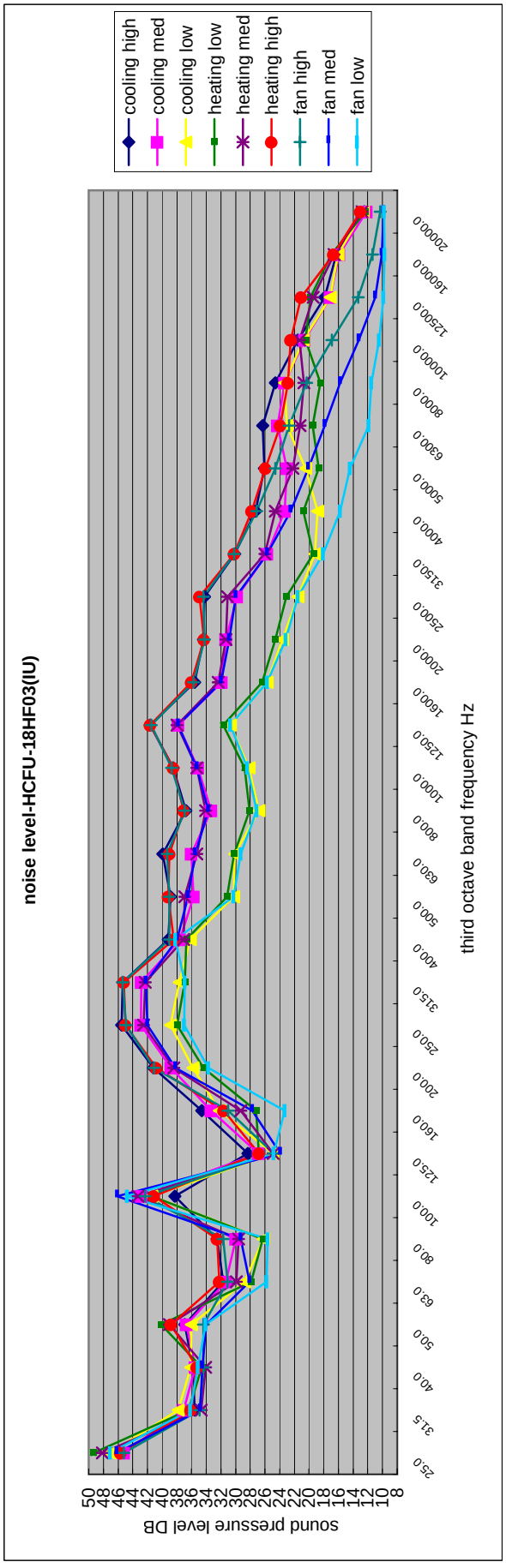

noise level-HBU-28HF03(outdoor)
cooling high
cooling low
cooling med
fan med
fan high
heating low
heating high
fan low
heating med
sound pressure level DB
third octave band frequency Hz

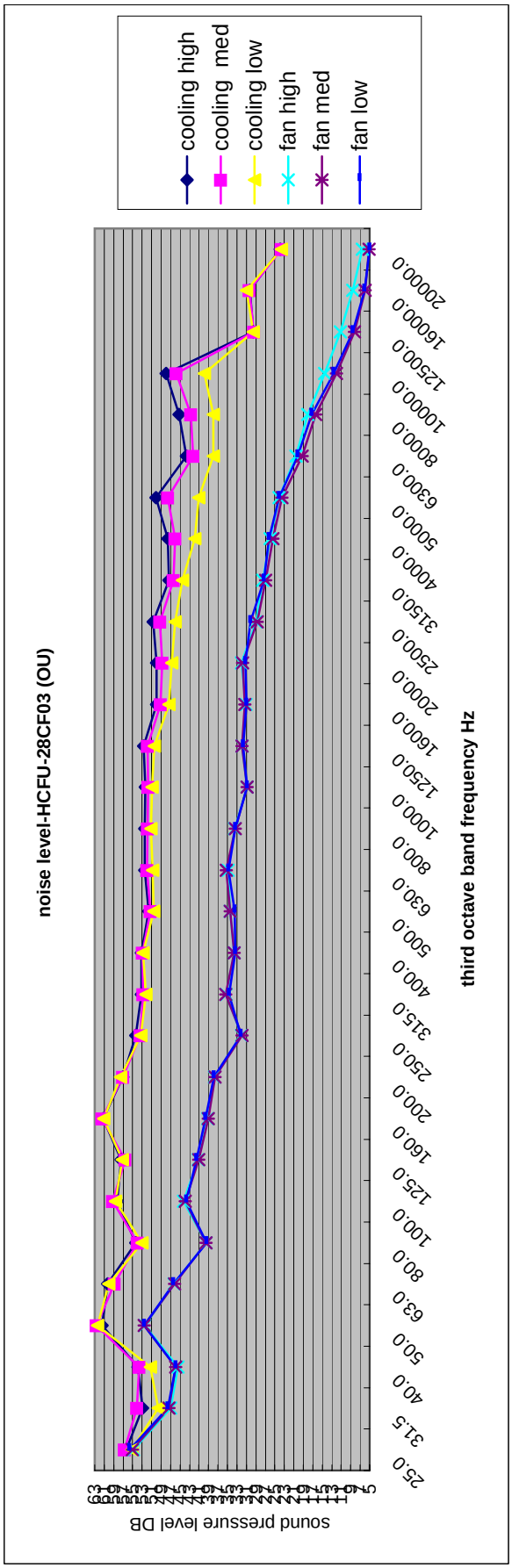

noise level-HBU-28HF03(indoor)
cooling high
cooling low
cooling med
fan med
fan high
heating low
heating high
fan low
heating med
sound pressure level DB
third octave band frequency Hz

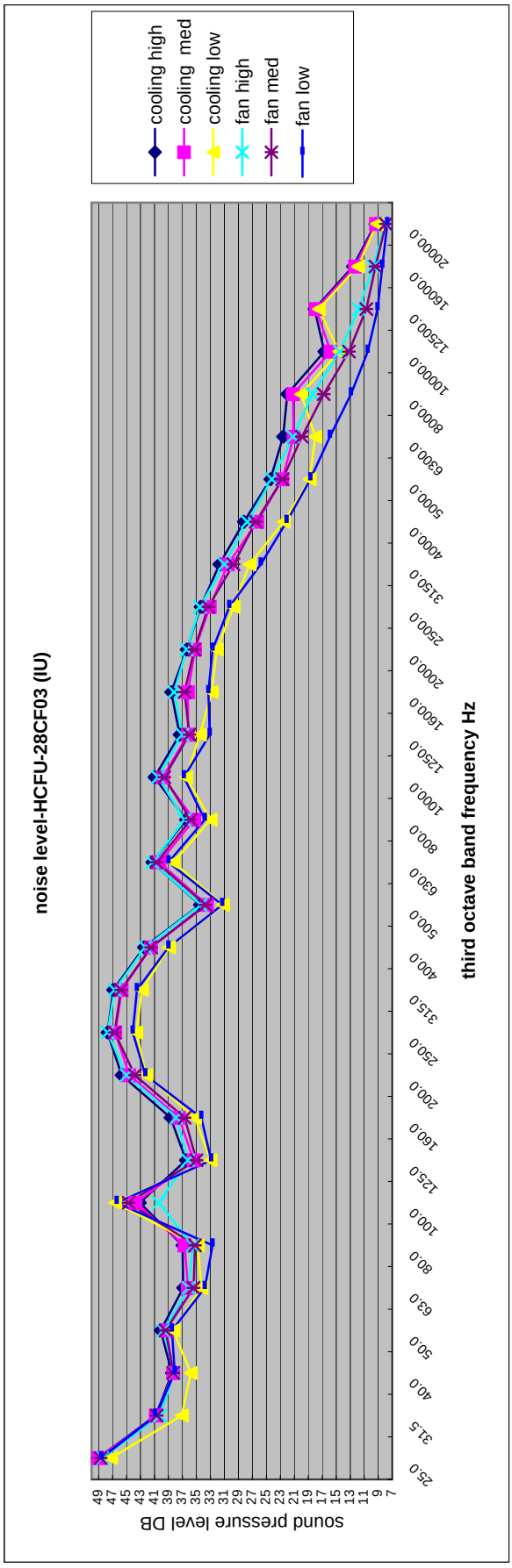

noise level-HCFU-18CF03 (OU)
cooling high
cooling med
cooling low
fan high
fan med
fan low
sound pressure level DB
third octave band frequency Hz

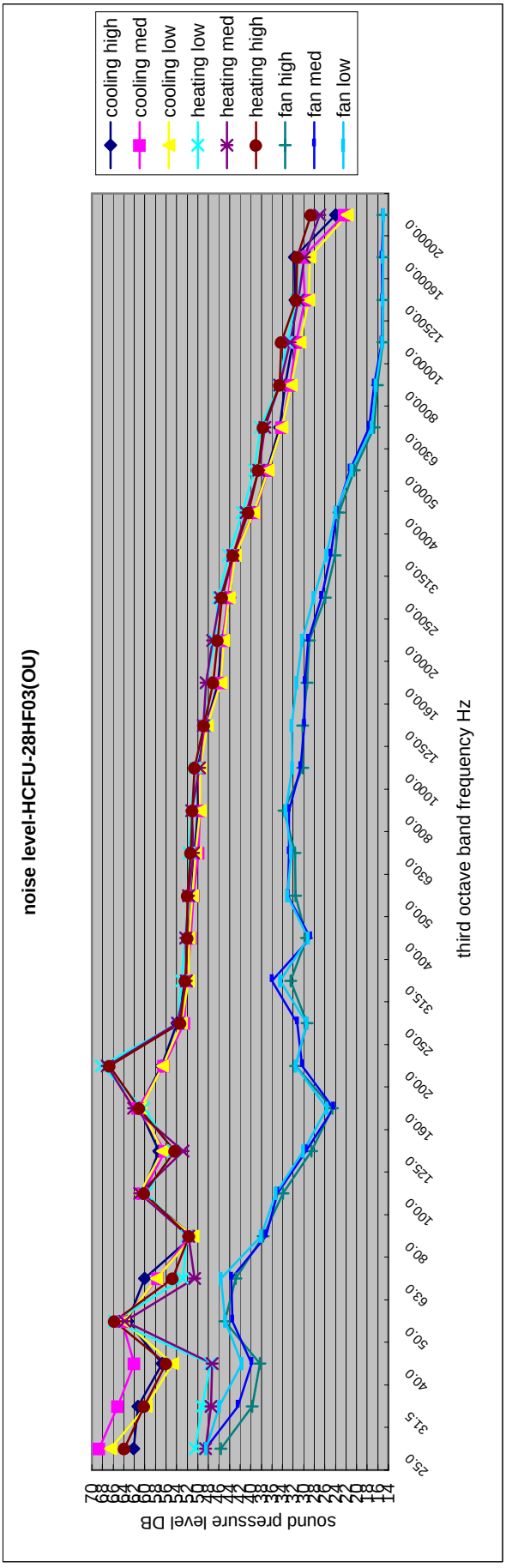

noise level-HCFU-18CF03 (IU)
cooling high
cooling med
cooling low
fan high
fan med
fan low
sound pressure level DB
third octave band frequency Hz

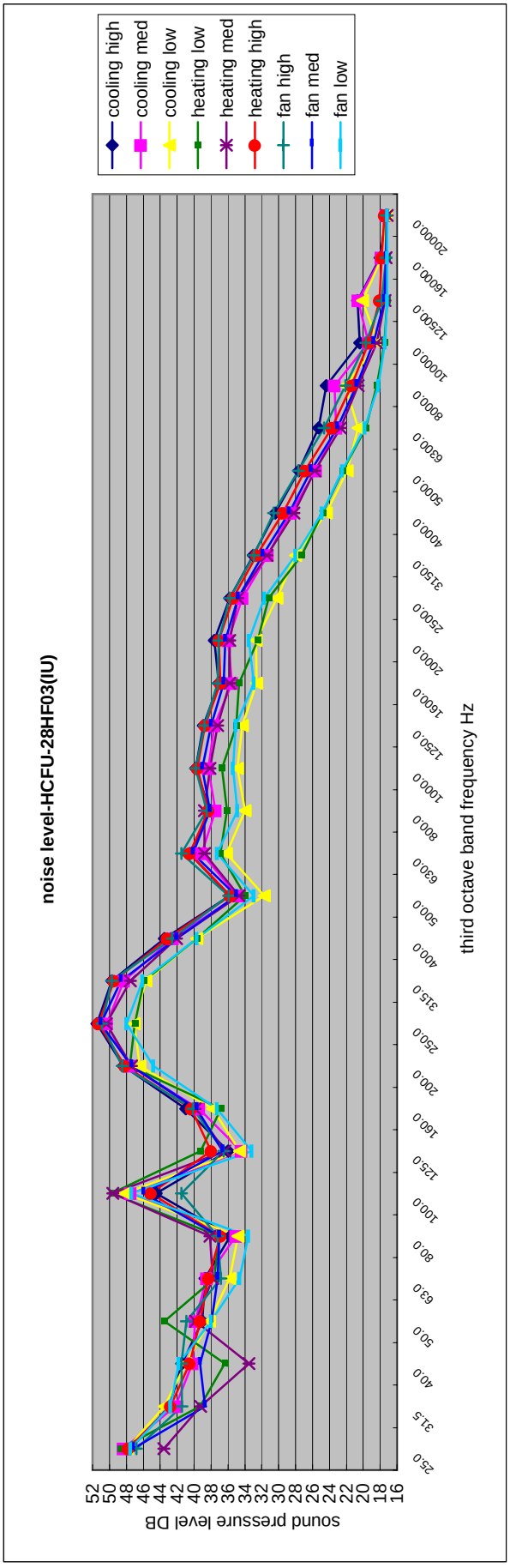

noise level-HCFU-18HF03(OU)
cooling high
cooling med
cooling low
heating low
heating med
heating high
fan high
fan med
fan low
sound pressure level DB
third octave band frequency Hz

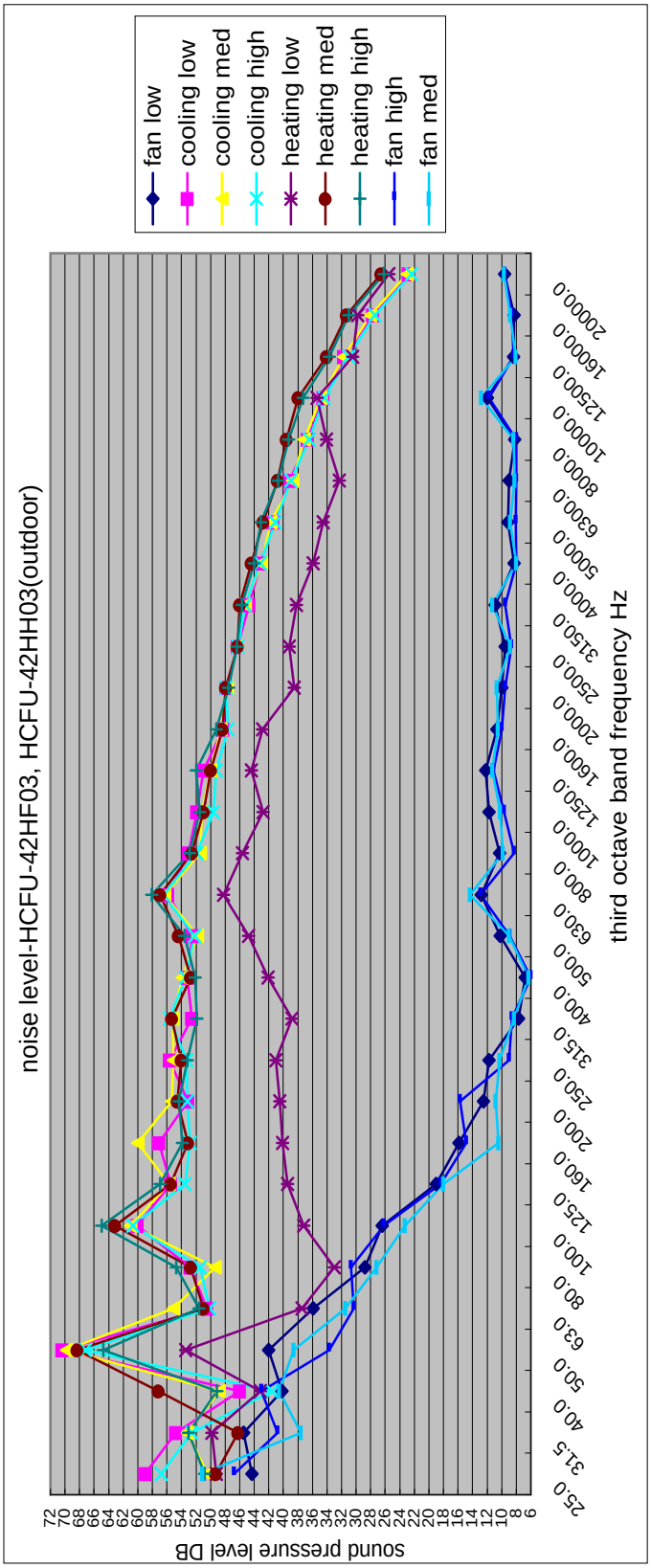

noise level-HCFU-18HF03(IU)
cooling high
cooling med
cooling low
heating low
heating med
heating high
fan high
fan med
fan low
sound pressure level DB
third octave band frequency Hz

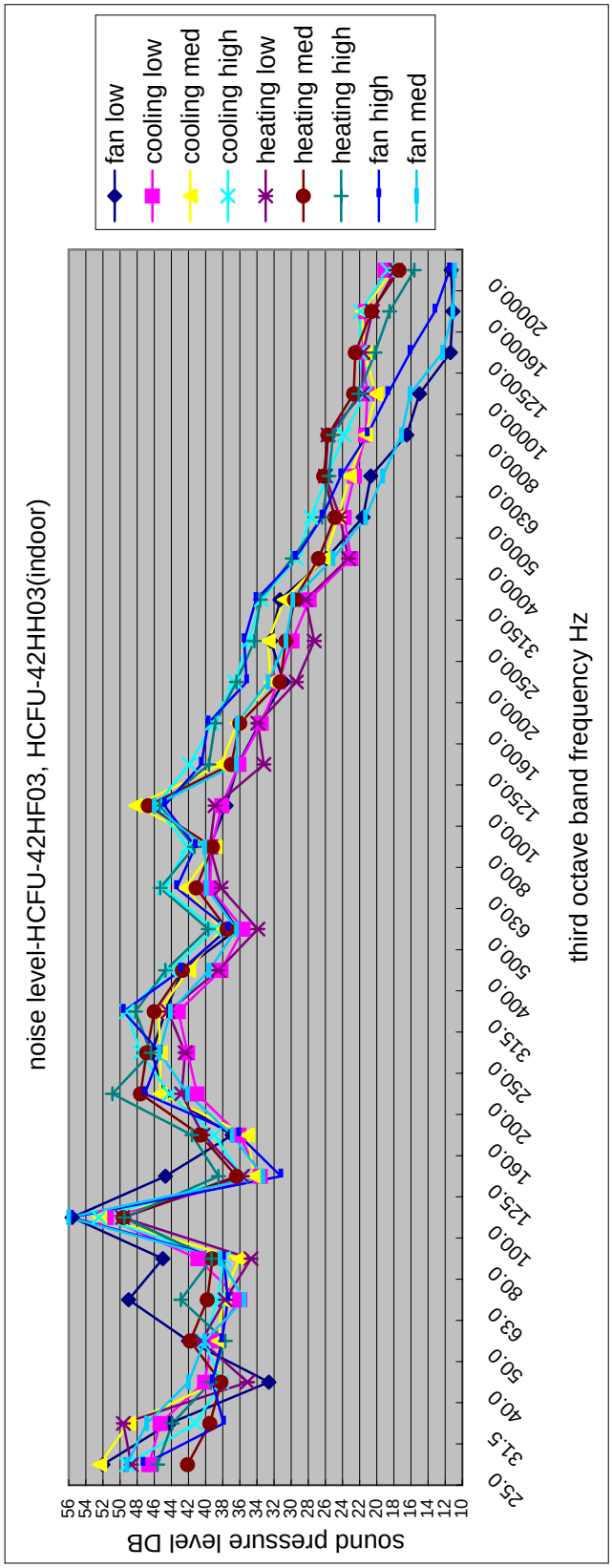

noise level-HCFU-28CF03 (OU)
cooling high
cooling med
cooling low
fan high
fan med
fan low
sound pressure level DB
third octave band frequency Hz

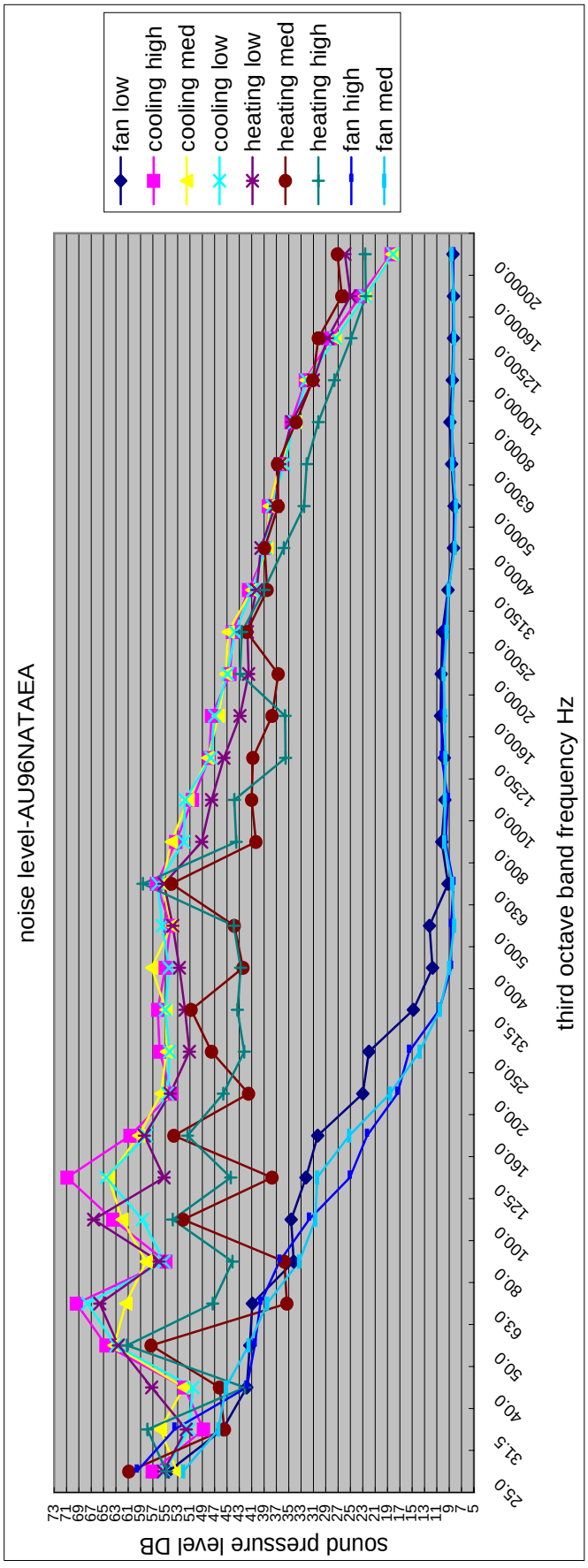

noise level-HCFU-28CF03 (IU)
cooling high
cooling med
cooling low
fan high
fan med
fan low
sound pressure level DB
third octave band frequency Hz

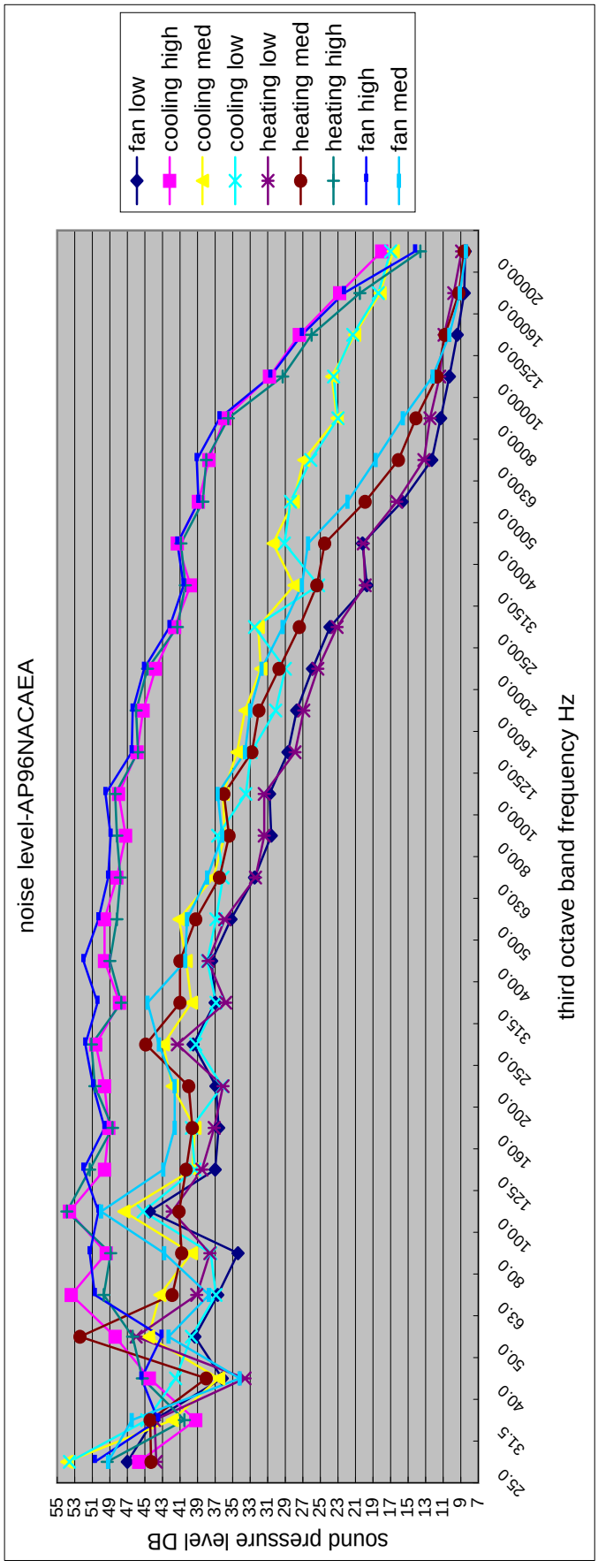

noise level-HCFU-28HF03(OU)
cooling high
cooling med
cooling low
heating low
heating med
heating high
fan high
fan med
fan low
sound pressure level DB
third octave band frequency Hz


noise level-HCFU-28HF03(IU)
cooling high
cooling med
cooling low
heating low
heating med
heating high
fan high
fan med
fan low
sound pressure level DB
third octave band frequency Hz


noise level-HCFU-42HF03, HCFU-42HH03(outdoor)
fan low
cooling low
cooling med
cooling high
heating low
heating med
heating high
fan high
fan med
sound pressure level DB
third octave band frequency Hz

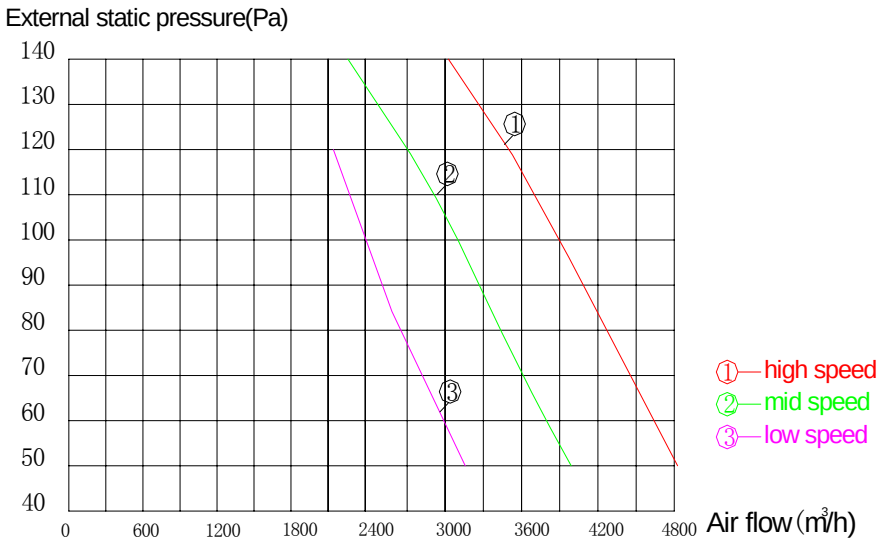

noise level-HCFU-42HF03, HCFU-42HH03(indoor)
fan low
cooling low
cooling med
cooling high
heating low
heating med
heating high
fan high
fan med
sound pressure level DB
third octave band frequency Hz


noise level-AU96NATAEA
fan low
cooling high
cooling med
cooling low
heating low
heating med
heating high
fan high
fan med
sound pressure level DB
third octave band frequency Hz

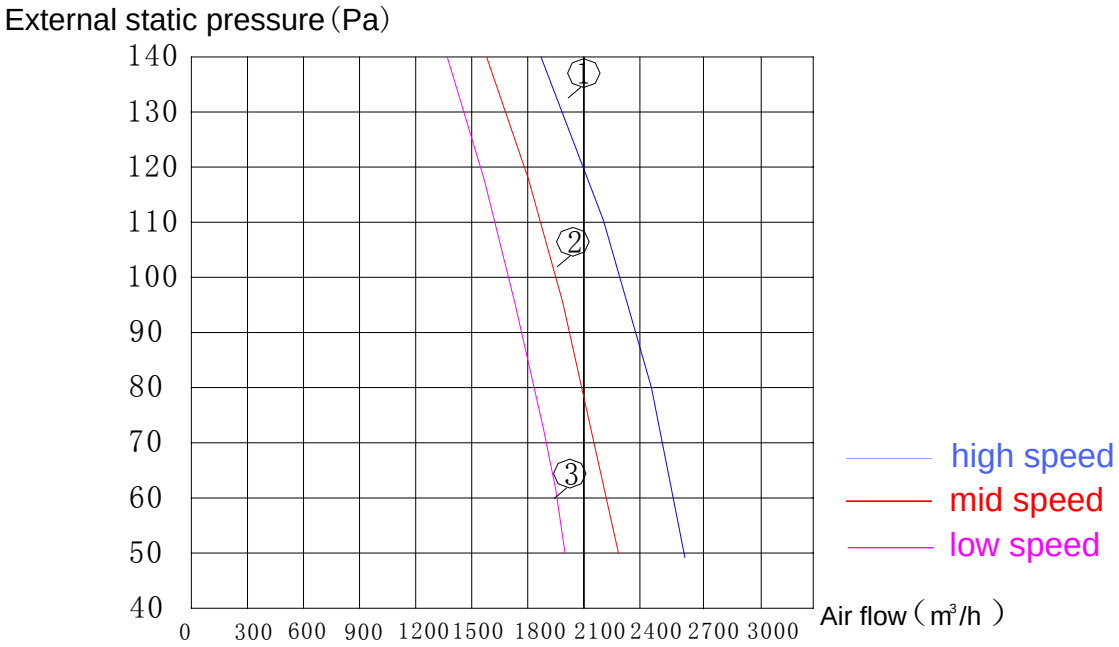

noise level-AP96NACAEA
fan low
cooling high
cooling med
cooling low
heating low
heating med
heating high
fan high
fan med
sound pressure level DB
third octave band frequency Hz

3.3 Air volume and external static pressure curves

AD96NAHAEA

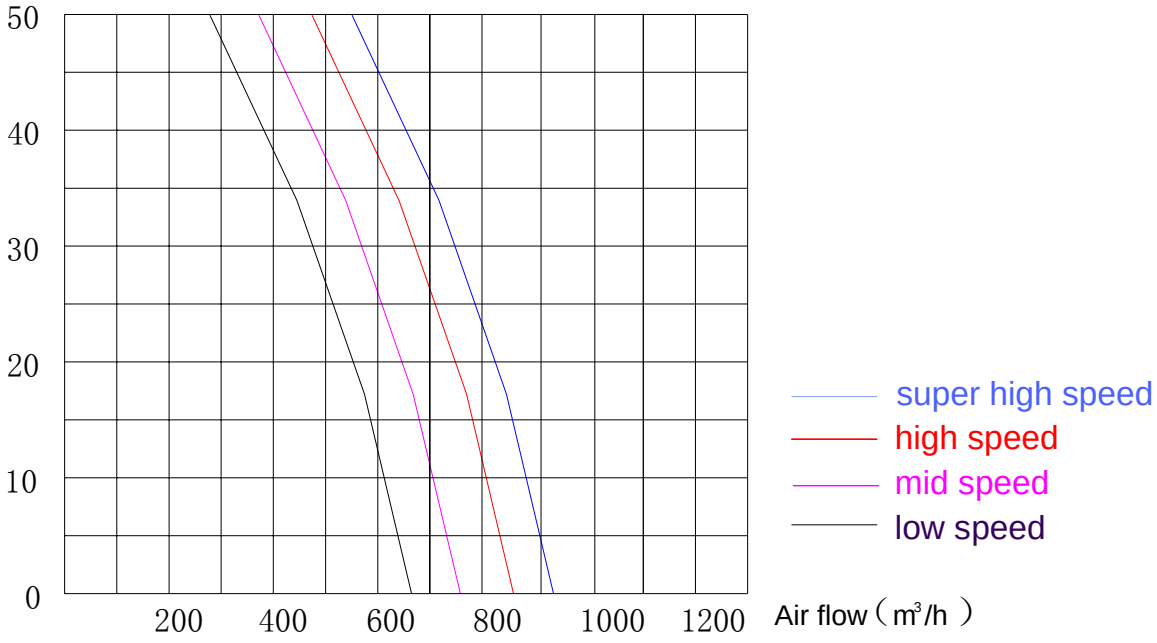


HDU-42CF03/H HDU-42HF03/H HDU-42CH03/H HDU-42CI03/H HDU-42HK03/H HDU-50HT03/H



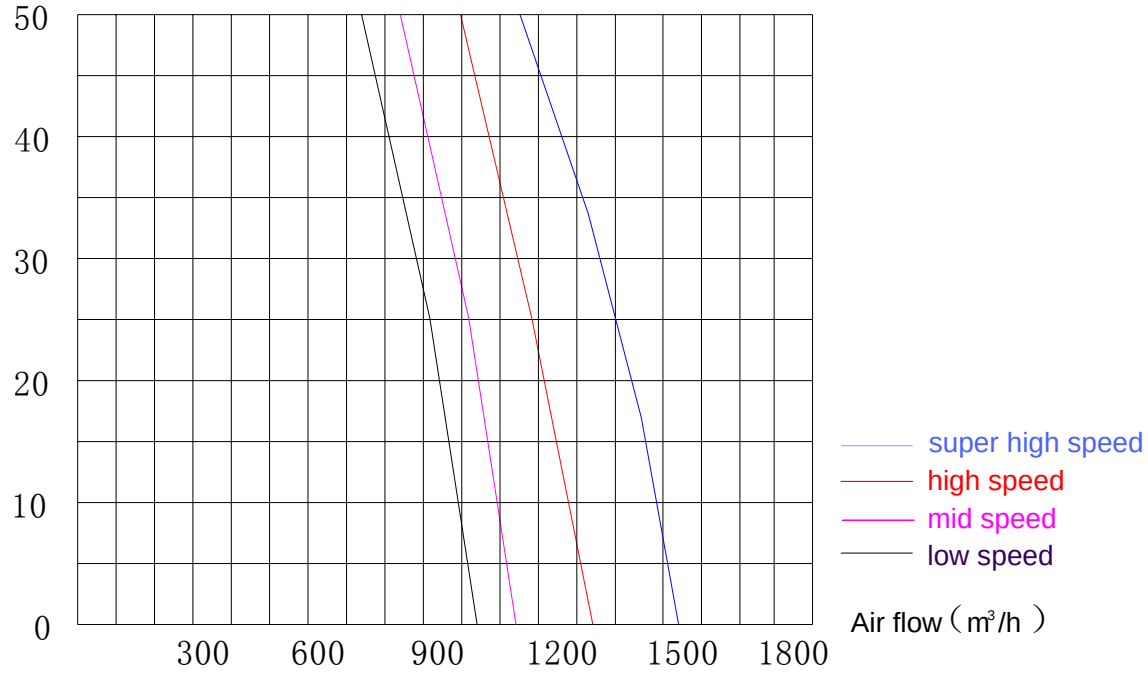
HDU-18CF03 HDU-18HF03

External static pressure（Pa）



HDU-28CF03 HDU-28HF03

External static pressure（Pa）

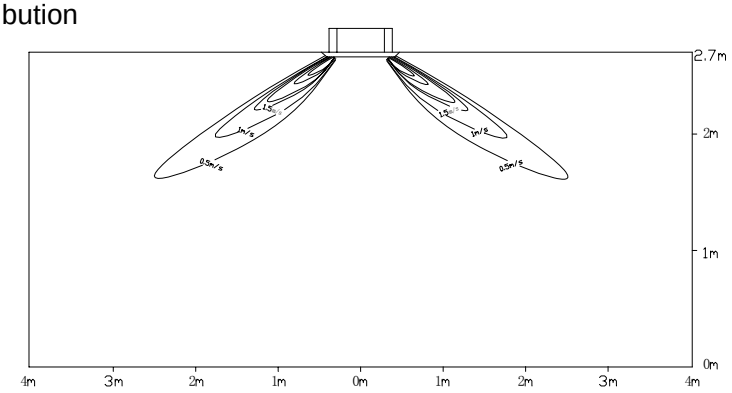


3.4 Air velocity distribution

3.4.1 For HBU-18 model

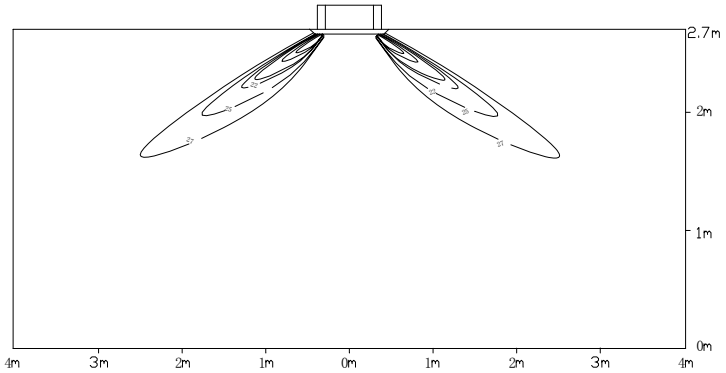
a. Cooling / Air Velocity Distribution

Cooling
Blowy angle:40
Air Velocity Distribution



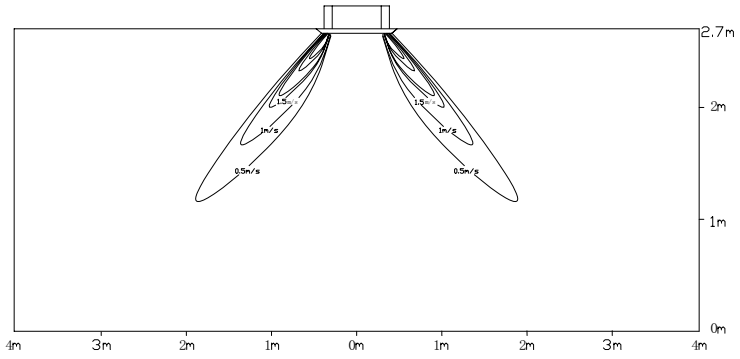
b. Cooling / Temperature Distribution

Cooling
Blowy angle:40
Temperature Distribution



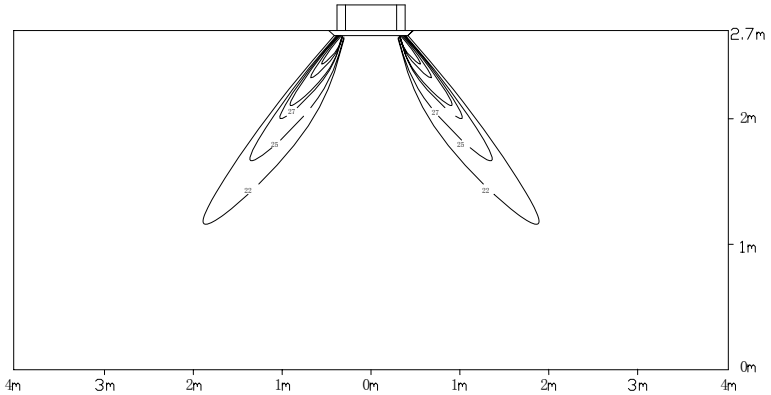
c. Heating / Air Velocity Distribution

Heating
Blowy angle:70
Air velocity Distribution



d. Heating / Temperature Distribution

Heating
Blowy angle:70
Temperature Distribution

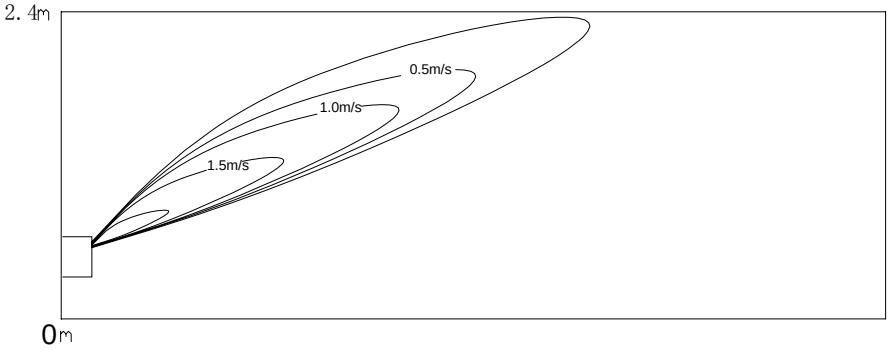


3.4.2 For HCFU-18 model

1) Grounding

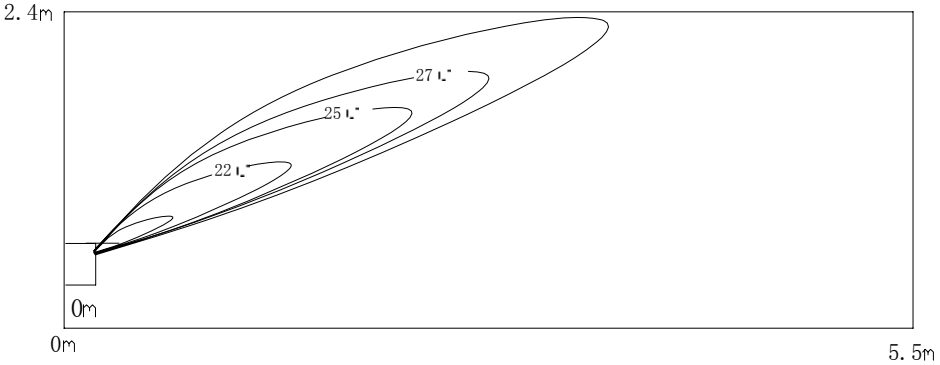
a. Cooling / Air Velocity Distribution

Cooling
Blowy angle:25
Air Velocity Distribution



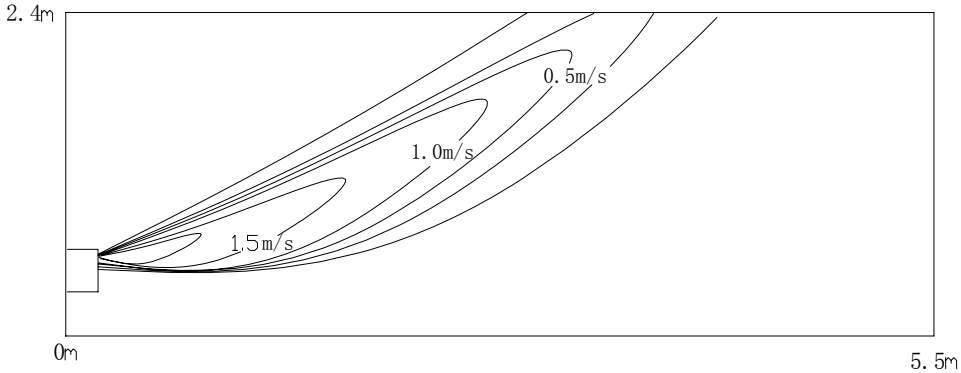
b. Cooling / Temperature Distribution

Cooling
Blowy angle:25
Temperature Distribution



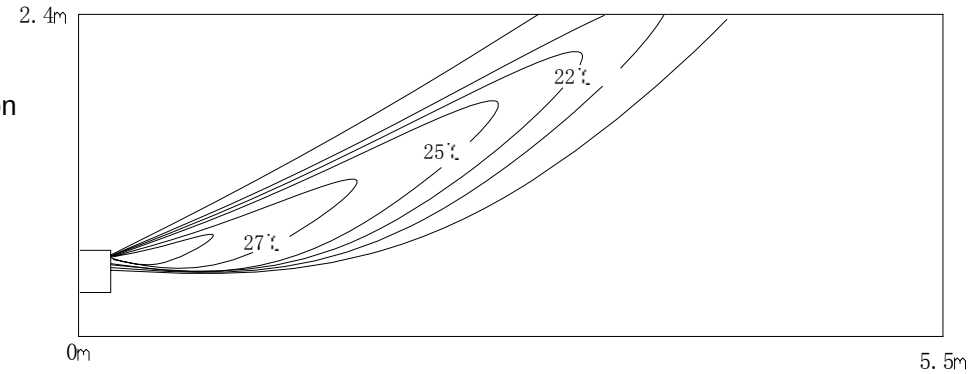
c. Heating / Air Velocity Distribution

Heating
Blowy angle:5
Air velocity Distribution



d. Heating / Temperature Distribution

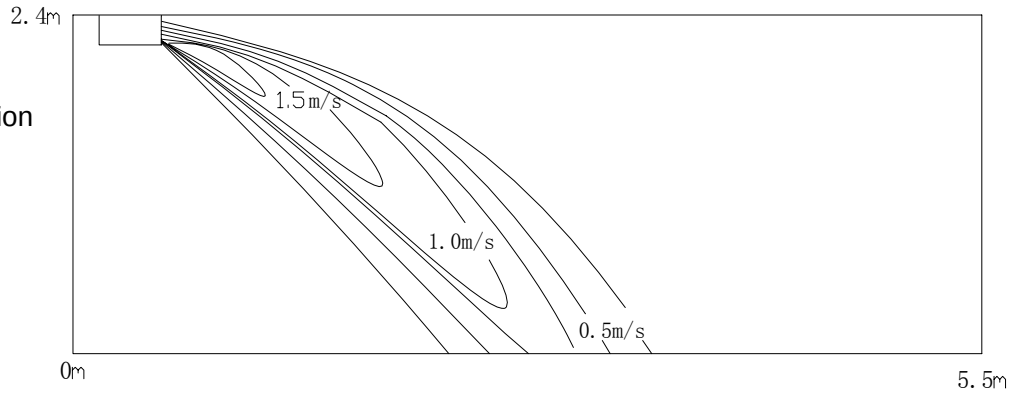
Heating
Blowy angle:5
Temperature Distribution



2) Ceiling

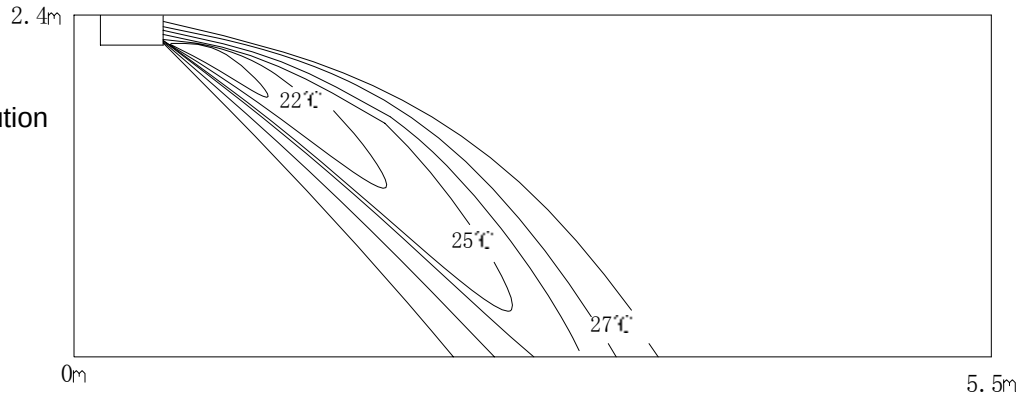
a. Cooling / Air Velocity Distribution

Cooling
Blowy angle:25
Air Velocity Distribution



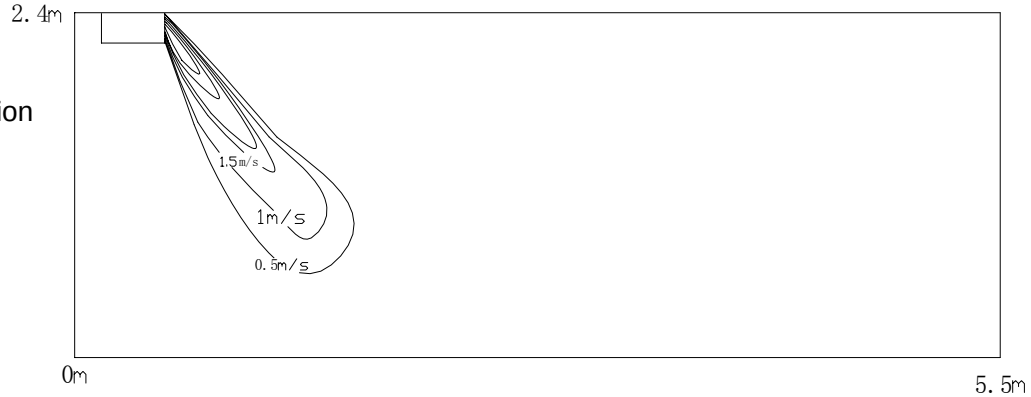
b. Cooling / Temperature Distribution

Cooling
Blowy angle:25
Temperature Distribution



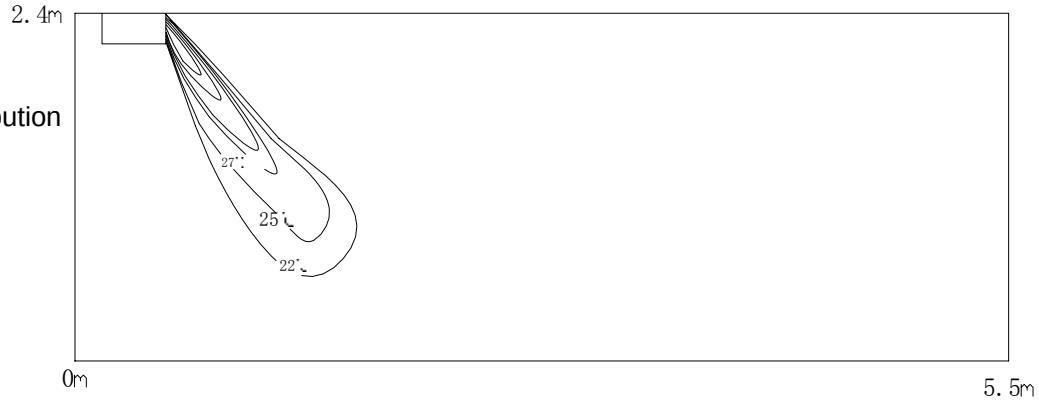
c. Heating / Air Velocity Distribution

Heating
Blowy angle:65
Air velocity Distribution



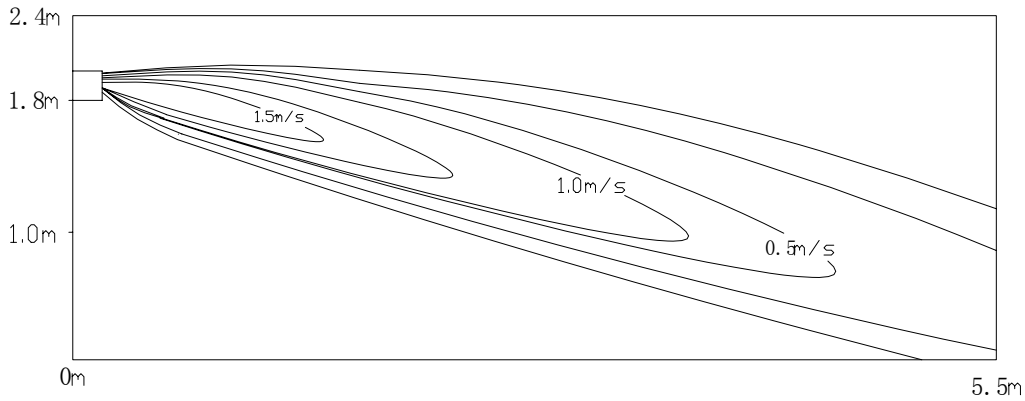
d. Heating / Temperature Distribution

Heating
Blowy angle:65
Temperature Distribution

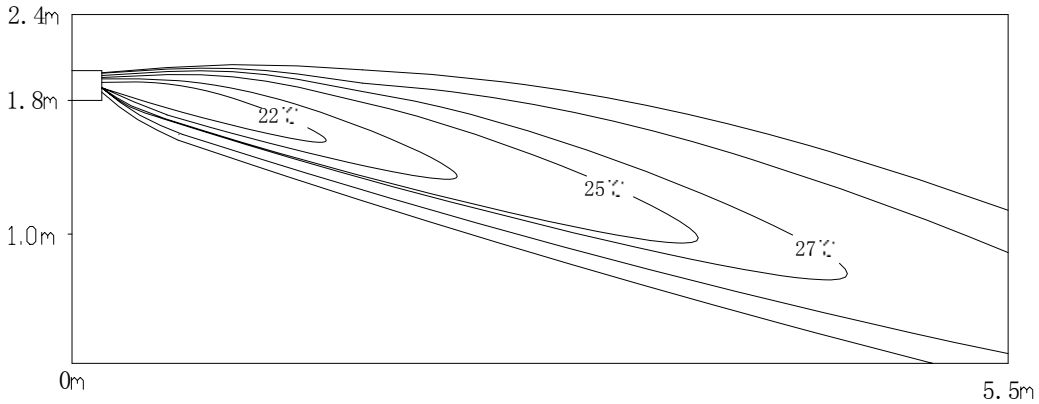


3.4.3 For HDU-18 model

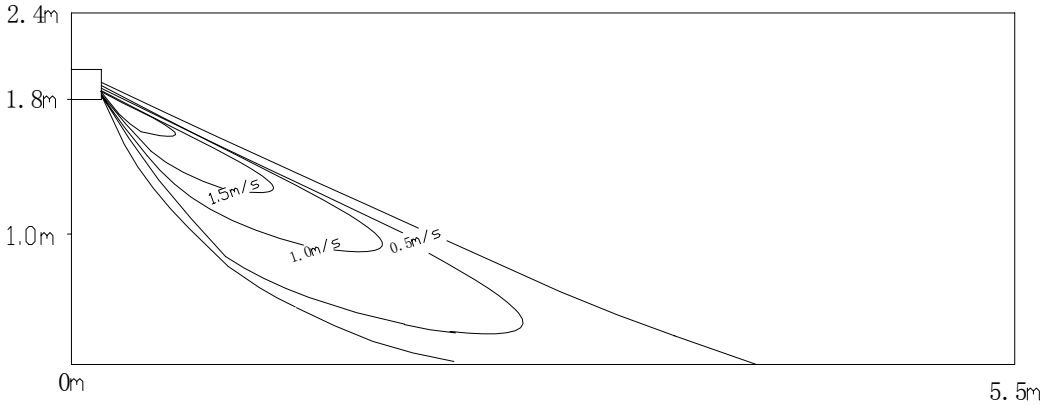
cooling
air discharge angle 5°
Air Velocity distribution



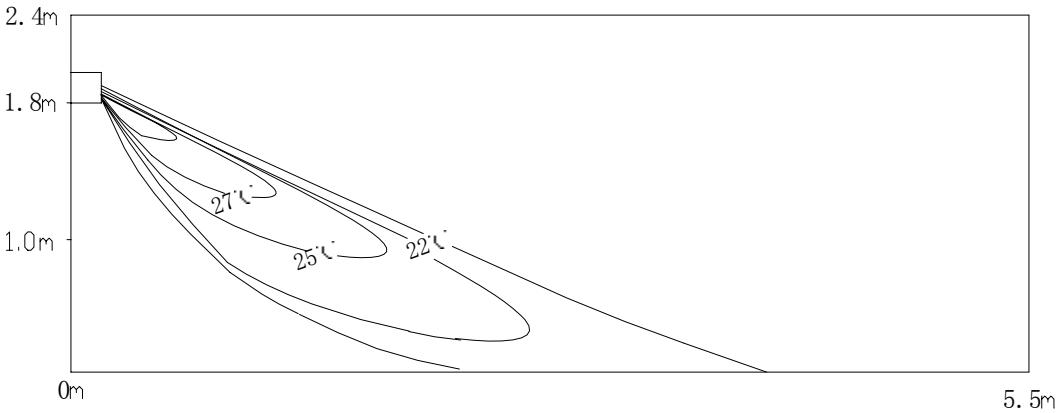
cooling
air discharge angle 5°
Temperature distribution



heating
air discharge angle 45°
Air Velocity distribution



heating
air discharge angle 45°
Temperature distribution

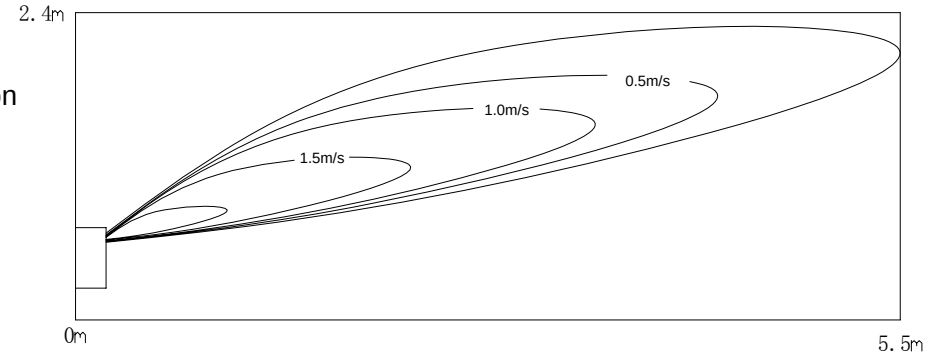


3.4.4 For HCFU-28 model

a) Grounding

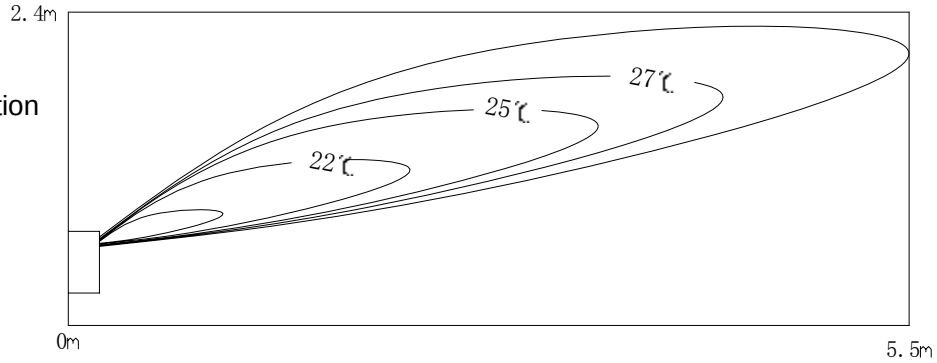
a. Cooling / Air Velocity Distribution

Cooling
Blowy angle:25
Air Velocity Distribution



b. Cooling / Temperature Distribution

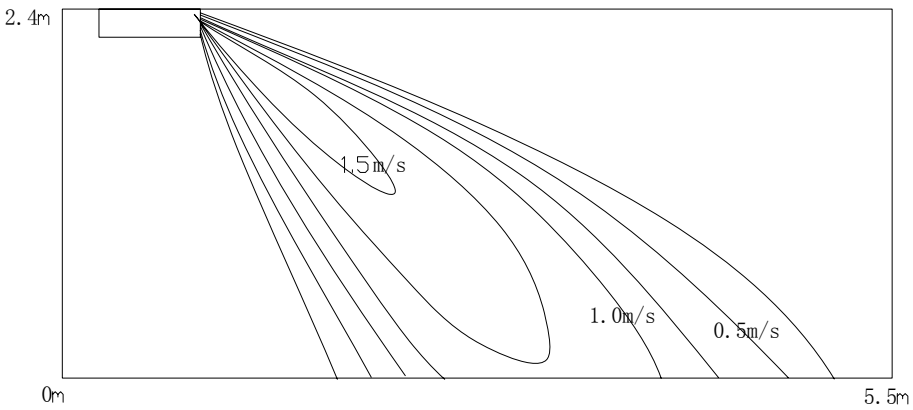
Cooling
Blowy angle:25
Temperature Distribution



b) Ceiling

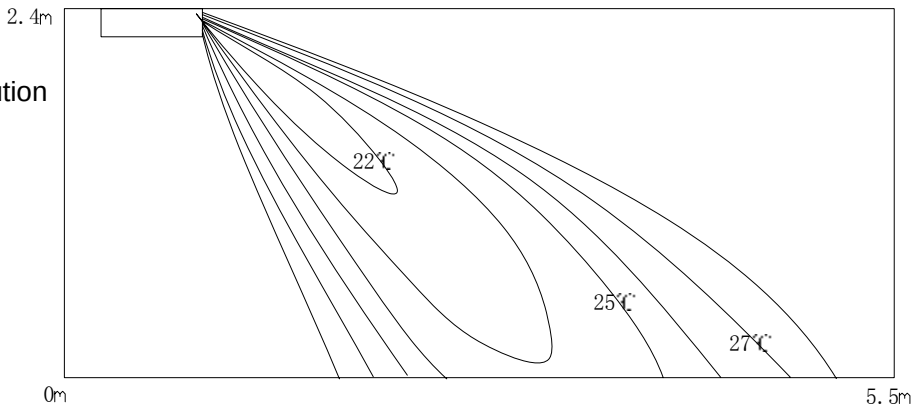
a. Cooling / Air Velocity Distribution

Cooling
Blowy angle:25
Air Velocity Distr



b. Cooling / Temperature Distribution

Cooling
Blowy angle:25
Temperature Distribution



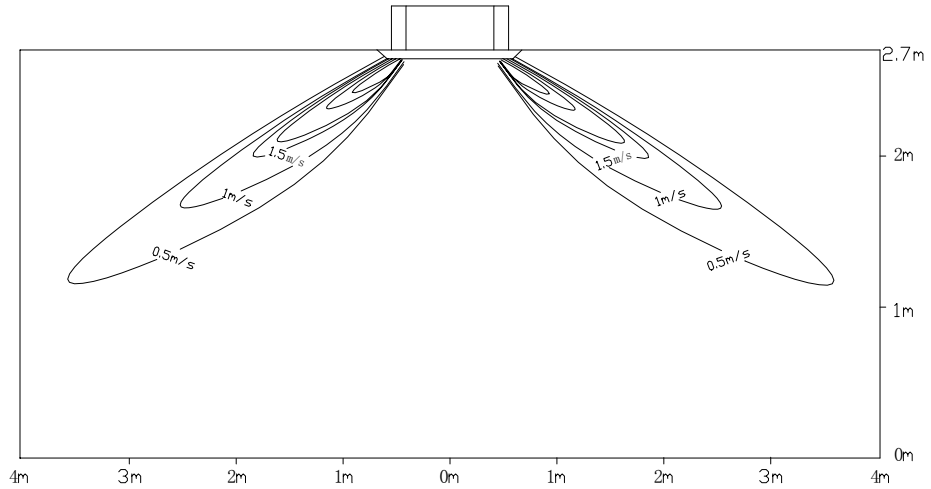
3.4.5 For HBU-28 model

a. Cooling / Air Velocity Distribution

Cooling

Blowy angle:40

Air Velocity Distribution

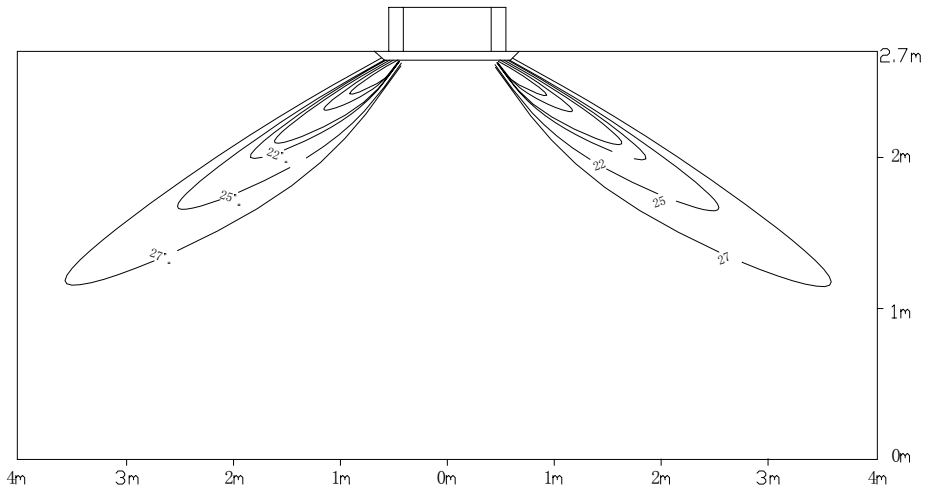


b. Cooling / Temperature Distribution

Cooling

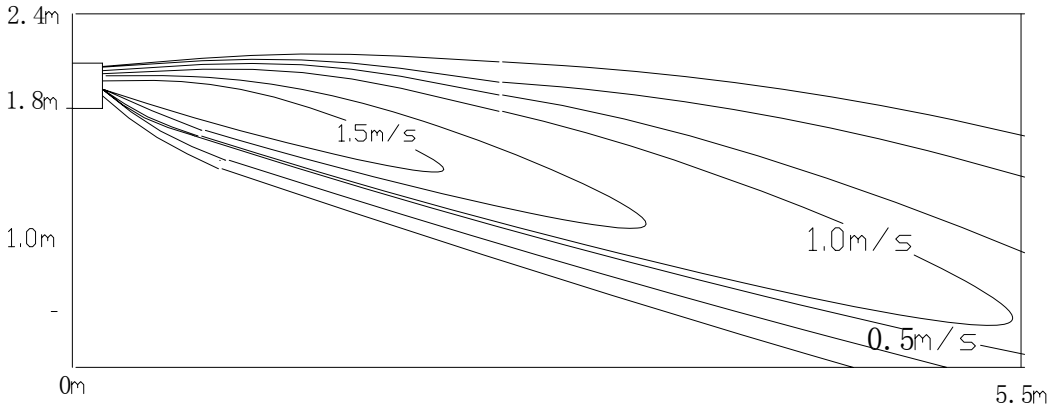
Blowy angle:40

Temperature Distribution

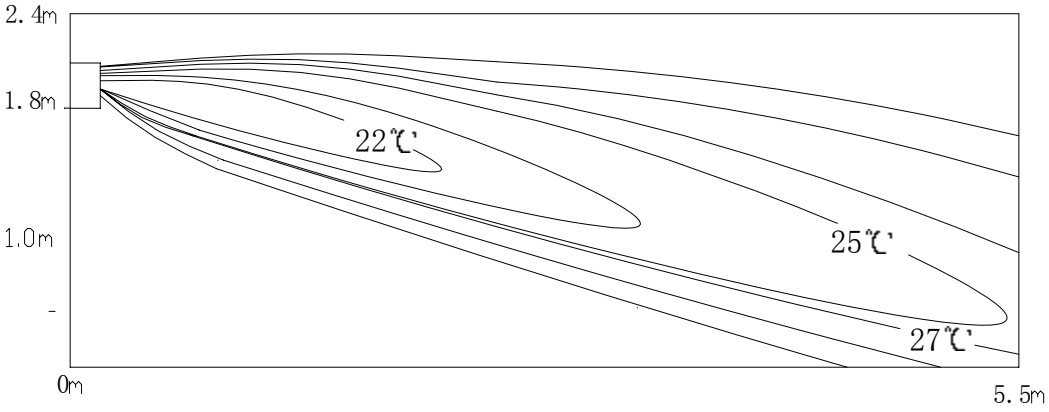


3.4.6 For HDU-28 model

cooling
air discharge angle 5°
Air Velocity distribution



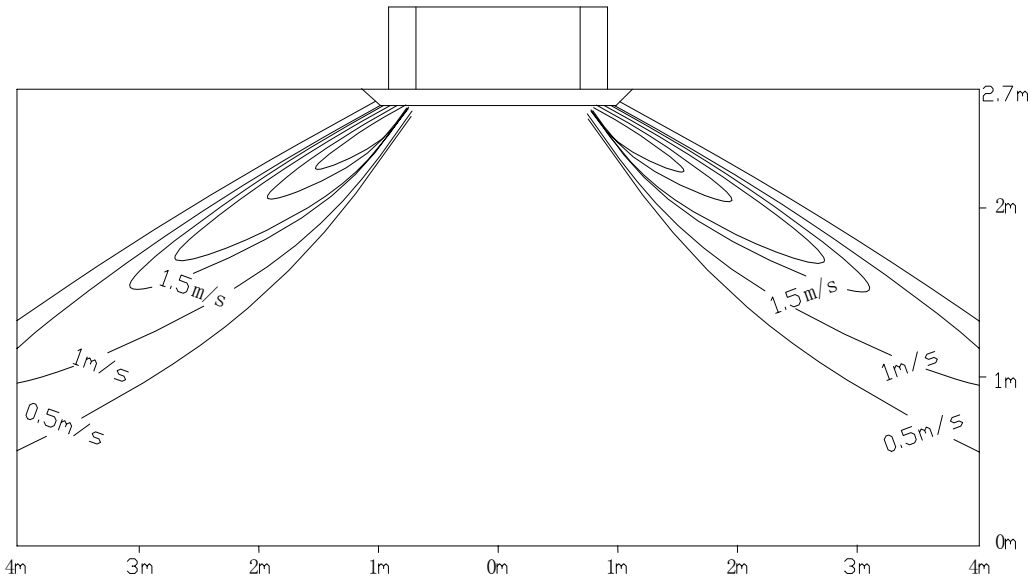
cooling
air discharge angle 5°
Temperature distribution



3.4.7 For HBU-42 model

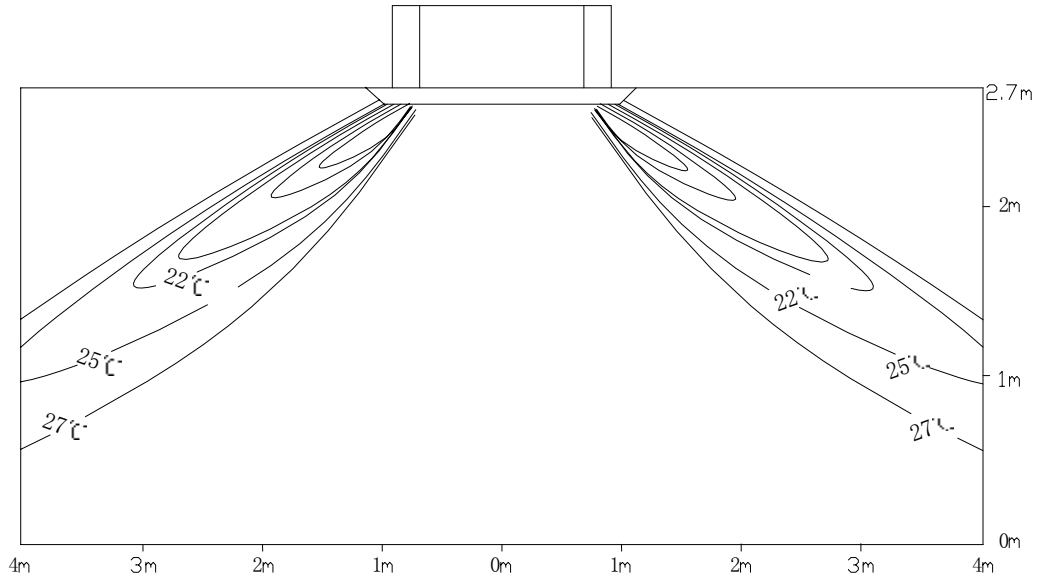
a. Cooling / Air Velocity Distribution

Cooling
Blowy angle:40
Air Velocity Distribution



b. Cooling / Temperature Distribution

Cooling
Blowy angle:40
Temperature Distribution



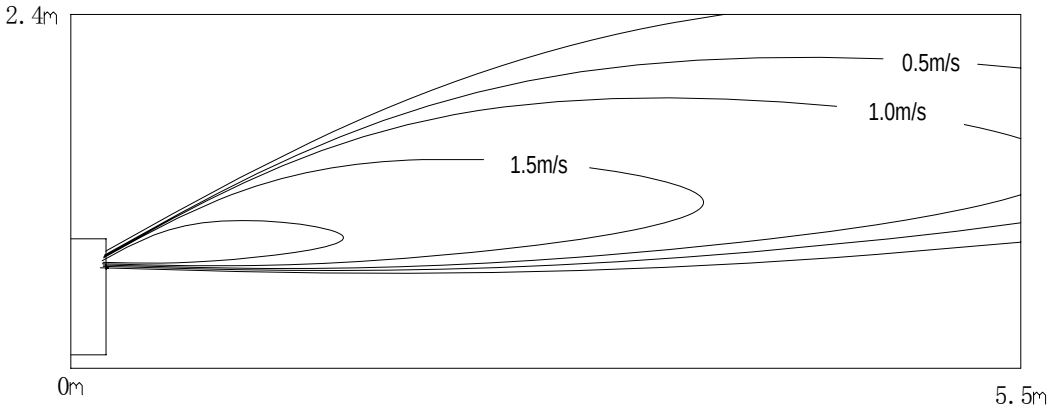
3.4.8 For HCFU-42 model

a. Cooling / Air Velocity Distribution

Cooling

Blowy angle:25

Air Velocity Distribution

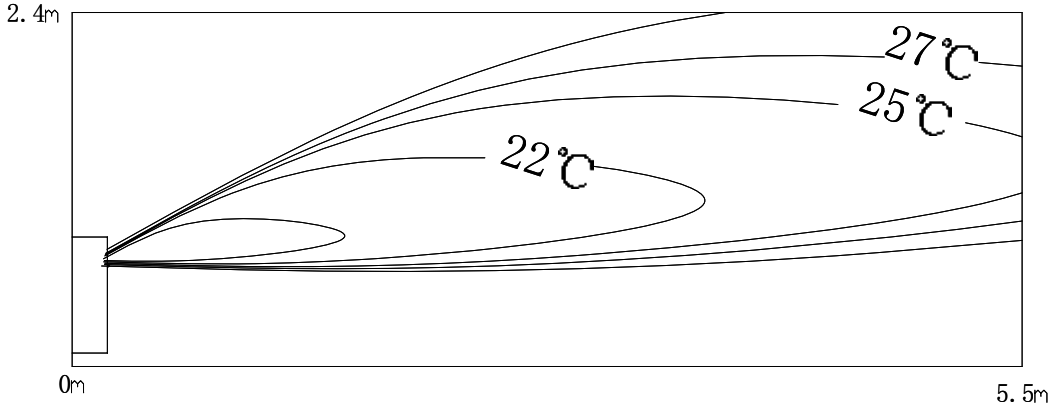


b. Cooling / Temperature Distribution

Cooling

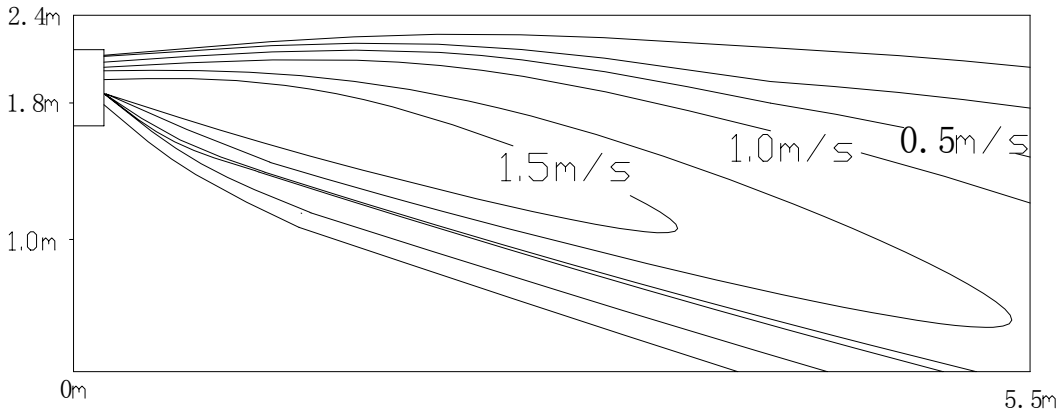
Blowy angle:25

Temperature Distribution

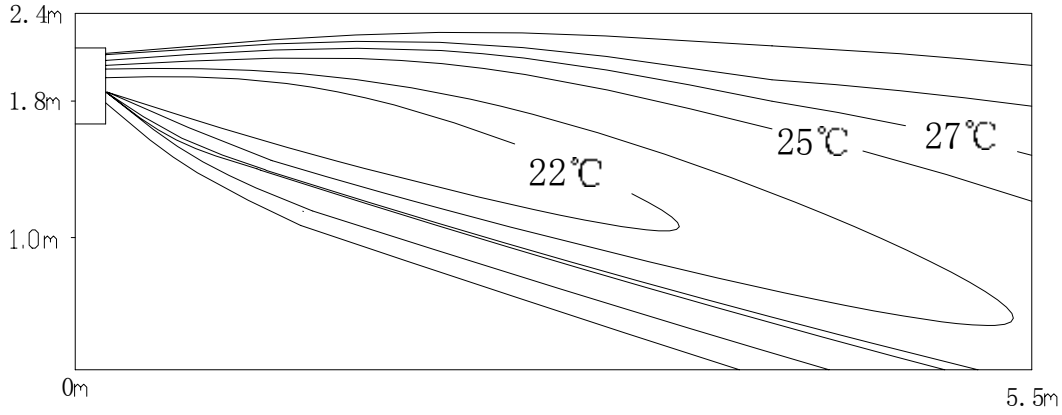


3.4.9 For HDU-42/50 model

cooling
air discharge angle 5°
Air Velocity distribution

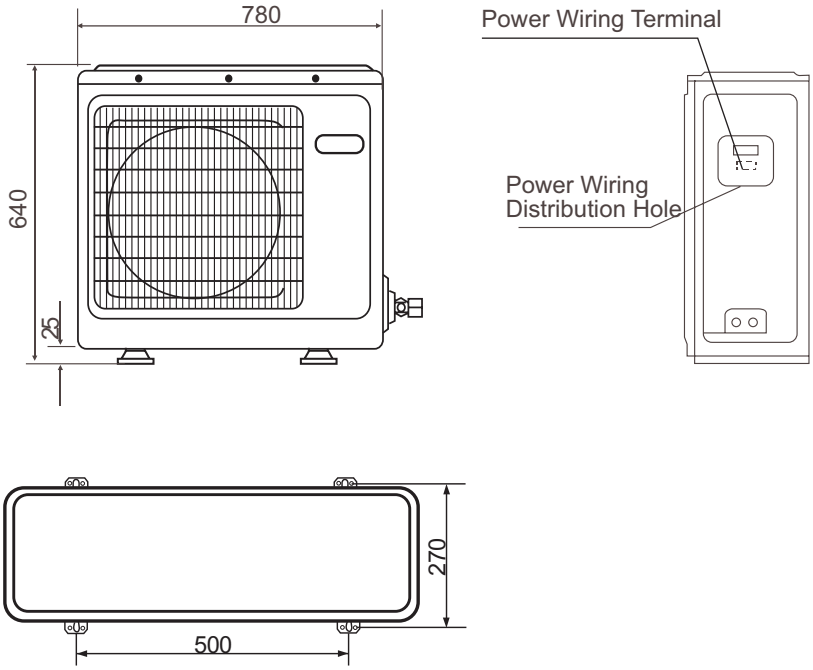


cooling
air discharge angle 5°
Temperature distribution

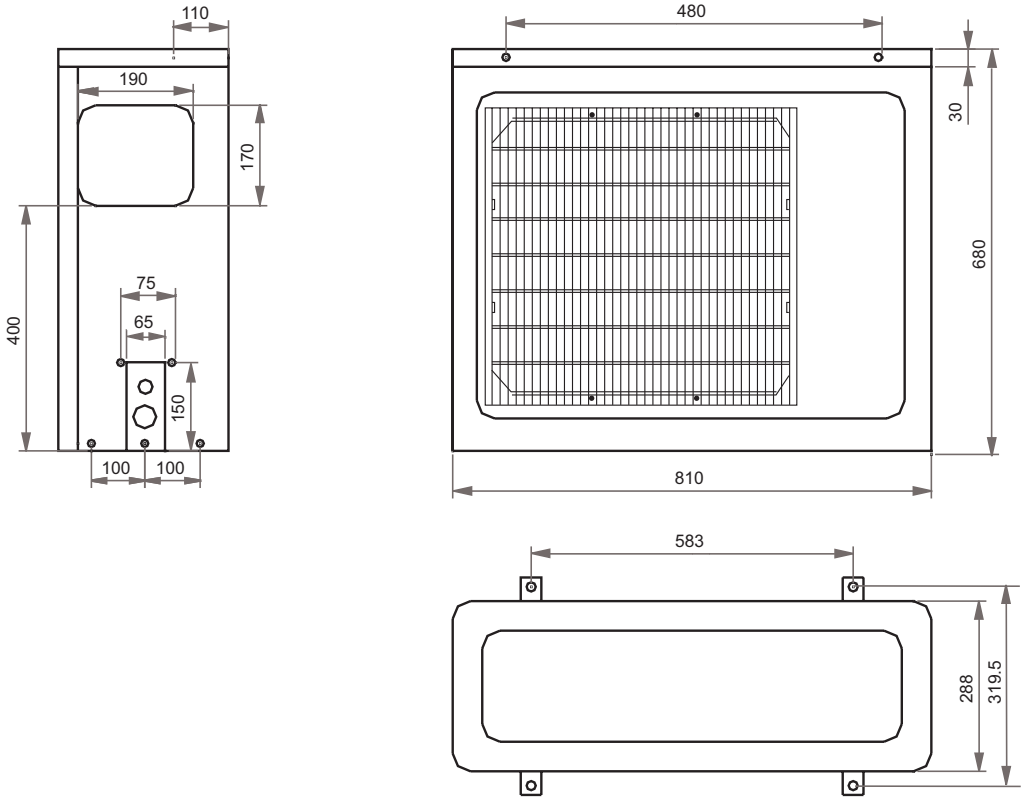


4. Dimension

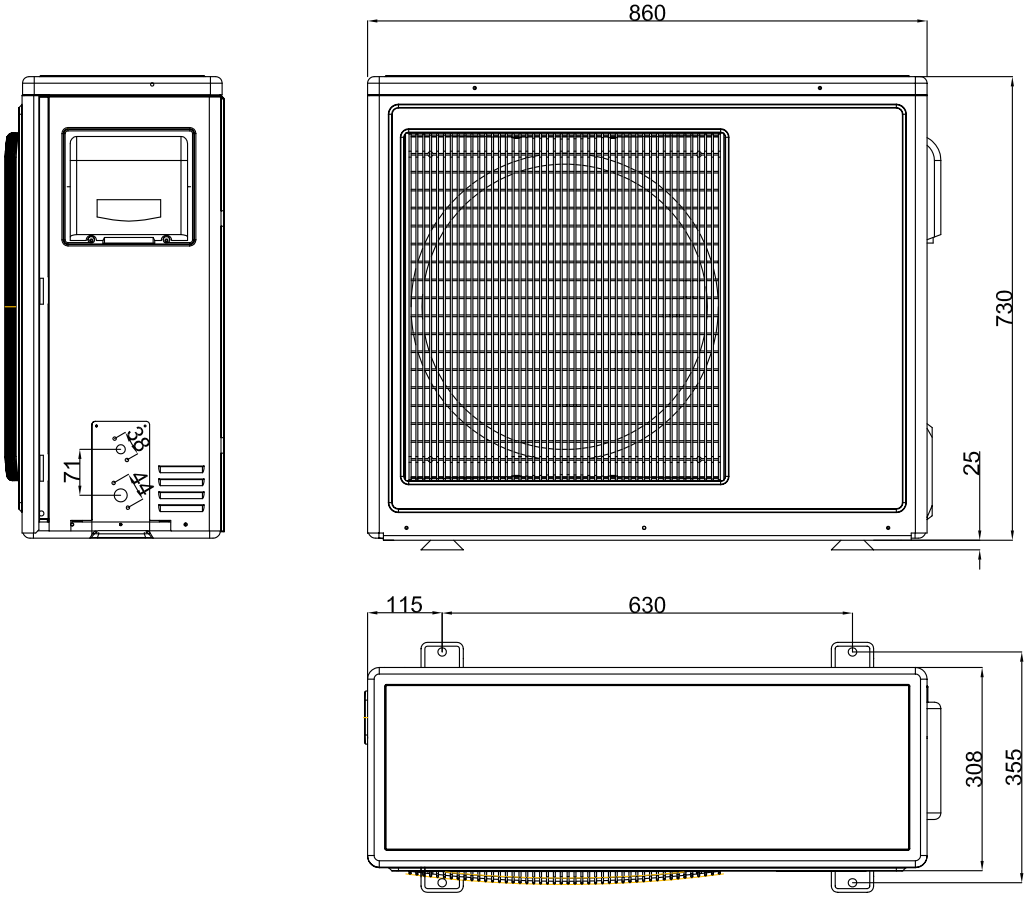
HCFU-18CF03, HCFU-18HF03



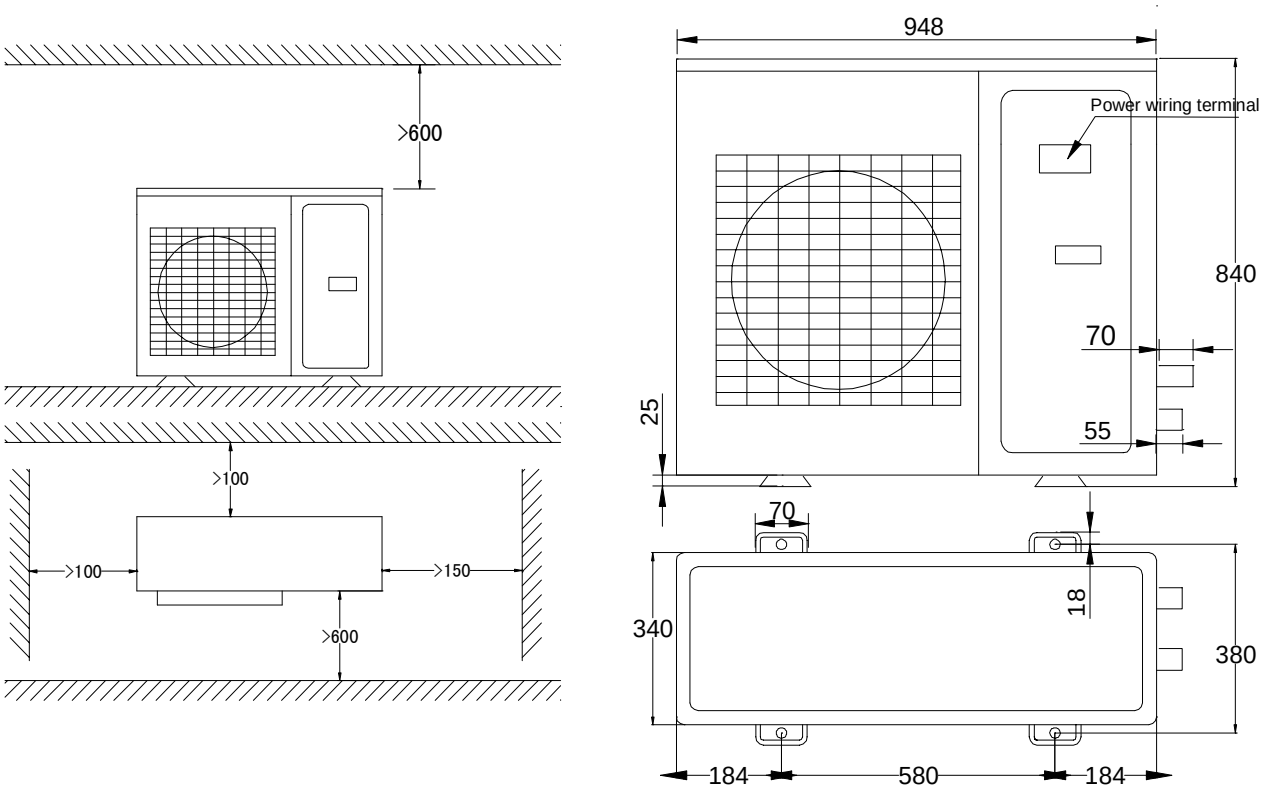
HBU-18CF03, HBU-18HF03, HDU-18CF03, HDU-18HF03,



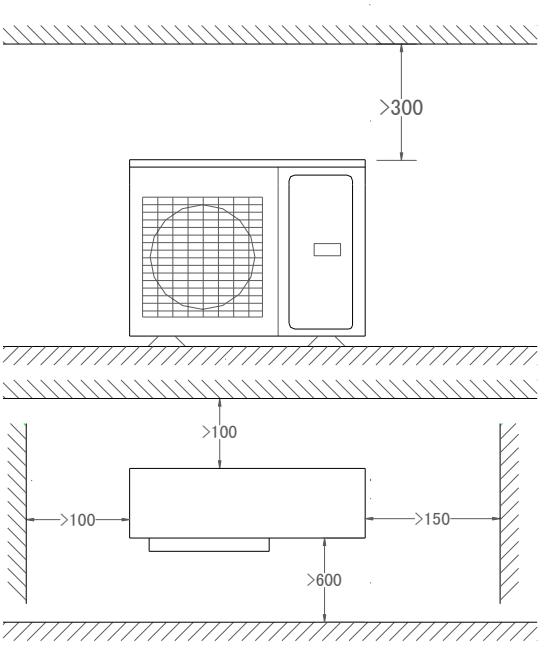
HBU-28CF03, HBU-28CH03, HBU-28HH03, HCFU-28CF03, HCFU-28HF03,

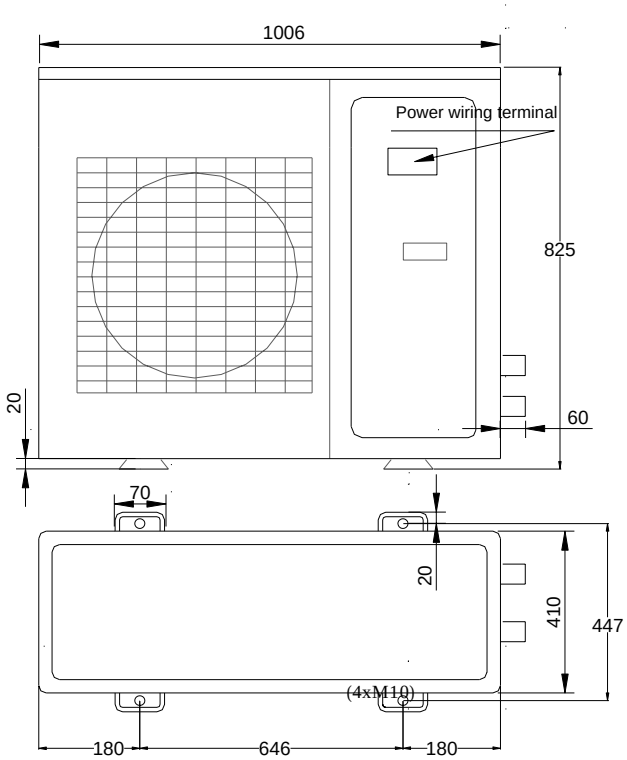


HBU-28HF03, HDU-28CF03, HDU-28HF03

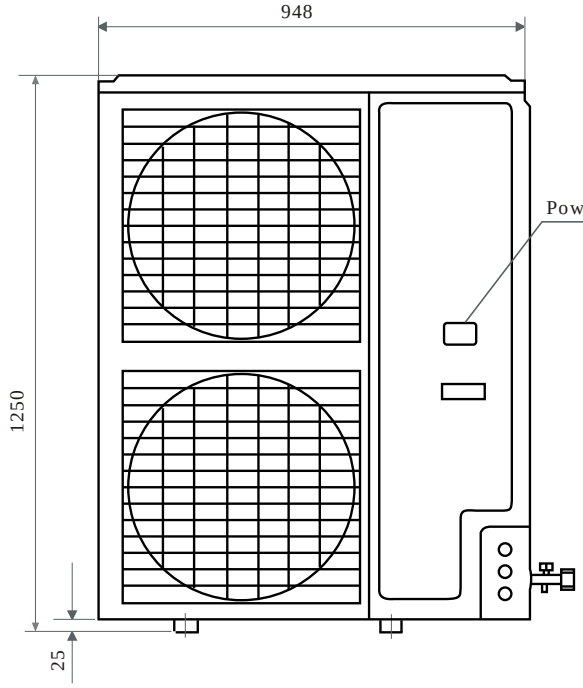


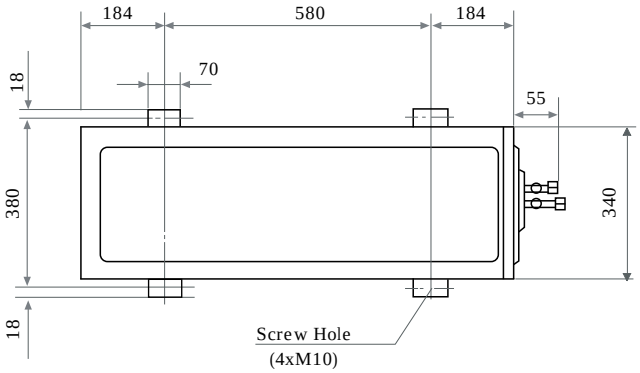
HBU-42CF03, HBU-42HF03, HBU-42CH03, HCFU-42CF03, HCFU-42CH03, HPU-42CF03, HPU-42CH03, HDU-42CF03/H, HDU-42CF03/H



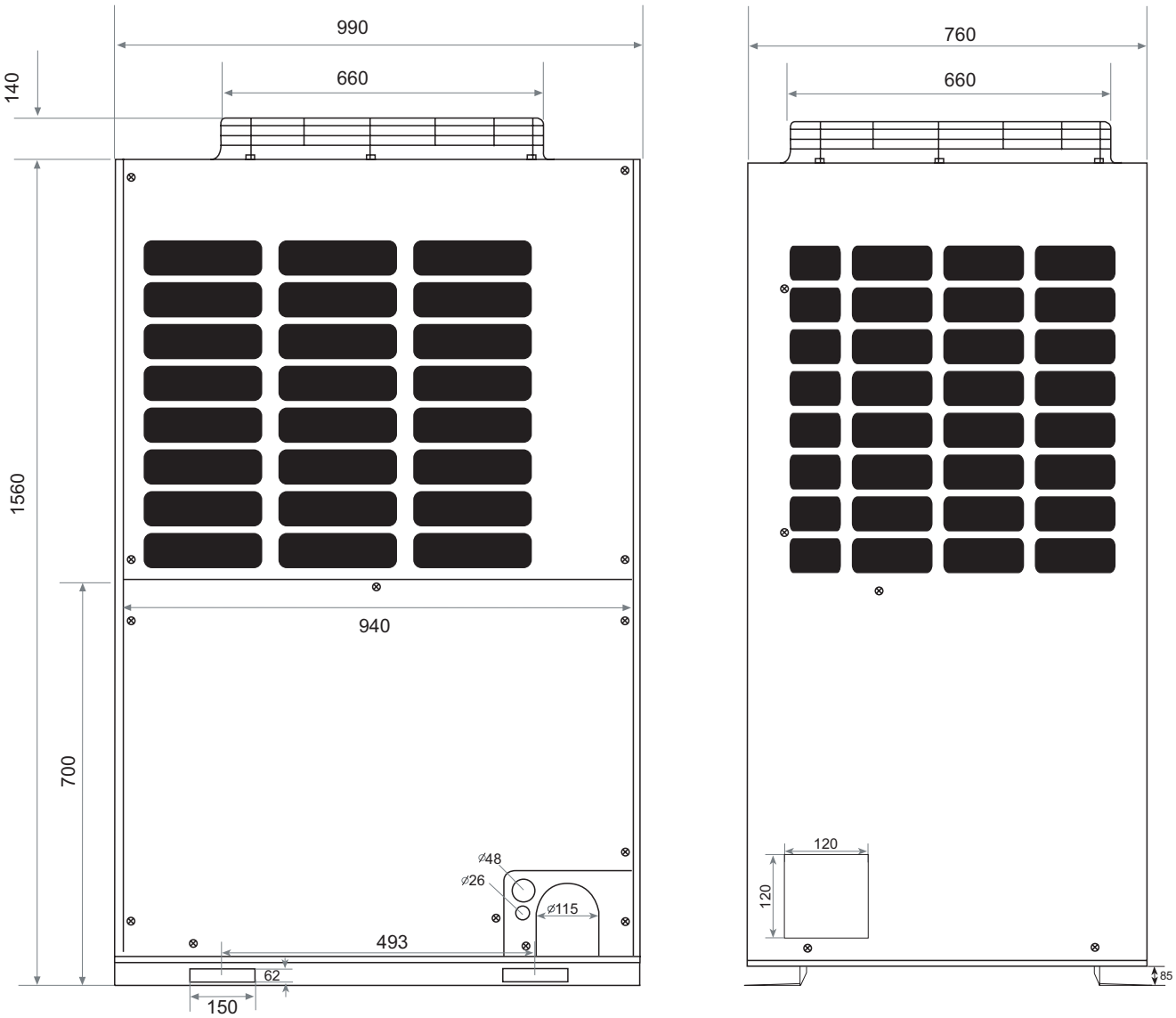


HBU-42CI03, HBU-42HI03, HCFU-42HF03, HCFU-42HK03, HPU-42HF03,HPU-42CV03, HPU-42HV03 HPU-48HF03, HPU-42HI03, HDU-42HF03/H, HDU-42CI03/H, HDU-42HK03/H, HDU-50HT03/H

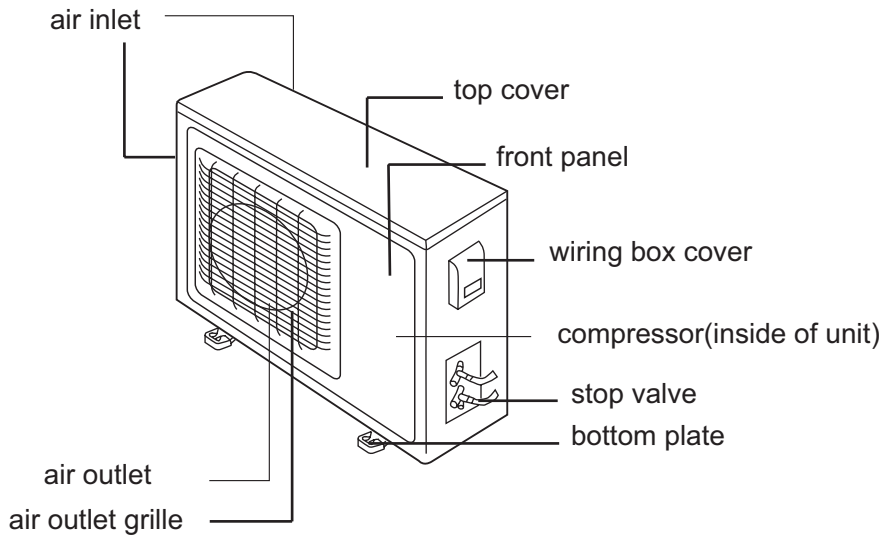


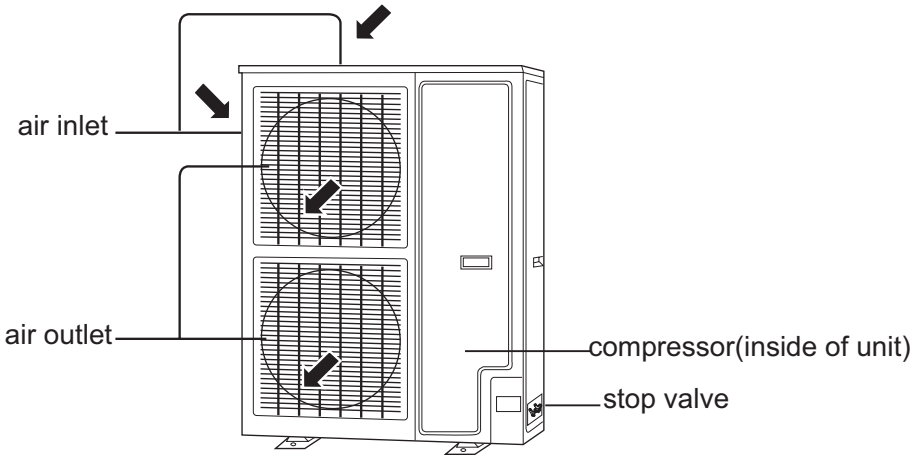


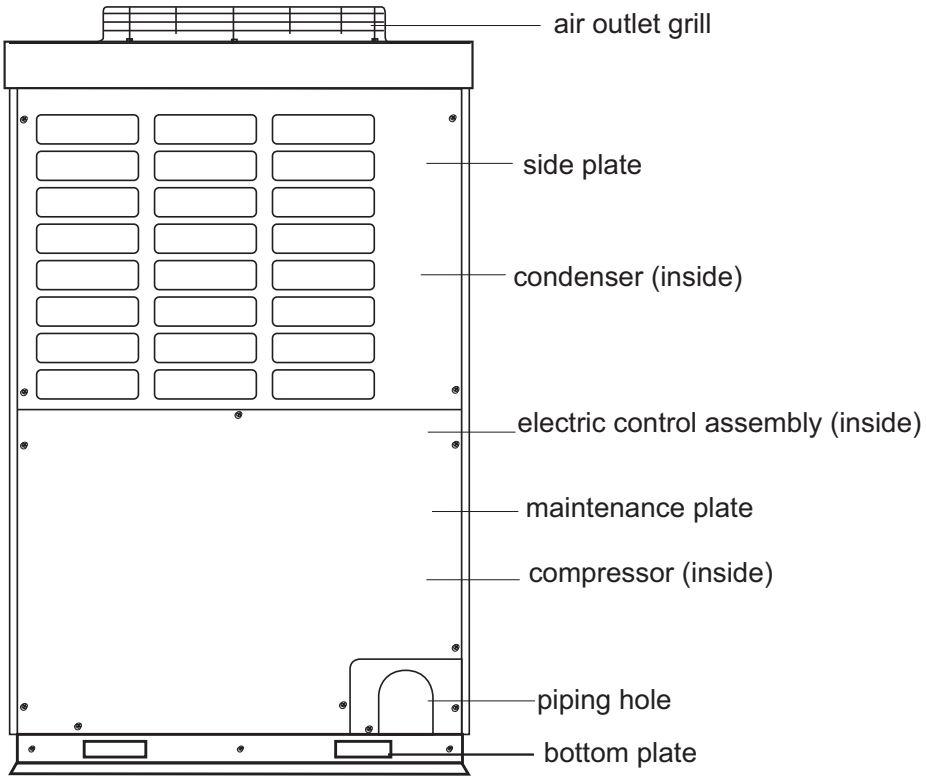
AU96NATAEA


990
660
140
1560
940
700
493
62
150
ø48
ø26
ø115
760
660
120
120
85

5. Part name

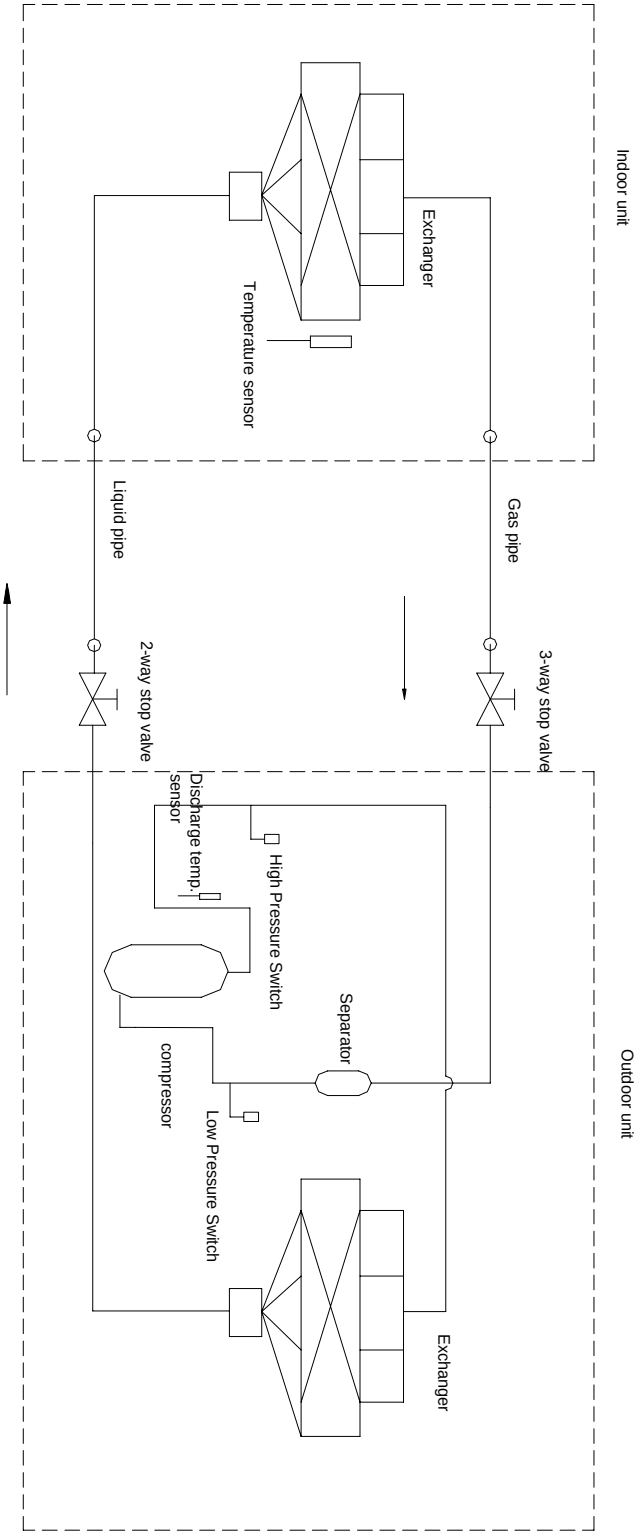

air inlet
top cover
front panel
wiring box cover
compressor(inside of unit)
stop valve
bottom plate
air outlet
air outlet grille


air inlet
air outlet
compressor(inside of unit)
stop valve

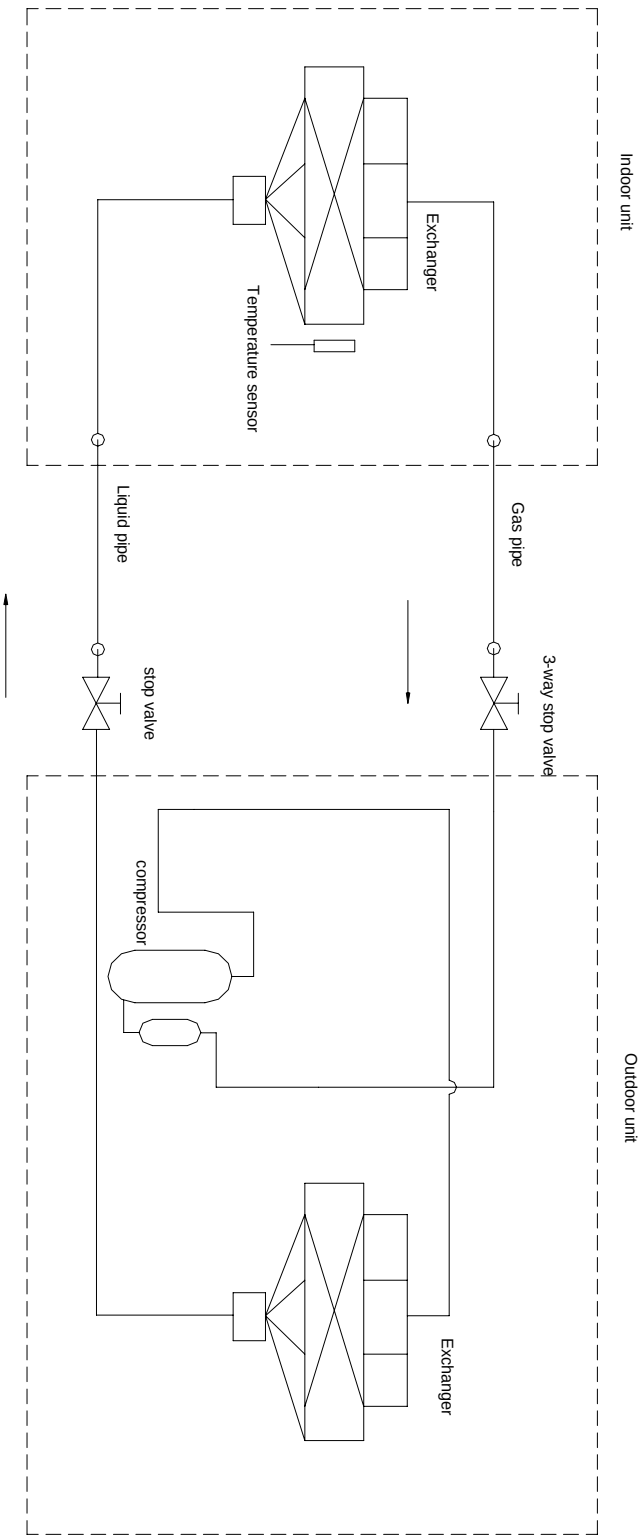

air outlet grill
side plate
condenser (inside)
electric control assembly (inside)
maintenance plate
compressor (inside)
piping hole
bottom plate

6. Refrigerant diagram

HBU-28CH03 HBU-42CH03 HBU-42CI03 HDU-42CH03/H
HDU-42CF03/H HDU-42CI03/H HCFU-42CF03 HPU-42CV03

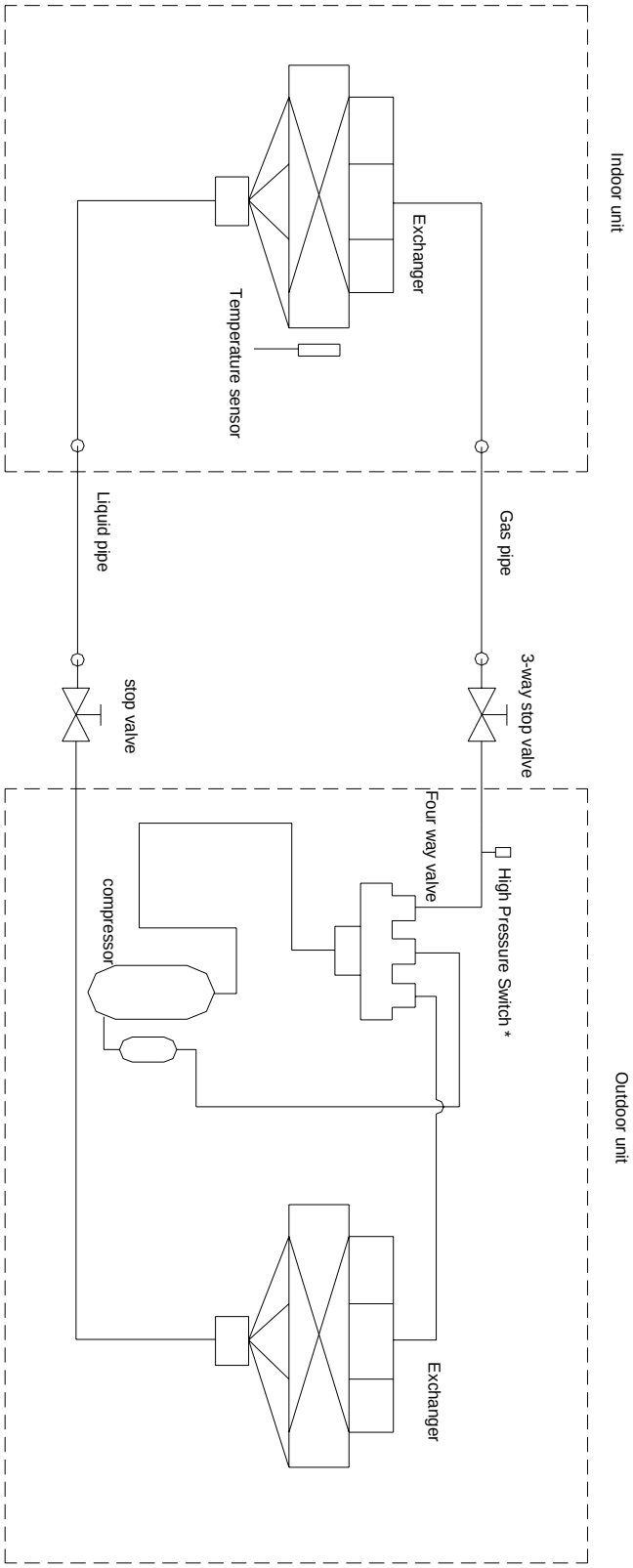


HBU-18CF03 HBU-28CF03 HCFU-18CF03 HCFU-28CF03
HDU-28CF03



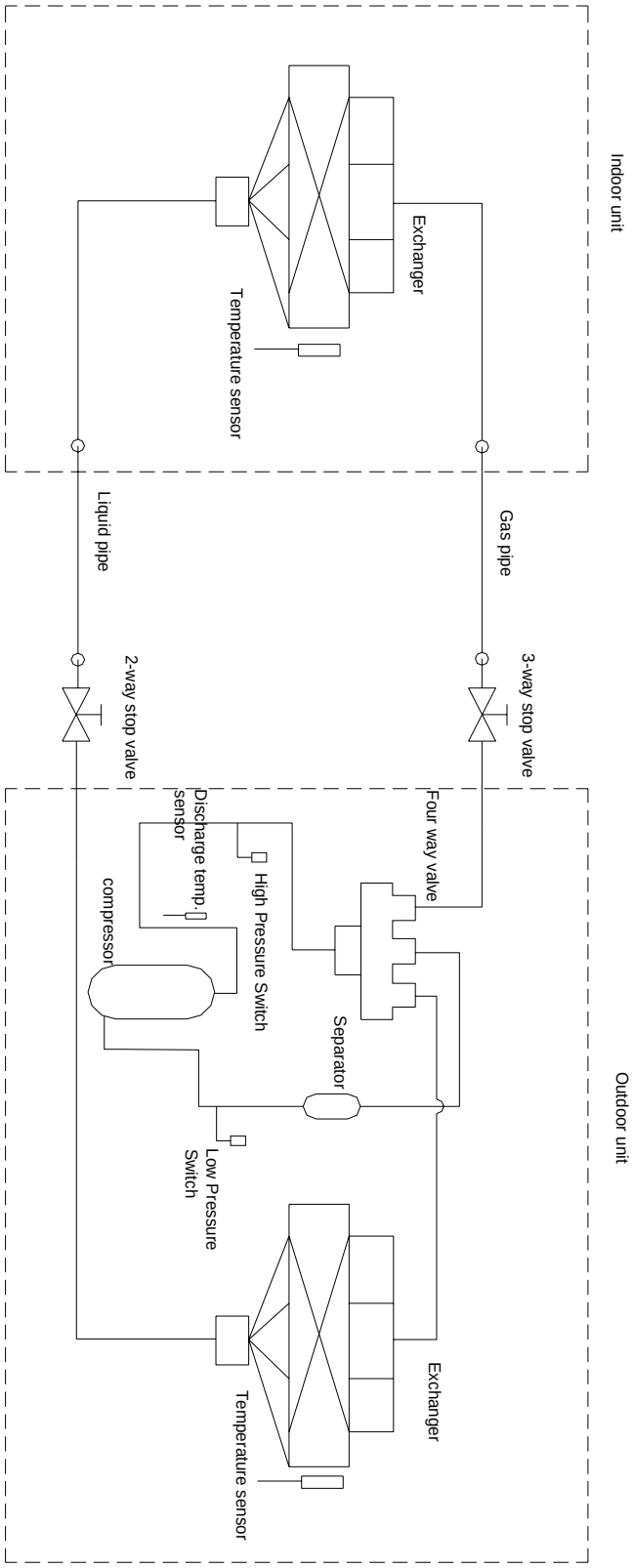
:

HCFU-28HF03



For HCFU-18HF03 and HDU-28HF03, the high pressure switch is not available.

HBU-28HH03 HBU-42HI03 HBU-42HF03 HCFU-42HF03 HDU-42HF03/H HDU-42HK03/H HPU-42HF03 HPU-42HV03 HPU-48HV03



7. Installation

Carefully read the following information in order to operate the airconditioner correctly.

Below are listed three kinds of Safety Cautions and Suggestions.

WARNING! Incorrect operations may result in severe consequences of death or serious injuries.

CAUTION! Incorrect operations may result in injuries or machine damages; in some cases may cause serious consequences.

INSTRUCTIONS: These information can ensure the correct operation of the machine.

Be sure to conform with the following important Safety Cautions.

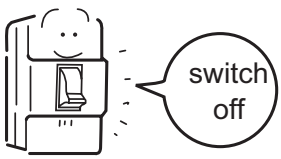
The Safety Cautions should be at hand so that they can be checked at any time when needed.

If the conditioner is transferred to the new user, this manual should be as well transferred to the new user.

WARNING!

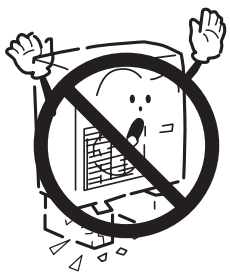
- **If any abnormal phenomena is found (e. g.smell of firing), please cut off the power supply immediately, and contact the dealer to find out the handling method.**

  In such case, to continue using the conditioner will damage the conditioner, and may cause electrical shock or fire hazard.



- **After the unit being used for a long time, the base should be checked for any damages.**

  If the damaged base is not repaired, the unit may fall down and cause accidents.

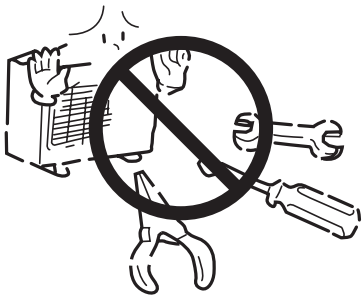


- **Don't dismantle the outlet of the outdoor unit.**

  The exposed fan is very dangerous which may harm human beings.

- **When the unit needs maintenance and repairment, please call dealer to handle it.**

  Incorrect maintenance and repairment may cause water leak, electrical shock and fire hazard.



WARNING!

- **Installed electrical-leaking circuit breaker.**

  It easily cause electrical shock without circuit breaker.

- **Air-conditioner can't be installed in the environment with inflammable gases because the inflammable gases near to air-conditioner may cause fire hazard.**

- **Please let the dealer be responsible for installing the conditioner.**

  Incorrect installation may cause water leak, electrical shock and fire hazard.

- **Call the dealer to take measures to prevent the refrigerant from leaking.**

  If conditioner is installed in a small room be sure to take every measure in order to prevent suffocation accident even in case of refrigerant leakage.

- **When conditioner is deinstalled or reinstalleddealer should be responsible for them.**

  Incorrect installation may cause water leaking, electrical shock and fire hazard.

- **Connect earthing wire.**

  Earthing wire should not be connected to the gas pipe, water pipe, lightning rod or phone line, in-correct earthing may cause shock.

Earthing

- **No goods or nobody is permitted to placed on or stand on outdoor unit.**

  The falling of goods and people may cause accidents.

- **Don't operate the air-conditioner with damp hands.**

  Otherwise will be shocked.

- **Only use correctly-typed fuse.**

  May not use wire or any other materials replacing fuse, other-wise may cause faults or fire accidents.

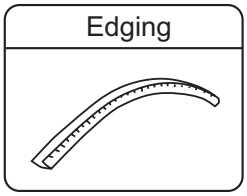
- **Use discharge pipe correctly to ensure efficient discharge.**

  Incorrect pipe use may cause water leaking.

7.1 For series 18, 28, 42, 48, 50

1. Accessories

"Edging" for protection of electric wires from an opening edge.

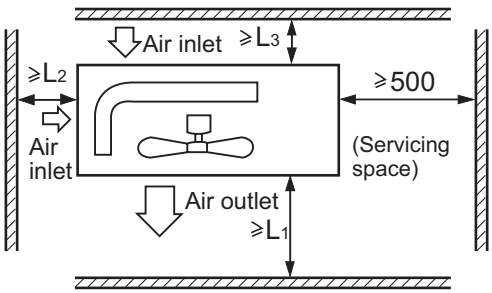


2. Selection of the place of installation

Select the place of installation satisfying the following conditions and, at the same time, obtain a consent from the client or user.

- Place where air circulates.
- Place free from heat radiation from other heat sources.
- Place where drain water may be discharged.
- Place where noise and hot air may not disturb the neighborhood.
- Place where there is not heavy snowfall in the winter time.
- Place where obstacles do not exist near the air inlet and air outlet .
- Place where the air outlet may not be exposed to a strong wind.
- Place surrounded at four sides are not suitable for installation. A 1m or more of overhead space is needed for the unit.
- Mount guide-louvers to place where short-circuit is a possibility.
- When installing several units, secure sufficient suction space to avoid short circuiting.

(1) Open space requirement around the unit



Note :

(1) Fix the parts with screws

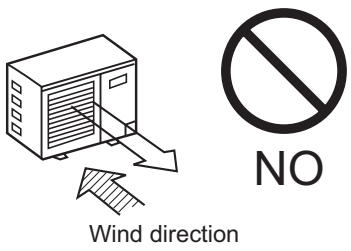
(2) Don't intake the strong wind directly to the outlet air-flow hole.

(3) A one meter distance should be kept from the unit top

(4) Don't block the surroundings of the unit with sundries

Unit: mm

Case / Distance	I	II	III
L_1	open	open	500
L_2	300	300	open
L_3	150	300	150



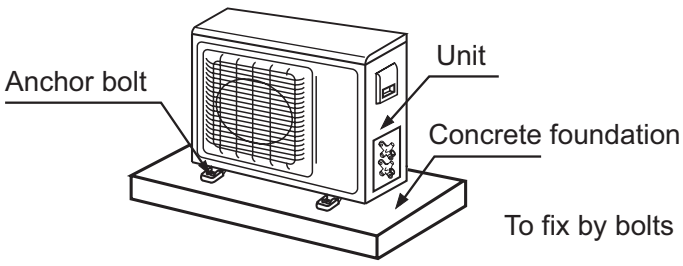
(2) Installation where the area with strong winds.

Install the unit so that the air outlet section of the unit must NOT be faced toward wind direction.

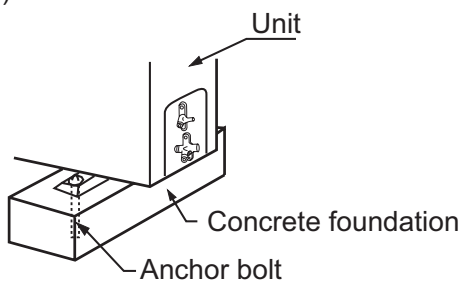
3. Installation of outdoor unit

Fix the unit in a proper way according to the condition of a place where it is installed by referring to the following.

(a) Concrete foundation



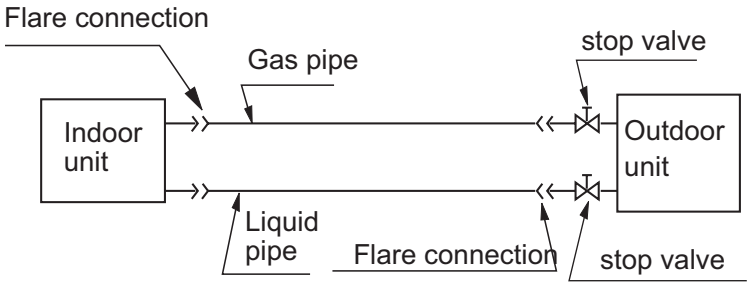
(b) Foundation anchor



- Install the unit so that the angle of inclination must be less than 3 degrees.

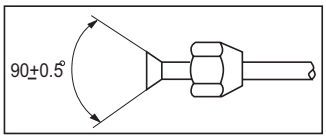
4. Refrigerant piping

(1) Outline piping



(2) Piping size

HBU-18CF03 HBU-18HF03 HCFU-18CF03 HCFU-18HF03 HDU-18CF03 HDU-18HF03	Liquid pipe	Φ6.35x0.8mm
	Gas pipe	Φ12.7x1.0mm
HBU-28CF03 HBU-28HF03 HBU-28CH03 HBU-28HH03 HCFU-28CF03 HCFU-28HF03 HDU-28CF03 HDU-28HF03	Liquid pipe	Φ9.52x0.8mm
	Gas pipe	Φ15.88x1.0mm
HBU-42CF03 HBU-42CI03 HBU-42CH03 HBU-42HI03 HCFU-42CF03 HCFU-42HF03 HCFU-42CH03 HCFU-42HK03 HDU-42CF03/H HDU-42HF03/H HDU-50HT03/H HDU-42CH03/H HDU-42CI03/H HDU-42HK03/H HPU-42CF03 HPU-42HF03 HPU-42CV03 HPU-42HV03 HPU-48HV03 HPU-42CH03 HPU-42HI03	Liquid pipe	Φ9.52x0.8mm
	Gas pipe	Φ19.05x1.0mm



- Install the removed flare nuts to the pipes to be connected, then flare the pipes.

(3) Limitations for one way piping length and vertical height difference

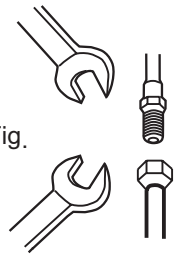
Model	One way piping length	Vertical height difference (between indoor and outdoor)
HBU-18CF03 HBU-18HF03 HCFU-18CF03 HCFU-18HF03 HDU-18CF03 HDU-18HF03	less than 15m	less than 5 m
HBU-28CF03 HBU-28HF03 HBU-28CH03 HBU-28HH03 HDU-28CF03 HDU-28HF03	less than 30 m	less than 15 m
HCFU-28CF03 HCFU-28HF03	less than 30 m	less than 20 m
HBU-42CF03 HBU-42CI03 HBU-42CH03 HBU-42HI03 HCFU-42CF03 HCFU-42HF03 HCFU-42CH03 HCFU-42HK03 HDU-42CF03/H HDU-42HF03/H HDU-50HT03/H HDU-42CH03/H HDU-42CI03/H HDU-42HK03/H HPU-42CF03 HPU-42HF03 HPU-42CV03 HPU-42HV03 HPU-48HV03 HPU-42CH03 HPU-42HI03	less than 50 m	less than 30 m

Precautions for refrigerant piping

- Do not twist or crush piping.
- Be sure that no dust is mixed in piping.
- Bend piping with as wide angle as possible.
- Keep insulating both gas and liquid piping.
- Check flare-connected area for gas leakage.

(4) Piping connection

- Connecting method (indoor unit)
  Apply refrigerant oil at half union as large and flare nut.
  To bend a pipe, give the roundness as possible not to crush the pipe.
  When connecting pipe, hold the pipe centre to centre then screw nut on by hand, refer to Fig.
  Be careful not to let foreign matters, such as sands enter the pipe.



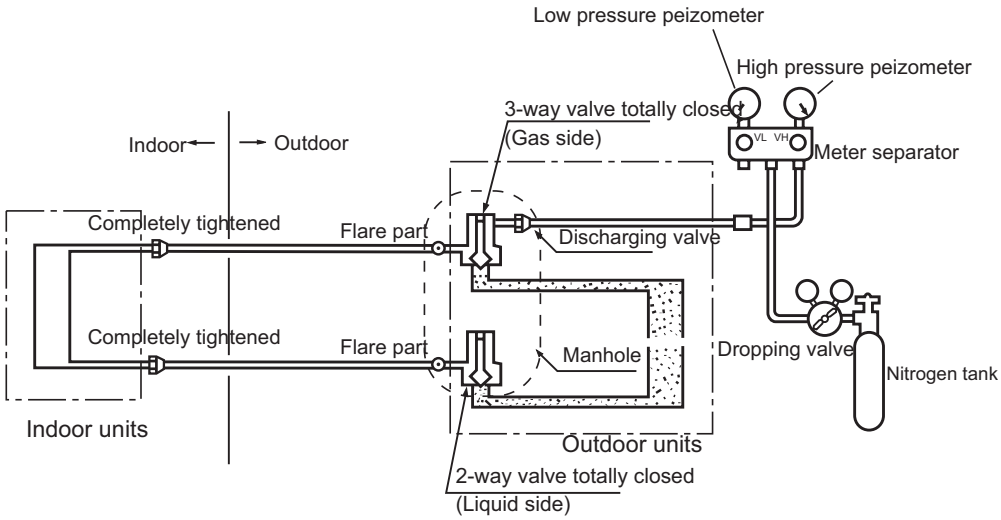
Forced fastening without centering may damage the threads and cause a gas leakage.

Pipe diameter	Fastening torque
Liquid pipe 6.35mm	14.2-17.2N·m
Liquid pipe 9.52mm	32.7-39.9N·m
Gas pipe 12.7mm	49.5-60.3N·m
Gas pipe 15.88mm	61.8-75.4N·m
Gas pipe 19.05mm	97.2-118.6N·m

5. Air discharging method

After finishing connection of refrigerant pipe, it shall perform air tightness test.

- The air tightness test adopts nitrogen tank to give pressure according to the pipe connection mode as the following figure shown.
  The gas and liquid valve are all in close state. In order to prevent the nitrogen entering the circulation system of outdoor unit, tighten the valve rod before giving pressure (both gas and liquid valve rods).



First step: 0.3MPa (3.0kg/cm^{2}g) pressurize over 3 minutes.
Second step: 1.5Mpa (15kg/cm^{2}g) pressurize over 3 minutes. Large leakage will be found.
Third step: 3.0 MPa (30kg/cm^{2}g) pressurize about 24 hours. Little leakage will be found.

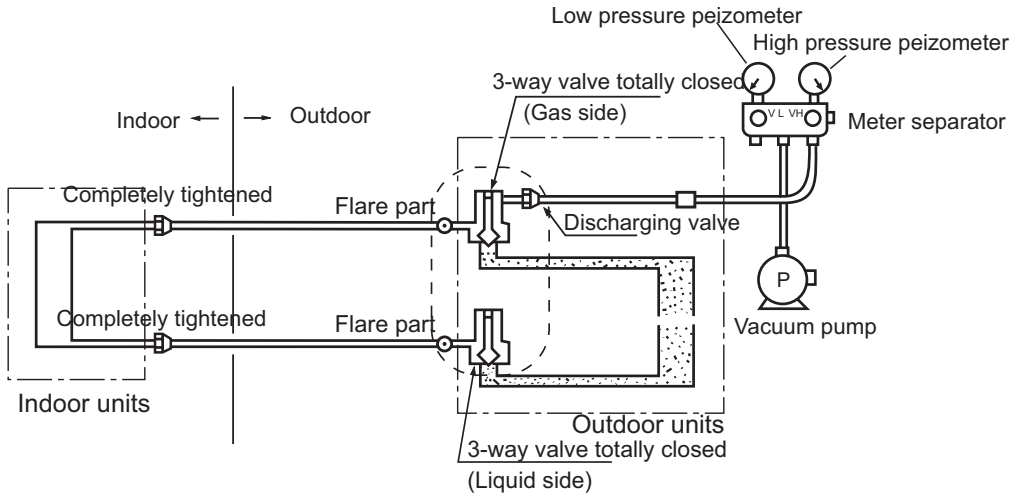
Check if the pressure drops
The pressure does not drop-passed
The pressure drops-check the leaking point.
From pressurizing to 24 hours later, each 1 degree difference of ambient temperature will make 0.01MPa (0.1kg/cm^{2}g) pressure change. It shall be corrected during test.

Checking the leaking point

In the first to third test steps, if the pressure drops, check the leakage in each joint use sense of hearing, feeling and soap water, etc. methods to find the leaking point.
After confirming the leaking point, welding it again or tighten the nut tightly again.

6. Piping and indoor unit vacuumizing

- Use vacuum pump to perform vacuumizing. It is strictly forbidden to use the refrigerant to remove the air inside the system.
- After air tightness test and discharging all the nitrogen, connect the vacuum pump as the following figure shown.



- It shall use the vacuum pump of (lower than -755mmHg)high vacuum degree and large air discharging (over 40l/min).
- The vacuumizing time depends on the length of the connecting pipe, generally is 1~2 hours. When vacuumizing, it shall be confirmed both gas and liquid side valves are closed.
- If after 2 hours vacuumizing, it cannot reach the vacuum degree below -755mmHg, it can be vacuumized for other 1 hour.
  If after 3 hours vacuumizing, it still cannot reach the vacuum degree below -755mmHg, check if there is any leaking point and repair the them.
- If after over 2 hours vacuumizing, the vacuum degree is below -755mmHg, close the V_L and V_H on the meter separator and stop vacuumizing. 1 hour later to confirm if the vacuum degree changes. If changes, it indicates there is leaking point in the system. Check the leaking point and repair.
- After finishing the above vacuumizing, change the vacuum pump into refrigerant pump to charge the refrigerant.

7. Charging amount of refrigerant

When the total length (L) of the two indoor units' connecting pipe is less than 5m, it is unnecessary to charge additional refrigerant.

If the connecting pipe (L) exceeds 5m, it shall charge Mg additional refrigerant per meter.

That is: Refrigerant charging amount = (L-5) x M (g)

For the unit with liquid pipe 6.35mm, M=30

For the unit with liquid pipe 9.52mm, M=65

- Only in COOLING operation can charge the additional refrigerant.
- When charging, the refrigerant shall be charged from the charging nozzle of low pressure vavle.
- Be carefull when charging refrigerant, do not let the air mix into the system,and must charge the additional refrigerant in liquid condition.

8. Electric wiring

WARNING!

DANGER OF BODILY INJURY OR DEATH
TURN OFF ELECTRIC POWER AT CIRCUIT BREAKER OR POWER SOURCE BEFORE MAKING ANY ELECTRIC CONNECTIONS.
GROUND CONNECTIONS MUST BE COMPLETED BEFORE MAKING LINE VOLTAGE CONNECTIONS.

(1) Selection of size of power supply and interconnecting wires.

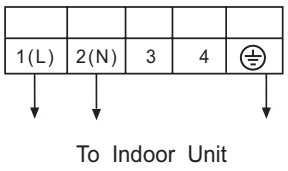
Precautions for Electric wiring

- Electric wiring work should be conducted only by authorized personnel.
- Do not connect more than three wires to the terminal block. Always use round type crimped terminal lugs with insulated grip on the ends of the wires.
- Use copper conductor only.
  Select wire sizes and circuit protection from table below. (This table shows 20 m length wires with less than 2% voltage drop.)

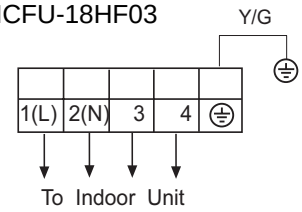
Model \ Item	Phase	Circuit breaker		Power source wire size (minimum)	Earth leakage breaker	
		Switch breaker (A)	Overcurrent protector		Switch break	Leak curren
HBU-18CF03 HBU-18HF03 HCFU-18CF03 HCFU-18HF03 HDU-18CF03 HDU-18HF03	1	30	20	2.5mm²	30A	30mA
HBU-28CF03 HBU-28HF03 HBU-28CH03 HBU-28HH03 HCFU-28CF03 HCFU-28HF03 HDU-28CF03 HDU-28HF03	1	40	36	4.0mm²	40A	30mA
HBU-42CF03 HBU-42CI03 HBU-42CH03 HBU-42HI03 HCFU-42CF03 HCFU-42HF03 HCFU-42CH03 HCFU-42HK03 HDU-42CF03/H HDU-42HF03/H HDU-50HT03/H HDU-42CH03/H HDU-42CI03/H HDU-42HK03/H	3	30	20	2.5mm²	30A	30mA
AU96NATAEA	3	40	36	6.0mm²	30A	30mA

(2) Wiring connection

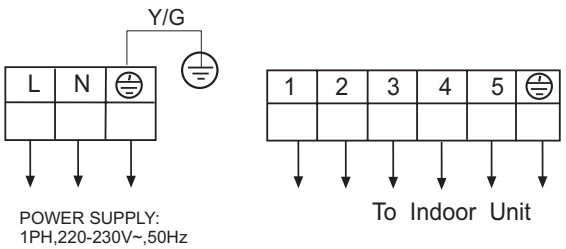
HCFU-18CF03 HBU-18CF03 HDU-18CF03



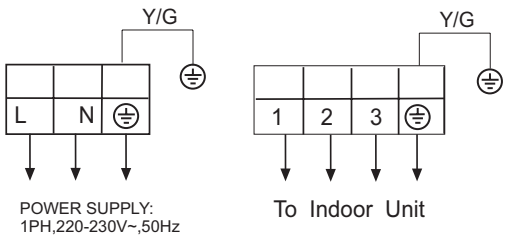
HBU-18HF03 HDU-18HF03 HCFU-18HF03



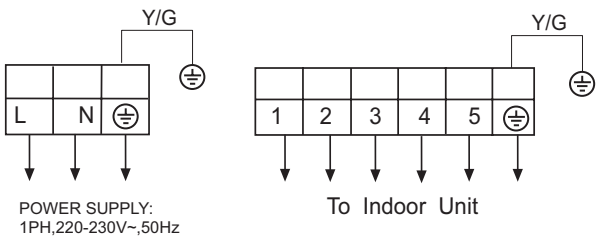
HCFU-28HF03



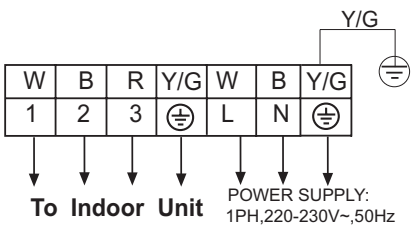
HDU-28CF03



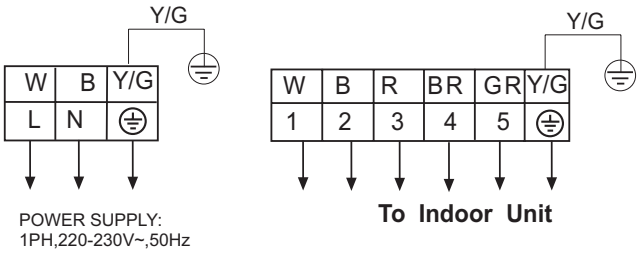
HDU-28HF03



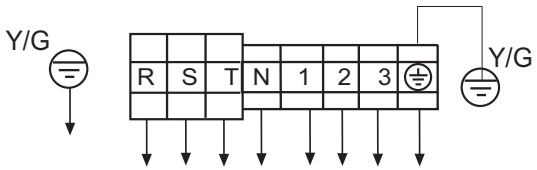
HBU-28CF03, HBU-28CH03, HCFU-28CF03



HBU-28HF03, HBU-28HH03

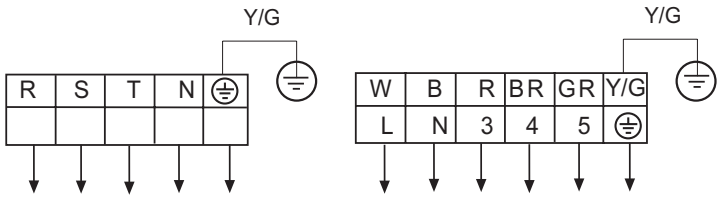


HBU-42CF03 HBU-42CI03 HBU-42CH03 HBU-42HI03
HCFU-42CF03 HCFU-42CH03 HCFU-42HK03
HDU-42CF03/H HDU-50HT03/H HDU-42CH03/H
HDU-42CI03/H HDU-42HK03/H



POWER SUPPLY: To Indoor Unit
3N~,380-400V,50Hz

HBU-42HF03 HCFU-42HF03 HDU-42HF03/H



POWER SUPPLY:
3N~,380-400V,50Hz

To Indoor Unit

WARNING! INTERCONNECTING WIRES MUST BE WIRED ACCORDING TO FIG.1,FIG.2, FIG.3 INCORRECT WIRING MAY CAUSE EQUIPMENT DAMAGE.

(3) Wiring procedure

1) Remove set screws on the side before taking off the front panel toward the direction shown in figure.

2) Connect wires to the terminal block correctly and fix the wires with a wire clamp equipped nearby the terminal block.

3) Route the wires in a proper way and penetrate the wires through the opening for electric wiring on the side panel.

9. Test run

CAUTION! THIS UNIT WILL BE STARTED INSTANTLY WITHOUT "ON" OPERATION WHEN ELECTRIC POWER IS SUPPLIED.BE SURE TO EXECUTE "OFF" OPERATION BEFORE ELECTRIC POWER IS DISCONNECTED FOR SERVICING.

- This unit has a function of automatic restart system after recovering power stoppage.

(1) Before starting test run (for all Heat pump models)

Confirm whether the power source breaker (main switch) of the unit has been turned on for over 12 hours to energize the crankcase heater in advance of operation.

(2) Test run

Run the unit continuously for about 30 minutes, and check the following.

- Suction pressure at check joint of service valve for gas pipe.
- Discharge pressure at check joint on the compressor discharge pipe.
- Temperature difference between return air and supply air for indoor unit.

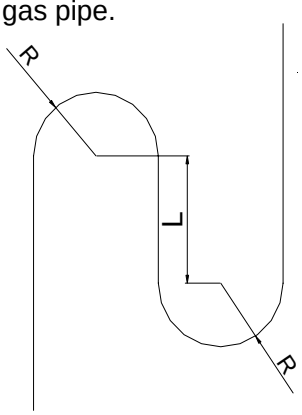
Oil trap setting requirement:

Oil trap is required no mater the outdoor unit is upper or lower than indoor unit, only when the piping drop is more than 10m.

Setting method: install one oil trap for every 10 meters at the gas pipe.

Trap dimensions:

Gas pipe diameter	Min. R (mm)	L (mm)
ϕ15.88	40	80
ϕ19.05	40	80
ϕ25.4	40	80
ϕ31.8	60	90
ϕ38.1	60	100



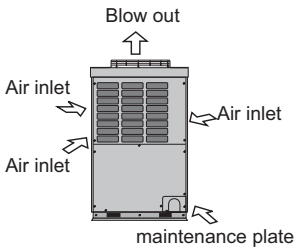
Note: the drop between the oil trops should be 10m.

7.2 For series 96

Selection of installation site

⚠ Warning

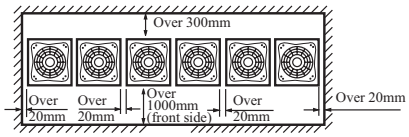
- It should be installed at places where it is firm enough to withstand the weight of the air conditioner to prevent falling.
- Typhoon and earthquake prevention. It should be installed according to specific requirements. Inasppropriate installation may lead to accidents.



Installtion space

(1)During installation, connect the outdoor unit and align the mounting surface(See the figure on the right).Mount the electric distribution device on the external side of the unit in accordance to the installation instructions for electric distribution device.

(2)To ensure good performance of the machine and facilitate installation and maintenance, adequate space must be reserved (See figure on the right).



Note: Obstacles should be 2000mm off the top of the outdoor unit. Obstacles nearby should be 400mm lower than the top of the unit.

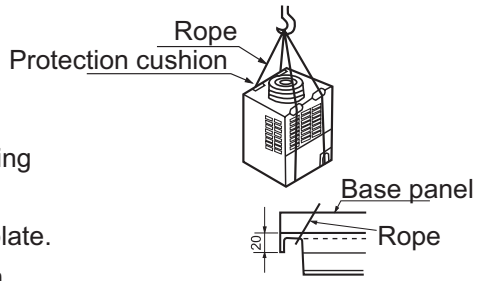
1. Handing

As there is no protective package for the outdoor unit,so the following points merit attention:

(1) When forklift is used, insert the fork into the holes in the base plate.

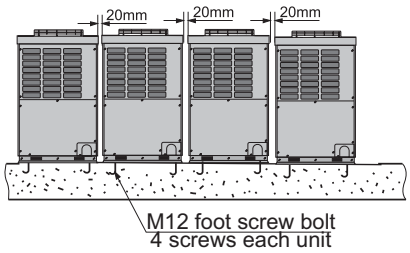
(2) When crane is used, lift the unit with 4 pieces of steel rope with diameter above 6 mm.

(3) Put protective materials between the cable and the unit to prevent deformation and damage of the surface.

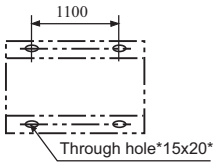


2.Mounting

(1) The distance between two connections must not be less than 20mm.

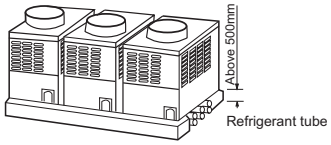


- Refer to the following figure for the distance between the foundation bolts.

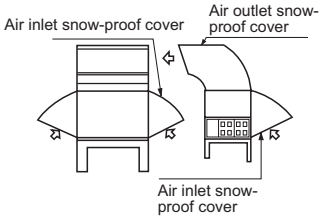


(2)When the refrigerant pipe is connected from the bottom of the unit,the unit should be raised at least 500mm(see the figure below)

(3)In snowy regions,snow-proof facilities should be used(see the figure below). (Poor snow-proof facilities may lead to damge.To avoid inconveniences,the unit should be raised and snow-proof covers should be installed at the air inlet and outlet.)



(4)During installation,anti-vibration rubber pads should be used between the machine and the bracket.



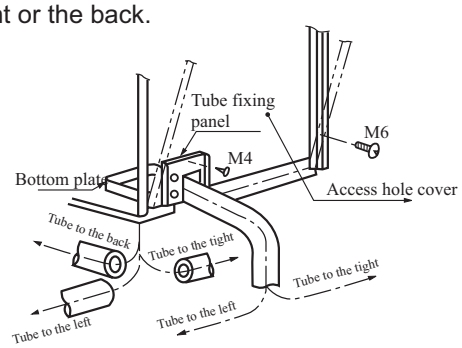
3.Connection of refrigerant pipe

⚠ Warning

- During installation,if refrigerant leakage occurs,ventilation measures must be taken.When refrigerant meets with fire,hazadous gas will be produced.
- After installation,make sure that there is no refrigerant leakage.
  Refrigerant,if meeting with heaters and stoves,ect in the room,may produce hazardous gas.

Connection of refrigerant pipe

(1) The joints of the refrigerant pipe are inside the unit.Take off the access hole cover in front of the unit.
(2) The pipe can be connected from the front or bottom of the outdoor unit.
(3) Remove the L-shaped pipe from the valve by welding and connect the accessory pipe to the valve.
(4) In the case of front connection,cut the accessory pipe at the height of the fixing panel.Then join the pipe with an elbow and let it go through the fixing panel.For the convenience of maintenance, bend the pipe down (once) and then connect pipe to the right or left.
(5) In the case of bottom connection,join the pipe with accessory pipe through the holes in the base plate of the outdoor unit,and connect pipe the left or right or the back.



(6) During welding,the gas pipe valve must be cooled down with a wet cotton cloth.

During welding of the distribution pipe

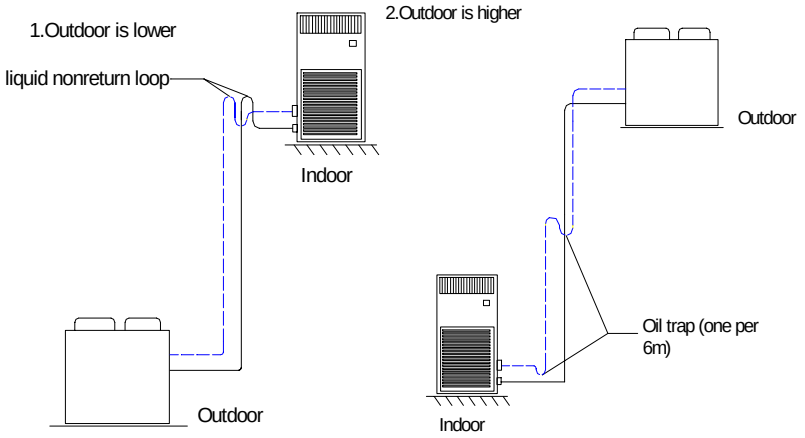
1.In case of brazing weld of joint,nitrogen must be filled in the pipe to prevent oxidization.
2.The refrigerant pipe should be newly-made and clean.During installation,do not let water and other substance into the pipe.
3.Use two spanners to tighten the connecting nut.One spanner will make loose connection.
The torque moment should conform to the specified value.(Refer to the below)

Tube diameter (mm)	Torque moment for pre-installation (N.m)	Torque moment for tightening up (N.m)
Ø 12.70	49.0(5.0kgf m)	53.9(5.5kgf m)

Selection of tube material and size
Determinaltion of tube diameter (Refer to the diagram on next page for steps 1,2,3,4 and 5 below)
1.Tube between the outdoor unit and the first bypass(main tube):
The diameter of the main tube and the outdoor tube should be the same.
2. Tube between bypasses(sub-tube):
The diameter of the sub-pipe is determined according to the total capacity of all the connected indoor units.But if it is larger than the capacity of the outdoor unit,the diameter should be determined according the capacity of the outdoor unit.

Install the nonreturn loop and oil trap

Take AP96NACAEA as an example



Crucial points:

When testing, never use oxygen,flamable and poisonous gases.

Step 1:Charge for more than 3 minutes under 0.3MPa(3.0kg/cm^{2}g)

Step 2:Charge for more than 3 minutes under 1.5MPa(15kg/cm^{2}g)

--Serious leakage may be found.

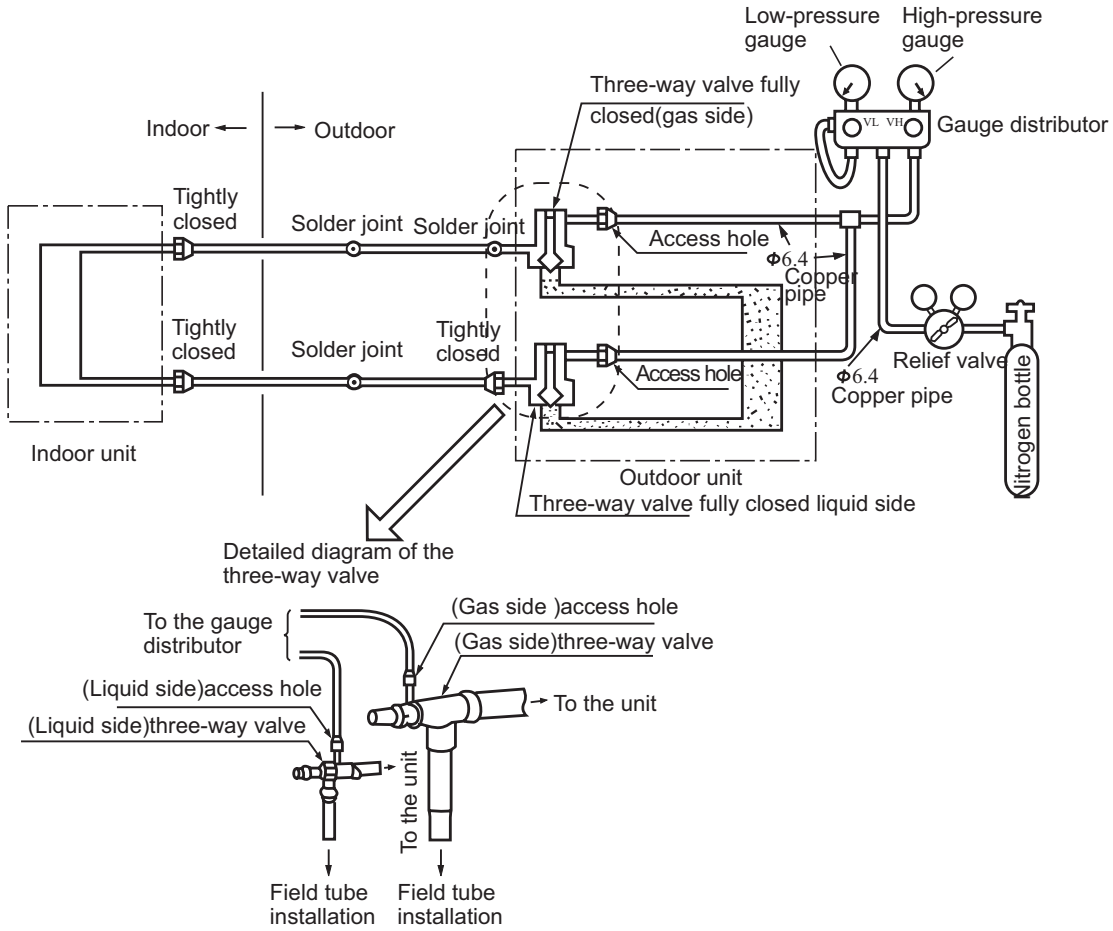
Step 3:Charge for more than 24 hours under 3.0MPa(3.0kg/cm^{2}g)

--Small leakage may be found.

Check for pressure decrease

Without pressure decrease-Pass

With pressure decrease-Check for leaage.There will be a 0.01MPa(0.1kg/cm^{2}g) pressure change for every 1°C ambient temperature change during the 24-hour pressure charge.It should be corrected during the test.

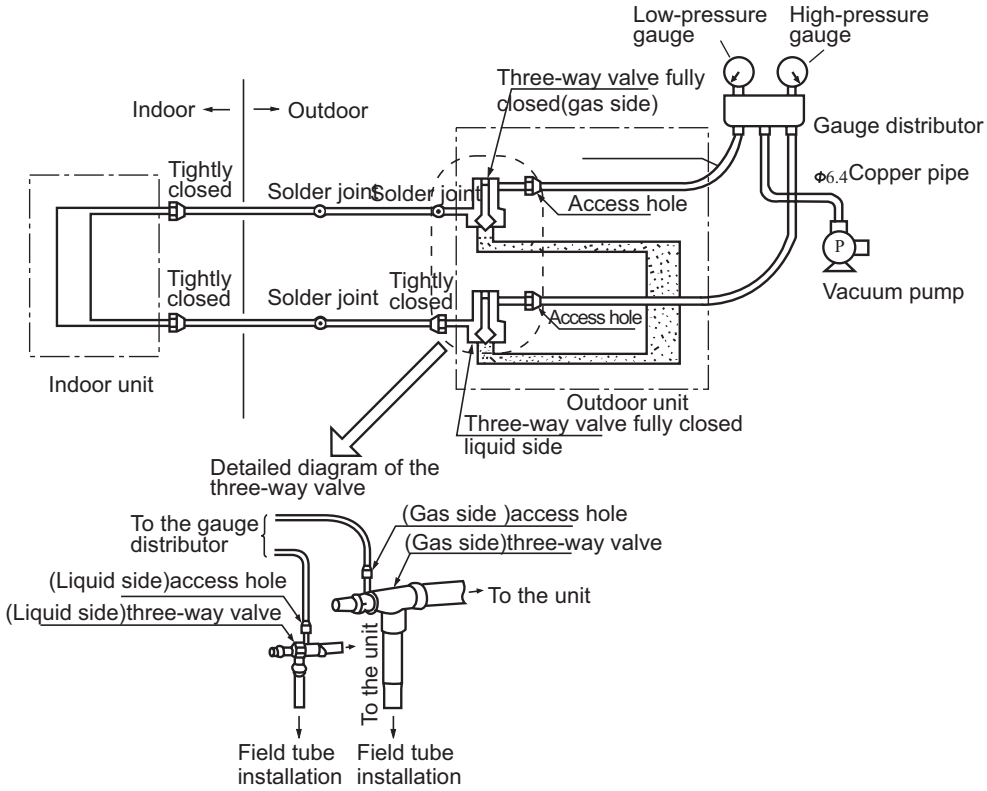


Check for leakage

- In the case of pressure decrease during steps 1 to 3 ,check the joints with the ear,hand or soapsuds for leakage. Repair it by welding or tighten the connecting nut up.

Vacuum Pumping

- Use vacuum pump to evacuate the air.Never use the refrigerant for the evacuation.
- Drain off the nitrogen gas after the leak test and then connect the vacuum pump as shown in the figure below.
- The vacuum pumping must be done from both the liquid and gas inlets.



- Use a vacuum pump with high degree of vacuum(below-755mmHg) and large volume displacement (above 40L/min)
- The pumping time depends on the length of the connecting pipe.Generally,it takes about 2-3 hours. Make sure that the Y-shaped valves on both the gas and liquid sides are closed before pumping.
- If the vacuum can no reach-755mmHg within 2 hours,continue pumping for another 1 hour.
- If the vacuum can no reach-755mmHg after more than 2 hour's pumping,close the valves V_L and V_H on the gauge distributor and stop pumping.One hour later,check the vacuum again.If the vacuum has changed,it means there is a leakage.Repair it.
- After the above steps,replace the vacuum pump with the refrigerant pump and refill refrigerant.

Charging refrigerant

• Refrigrant must be charged in liquid state. • Refrigerant bottle with or without a siphon tube can be refilled with refrigerant upright or upside down,Respectively.	• Containers for R22 refrigerant must be marked with R22 and a brown Stripe. • R407C refrigerant cannot share the same instrument distributor and filling pipes.

Refilling of refrigerant

After the vacuum pumping,replace the vacuum pump with the refrigerant pump and refill refrigerant.

Calculation of refrigerant quantity

The factory filled refrigerant into the piping excludes the part of pipes according to be refilled on the site.

Refill the amount of refrigerant into the piping according to the following formula.

The factory filled refrigerant is listed in the table below:

The quantity of the refrigerant to be refilled during installation depends on the diameter and length of the liquid piping.

The quantity of the refrigerant t be refilled on the site=Actual length of liquid tube x quantity of refrigerant to be refilled for per meter of liquid pipe.

Recharge refrigerant

When the outdoor valve is shut,fill the refrigerant from the access hole at the gas and liquid sides.

If the required filling is impossible,open all the gas and liquid valves,then slightly shut the gas valve, run the compressor and fill the refrigerant from the access hole at the gas side.Now adjust the gas valve to control the refrigerant flow,which will be gasified during absorption by the system.

If there is insufficient refrigerant in the system caused by leaks,refill it after the remaining refrigerant is recollected.

Open all valves

- Open all the valves of the outdoor unit.

Heat isolation of the pipes

- Separate isolation should be made for the liquid and gas pipes.
- Materials used for the pipe isolation at the gas side must withstand above 120 C temperature.

Electric wiring

Note:

All the wires should be copper core wires.

The power cable of indoor unit should be equipped according to the operation manual indoor unit.

When connecting the indoor & outdoor wire, check the number of the indoor & outdoor terminals, the terminals with the same number connected together with one wire.

Incorrect wiring will damage the controller of the air conditioner or make the unit work abnormally.

The air conditioner must use special power circuit and special air switch (40A), groundign wire.

The wiring work should be done by a qualified electrician according to the national wiring rule.

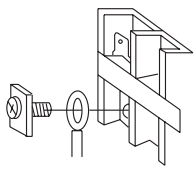
The creepage breaker must be installed. The grounding line and the neutral line of the receptacle must be strictly separated. It is incorrect to connect the neutral line with the grounding line.

The connection type of power cord is Y connection. If the soft power cord is damaged, to avoid risk, it must be replaced by the manufacturer or their specific repair department or similar professional worker.

Wiring method

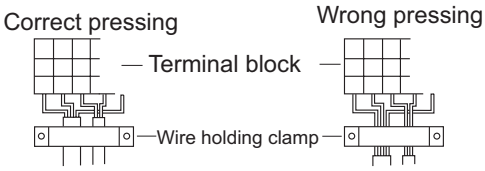
1.The wiring method of orbicular terminal

For the connection wire which end is orbicularterminal, its wiring method is as the right figure shown. Dismantle the screw and put it through the ring at the end of the connection wire, then connect it to the terminal block and tighten the screw.



The wiring method of orbicular terminal

2.The wiring method of straight terminal For those connection wires whose end are not orbicular terminals, their wiring method is: Loosen the connecting screw, insert the end of the wire directly into the terminal block, and then tighten screw. Pull the wire outwards slightly to confirm it is held tightly.



(Sketch map)

3.Pressing method of connection wire:

After wiring, the connection wire must be pressed with wire holding clamp. The wire holding clamp should press on the out cover of the connection wire.

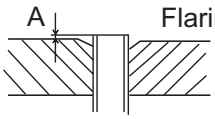
Connect wire between indoor & outdoor unit

As the wiring diagram show to arrange the connection wire.

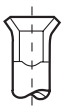
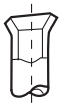
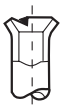
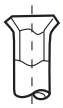
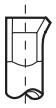
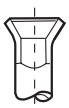
Note: The terminal block□s mark at the two ends of the connection wire should be corresponding one by one, otherwise the air conditioner cannot work normally.

Others

1. Power supply
   - The parameter of power cord is over 2.5mm .
   - Air conditioner must use an exclusive line (over 30A)
   - When installation air conditioner in a wet place, try to use a circuit breaker against Current leakage.
   - For installation in other places, use circuit breaker as far as possible.
   - The breaker of the air conditioner should be all-pole switch ; and the distance between its two contacts should be no less 3 mm.
   - Such means for disconnection must be incorporation in the fixed wiring
2. Pipe cutting and flaring
   - Be sure to carry out deburring after pipe cutting with a pipe cutter.
   - Insert flaring tool to make a flare.



	Pipe dia.	Dimension A(mm)
Liquid pipe	∅ 12.7mm (1/2")	1.2 ~ 2.0

Correct	Incorrect				
					
	Lean	Damaged flare	Crack	Partial	Too outside

Installation inspection and test run:
Please operate unit according to this Manual.
Items to be checked during test run. Please made a "√"in "□"

□Are there any gas leakage?
□How is insulation at piping connection carried out?
□Are electric wires of indoor and outdoor unit firmly inserted into terminal block?
□Is electric wiring of indoor and outdoor securely fixed?
□Is draminage securely carried out?
□Is earth line (grounding) securely connected?
□Is power supply voltage abided by the code?
□Is there any noise?
□Is control display normal?
□Is cooling operation normal?
□Is room temp. regulator normal?

3.Calculation of refrigerant density

Calculation will be made according to the following methods:

1) Total refrigerant content of each system (kg) =content of 1 outdoor system + refilled refrigerant
   Content of 1 outdoor system:Factory filled refrigerant
   Refilled refrigerant:Filled content during installation according to the diameter and length of the liquid piping.
2) Calculation of the minimum room sapce (m^3).
3) Calculation of refrigerant density

$$\frac{\text{Total refrigerant content}}{\text{Minimum room space}} \leqslant \text{Refrigerant density:0.3(kg/m}^3\text{)}$$

2.Preventive measures against excess of critical value

1) Make ventilation holes

Ventilation holes should be built above and under the door.The area of each hole should not be smaller than 0.15% of the room space.Holes can be made directly in the wall.

2) Reduce the filling content of refrigerant

Filling content of refrigerant can be reduced by shortening the distance between the indoor and outdoor units.

By reducing the capacity of the outdoor unit.

When outdoor unit be made up of several units.the outdoor capacity of each system should reduce.Sothe refrigerant content of system reduce.

3) Install ventilation fans.

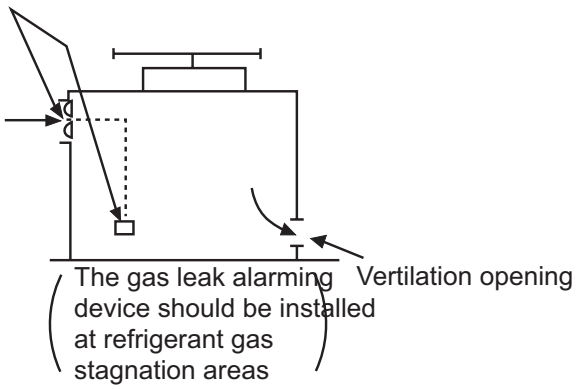
Users can install uninterrupted ventilation fans to keep the refrigerant density under the critical value.

If uninterrupted ventilation is impossible,a combined fanning and alarming device should be installed in its stead (through which immediate ventilation is possible when leak occurs).

(See the figure below)

An example

Ventilation fan and gas leak alariming device

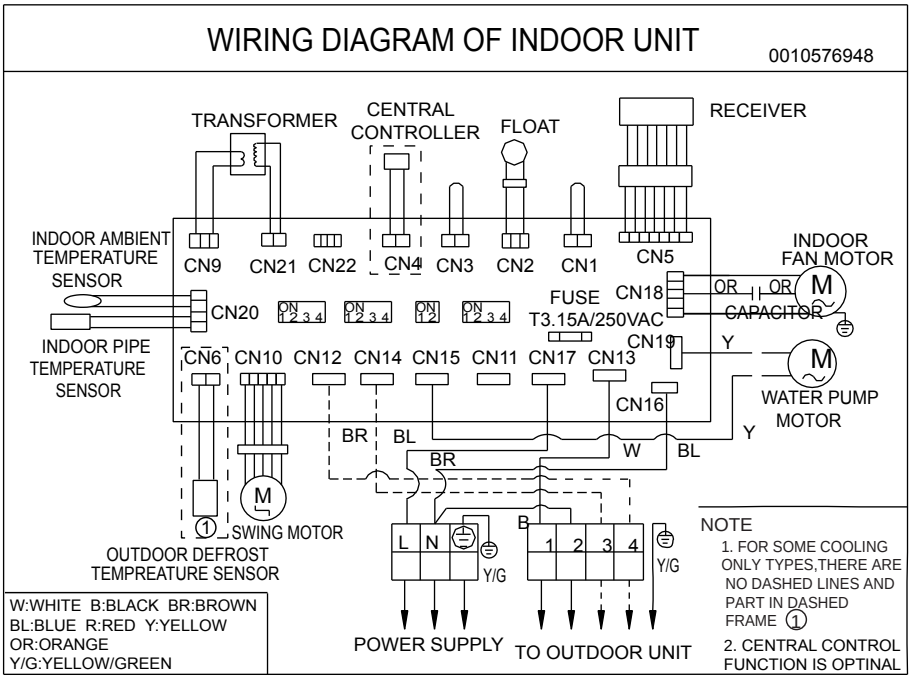


Part 4 Electrical Control

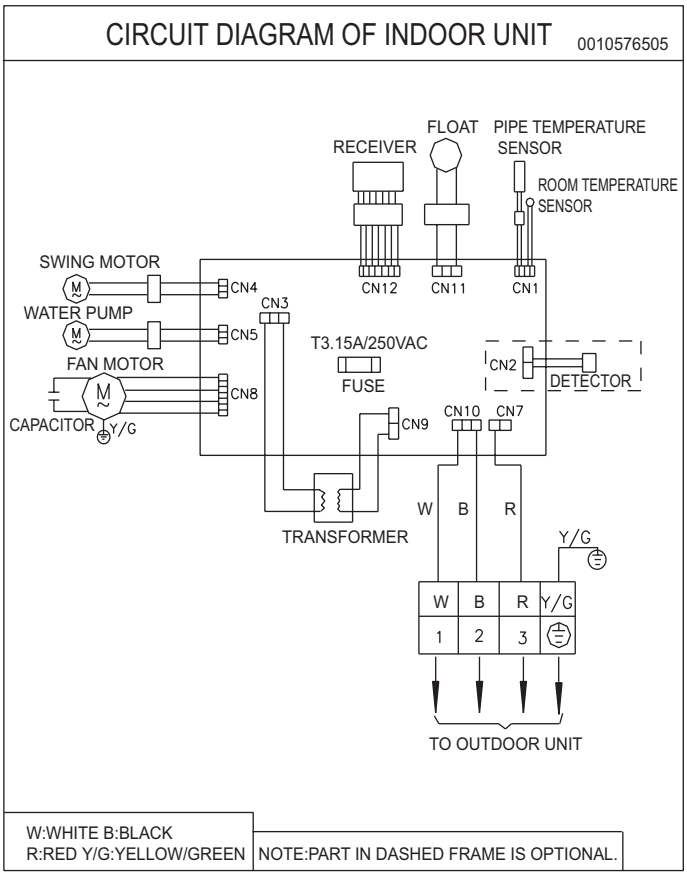
1 Wiring diagram and PCB photo

1.1 For indoor unit

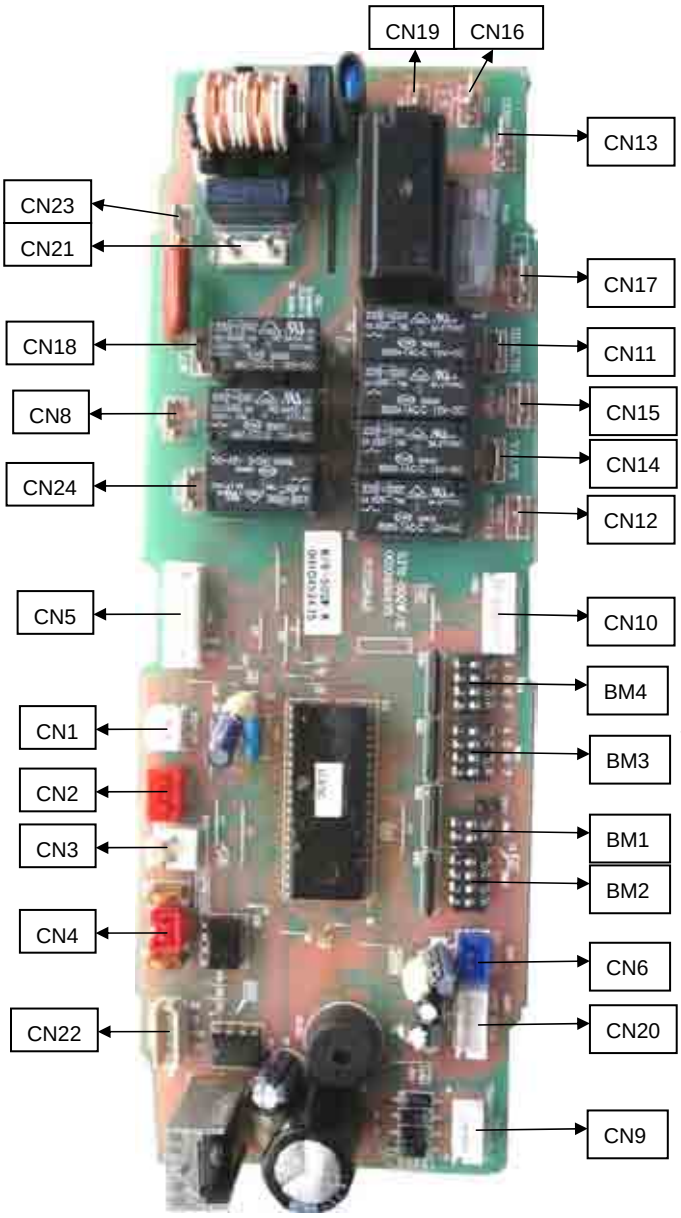
HBU-18CF03, HBU-18HF03



HBU-28CF03



0010452475 for HBU-18CF03, HBU-18HF03 and HBU-28CF03 indoor unit

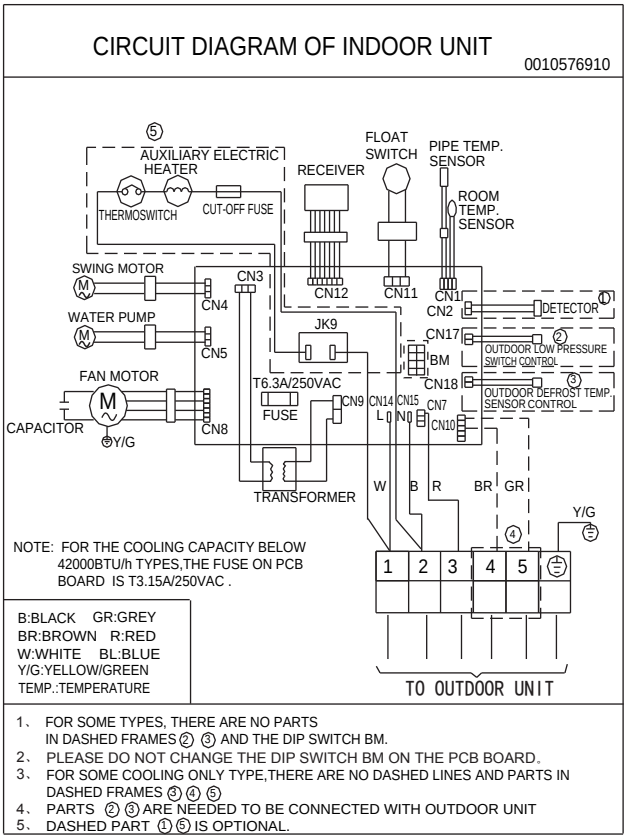


			BM1(1)	BM1(2)
Without outdoor PCB	*	*	×	×
Fixed frequency single split with outdoor PCB	*	*	√	×
Fixed frequency multi split with outdoor PCB	*	*	×	√
Inverter single split with outdoor PCB	*	*	√	√
	BM2(1)	BM2(2)	BM2(3)	BM2(4)
Without temp. compensation	×	×	*	*
With/without 2℃ temp. compensation	√	×	*	*
With/without 4℃ temp. compensation	×	√	*	*
With/without 6℃ temp. compensation	√	√	*	*
Cooling only/heat pump	*	*	√/×	*
With/without defrost sensor	*	*	*	√/×

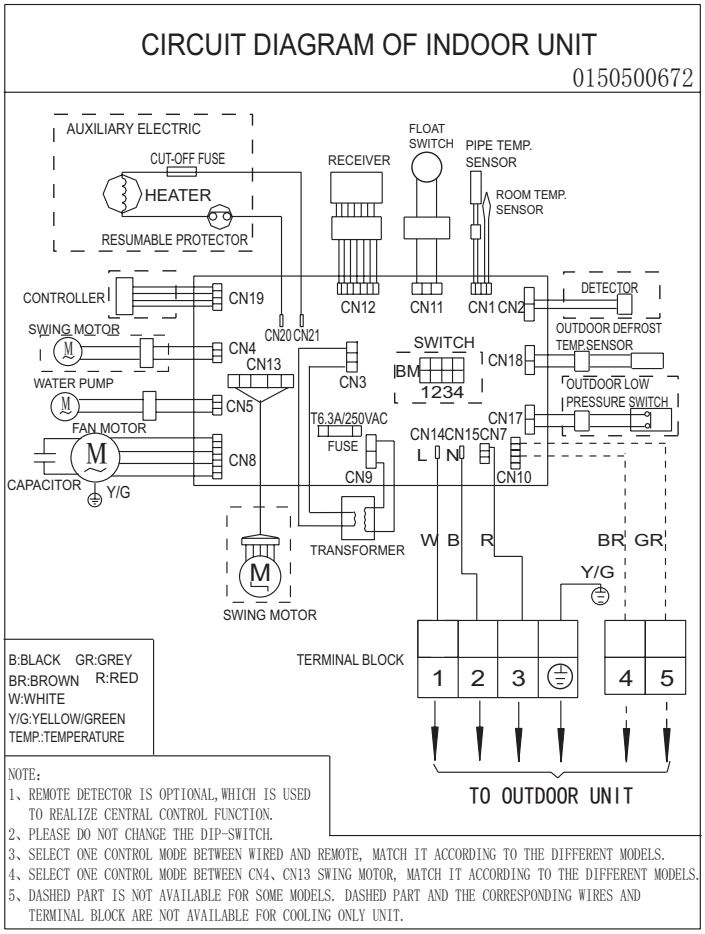
Network address selection (√shows jumper connected, ON; ×shows jumper disconnected, OFF)

	BM4				BM3			
address	1	2	3	4	1	2	3	4
1	×	×	×	×	×	×	×	×shows no network home appliance
2	√	×	×	×	×	×	×	
3	×	√	×	×	×	×	×	
4	√	√	×	×	×	×	×	
5	×	×	√	×	×	×	×	√with network home appliance
6	√	×	√	×	×	×	×	
……		……	……	……	……	……	……	
126	√	×	√	√	√	√	√	
127	×	√	√	√	√	√	√	
128	√	√	√	√	√	√	√	

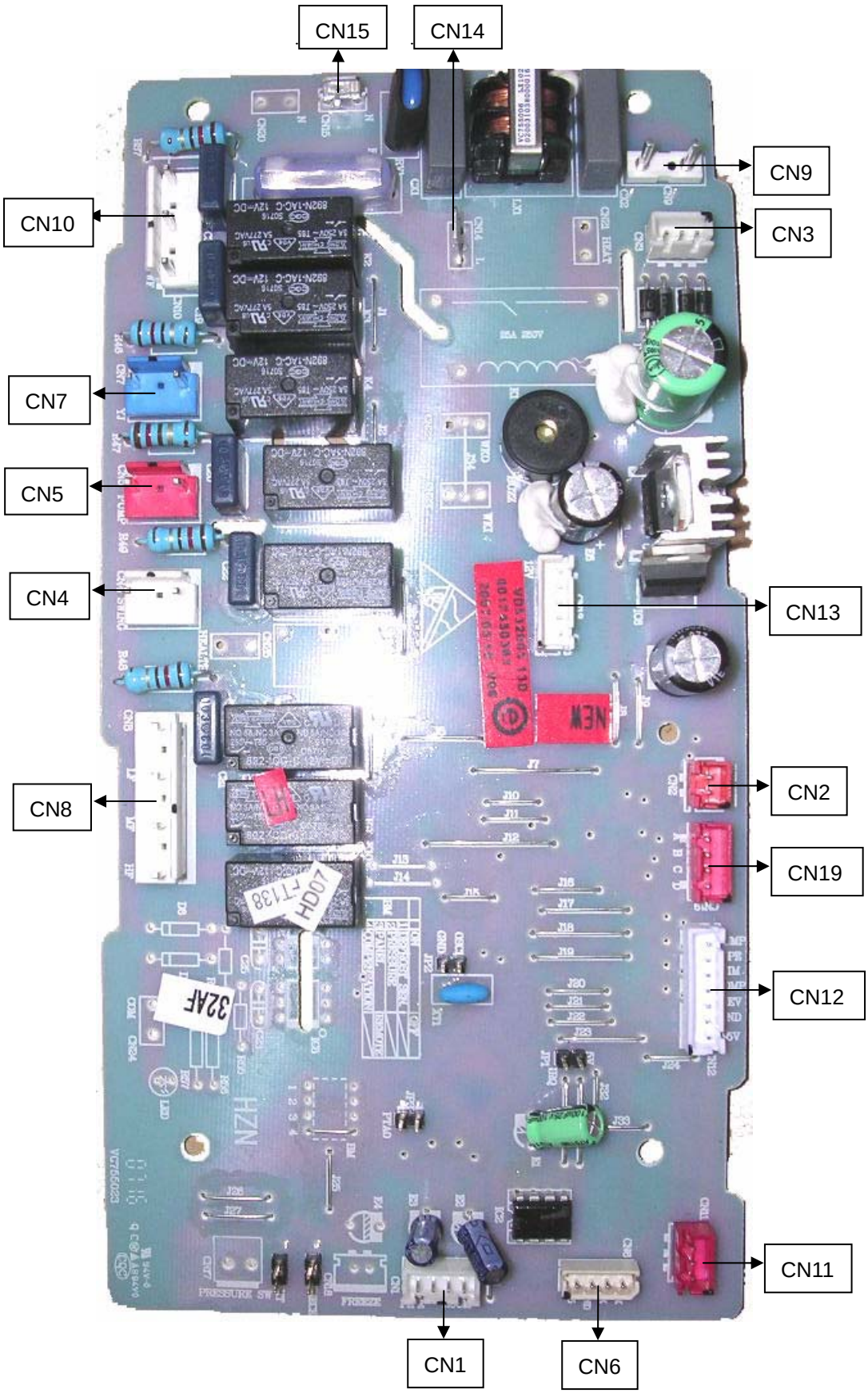
HBU-28HF03, HBU-42CF03, HBU-42HF03



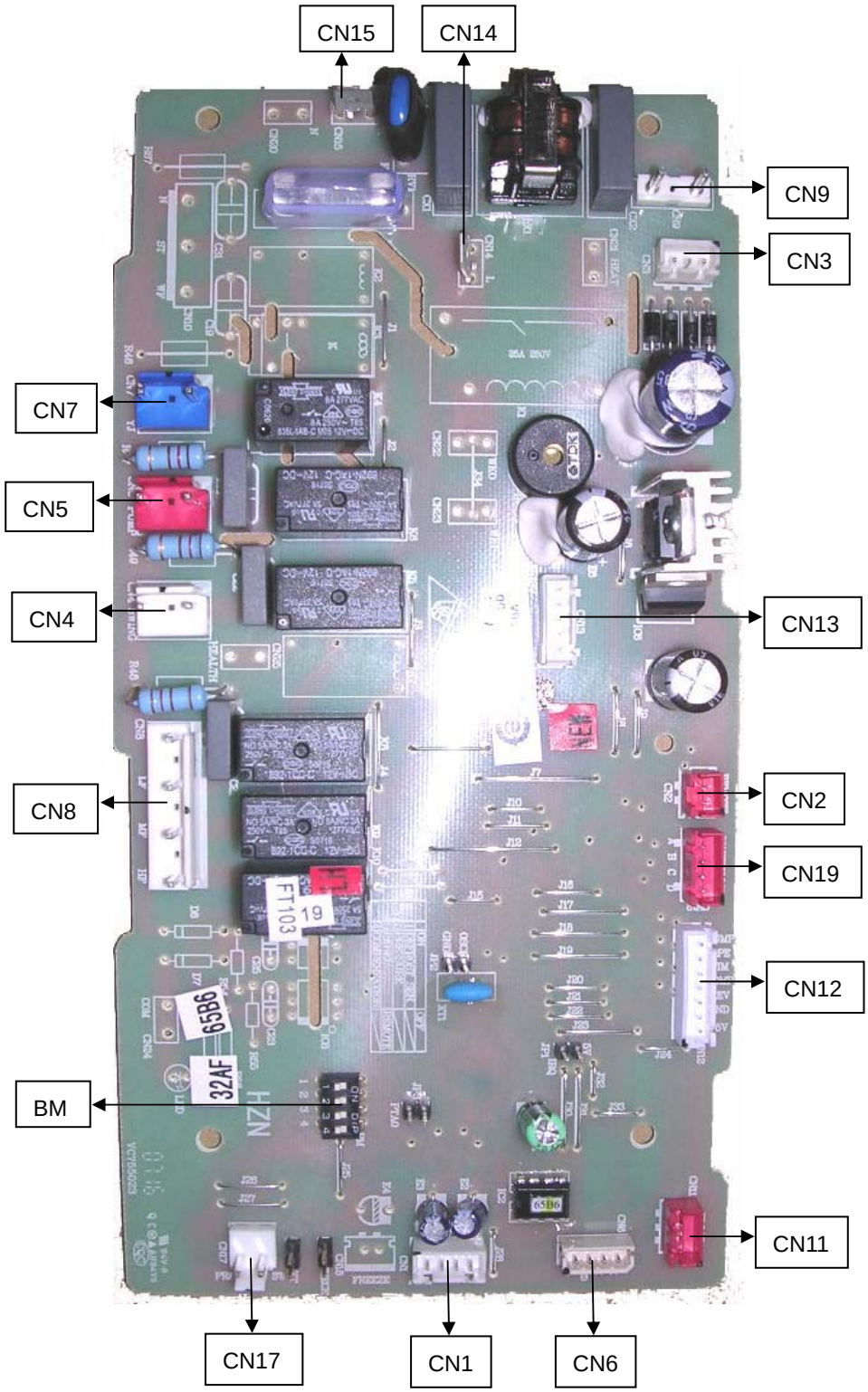
HBU-28CH03, HBU-28HH03



0010450363 for HBU-28HF03 and HBU-28HH03 indoor unit

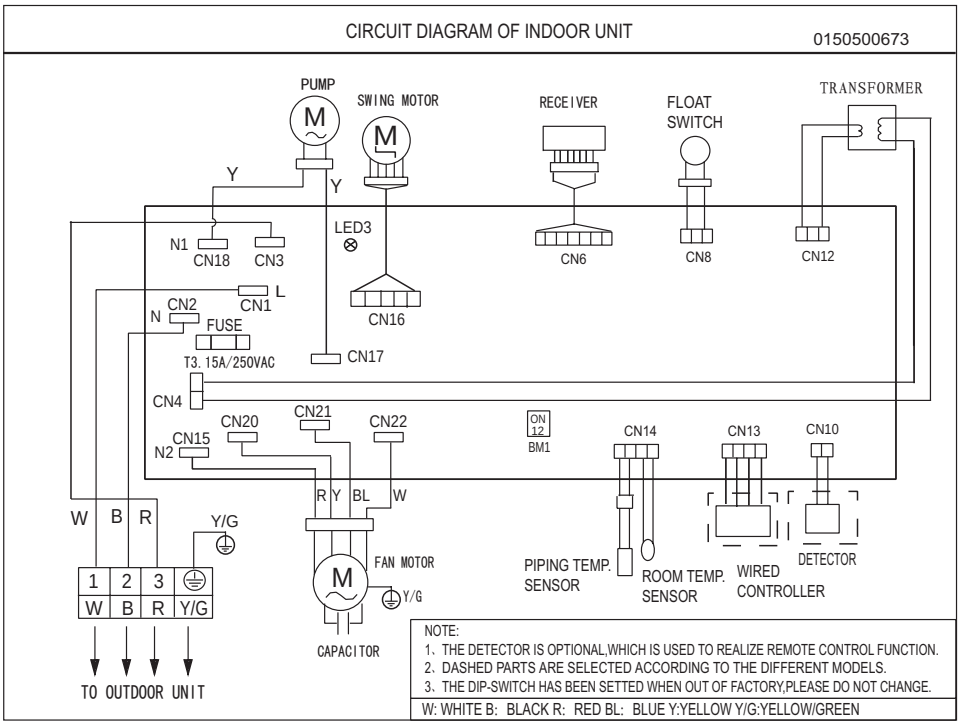


0010452035 for HBU-42HF03, 0010452036 for HBU-28CH03 and HBU-42CF03 indoor unit

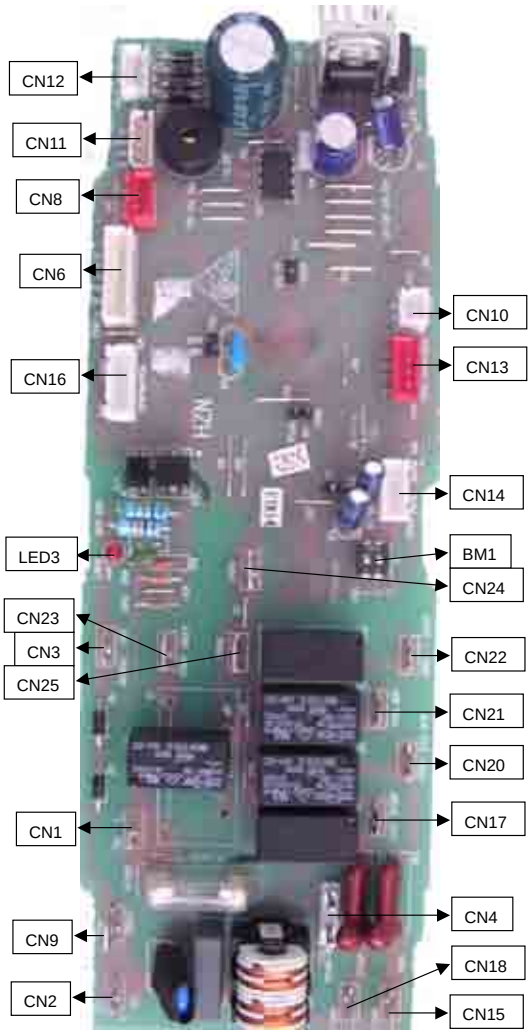


	BM2(1)	BM2(2)	BM2(3)	BM2(4)
With/without defrost sensor	√/×	*	*	*
With/without pressure switch	*	√/×	*	*
Wired/remote control	*	*	√/×	*
With/without temp. compensation	*	*	*	√/×

HBU-42CH03, HBU-42CI03, HBU-42HI03



0010452567 for HBU-42CH03, HBU-42CI03 and HBU-42HI03 indoor unit

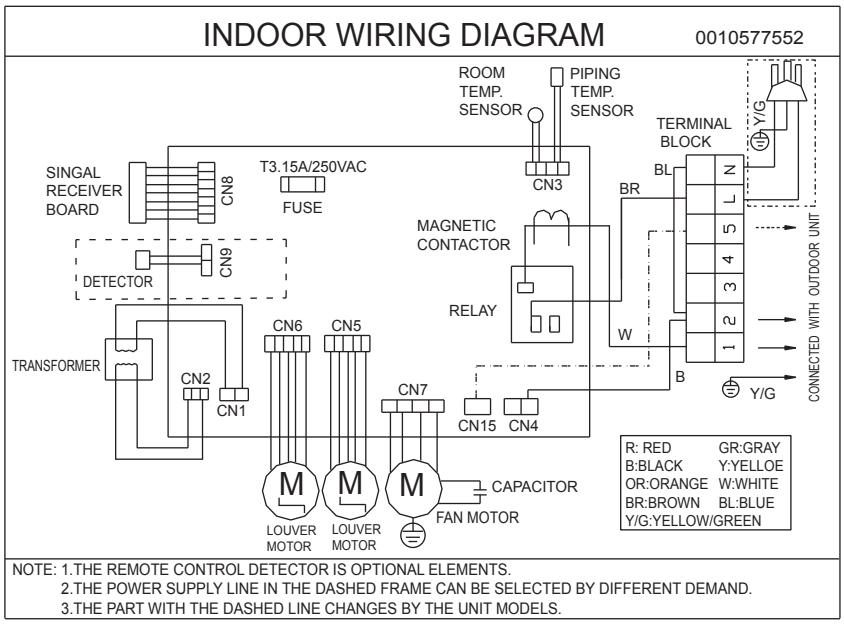


Indoor dip-switch definition:

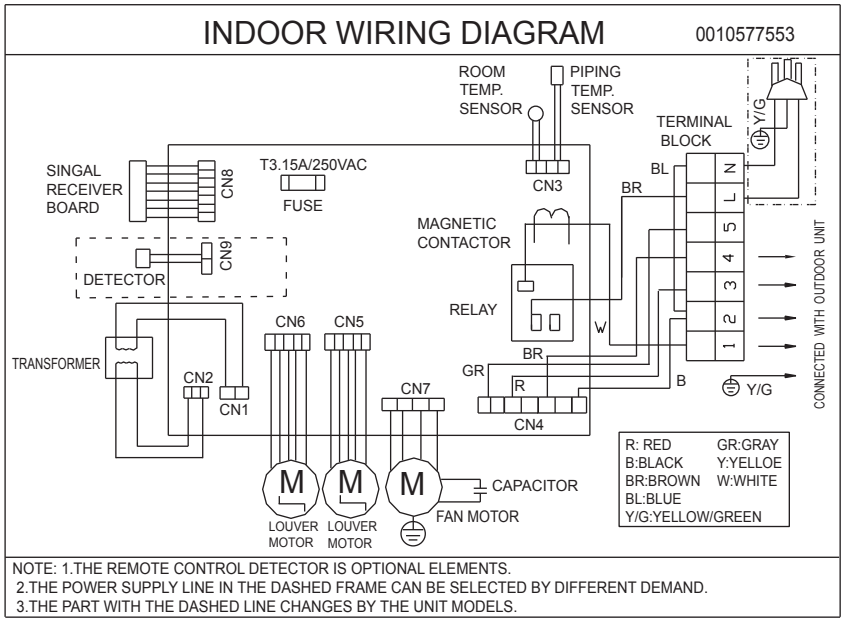
	BM(1)	BM(2)	BM(3)	BM(4)
Cooling only / heat pump	√/×	*	*	*
Wired/remote control	*	√/×	*	*
Pre-set	*	*	√/×	*
With/without temperature compensation	*	*	*	√/×

Notes: BM(3) and BM(4) are not available for this models.

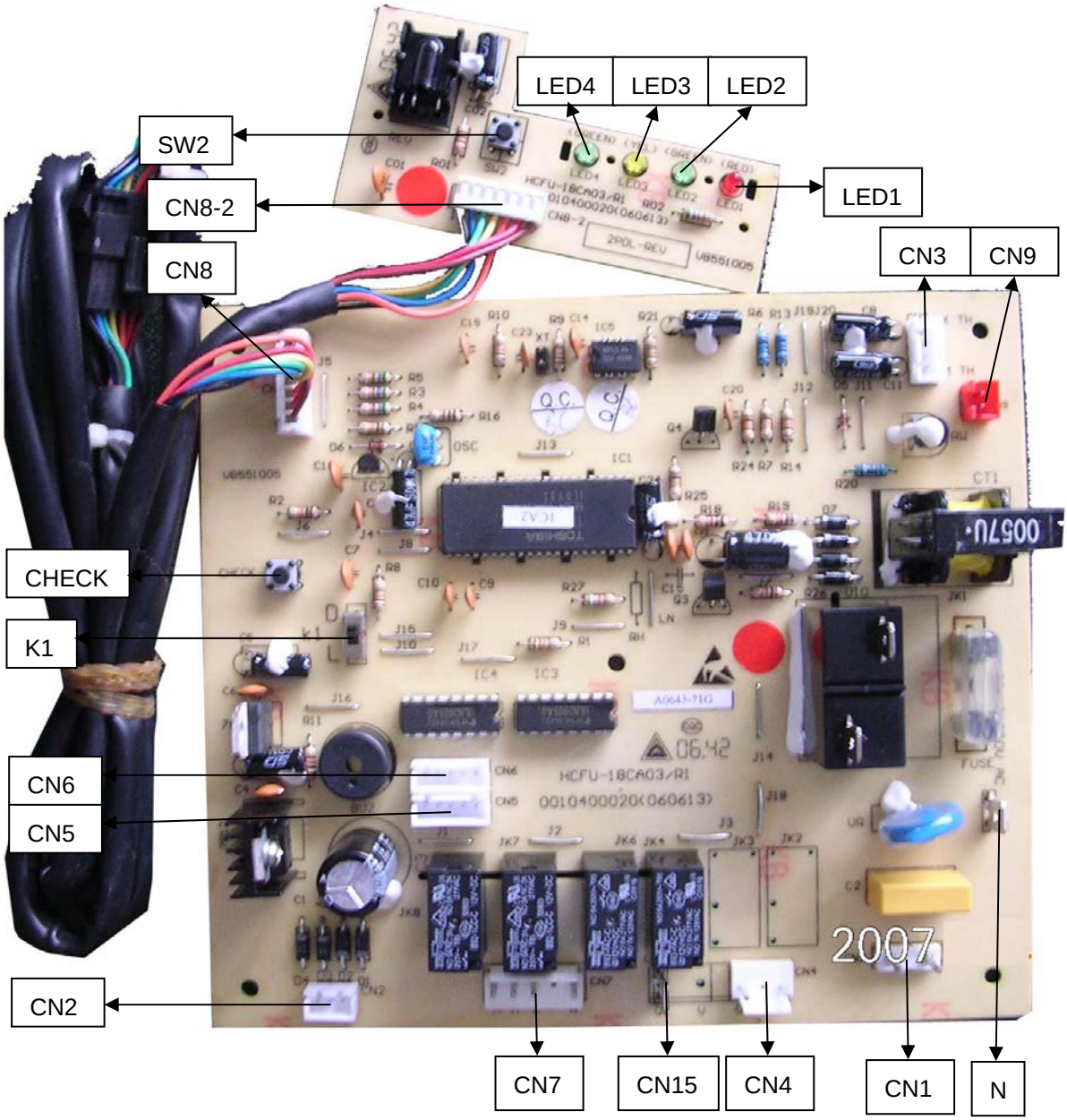
HCFU-18CF03



HCFU-18HF03

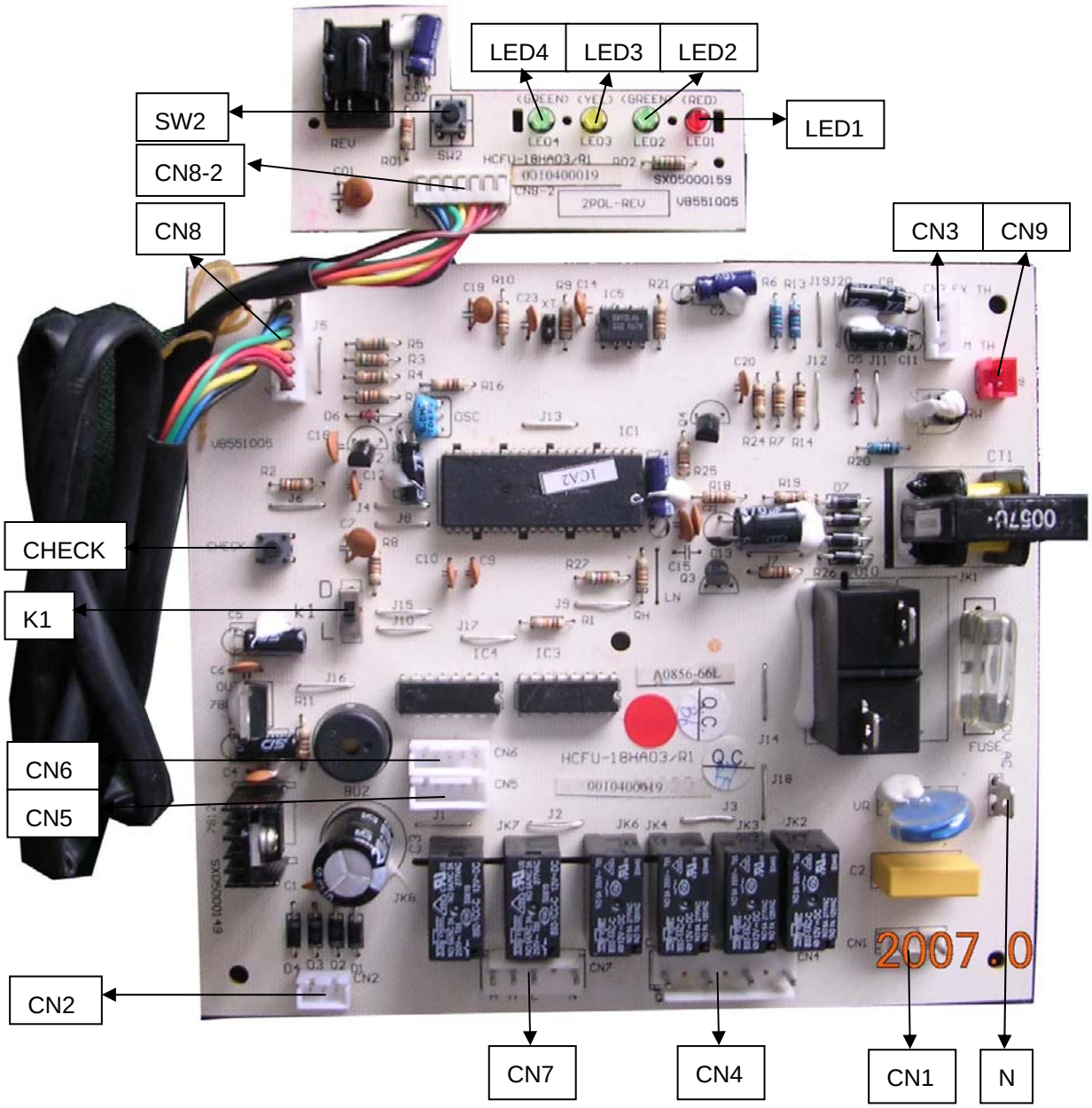


0010400020 for HCFU-18CF03 indoor unit



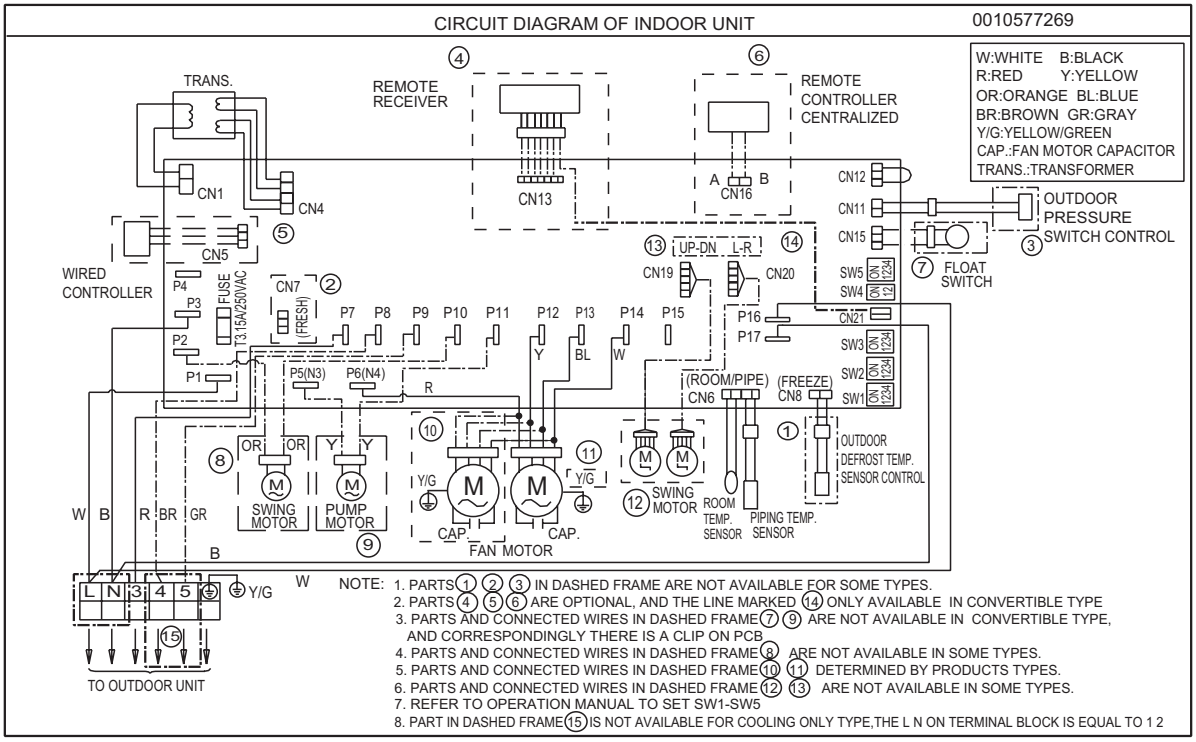
LED1: power lamp;
LED2: running lamp;
LED3: timer lamp;
LED4: compressor lamp.

0010400019 for HCFU-18HF03 indoor unit

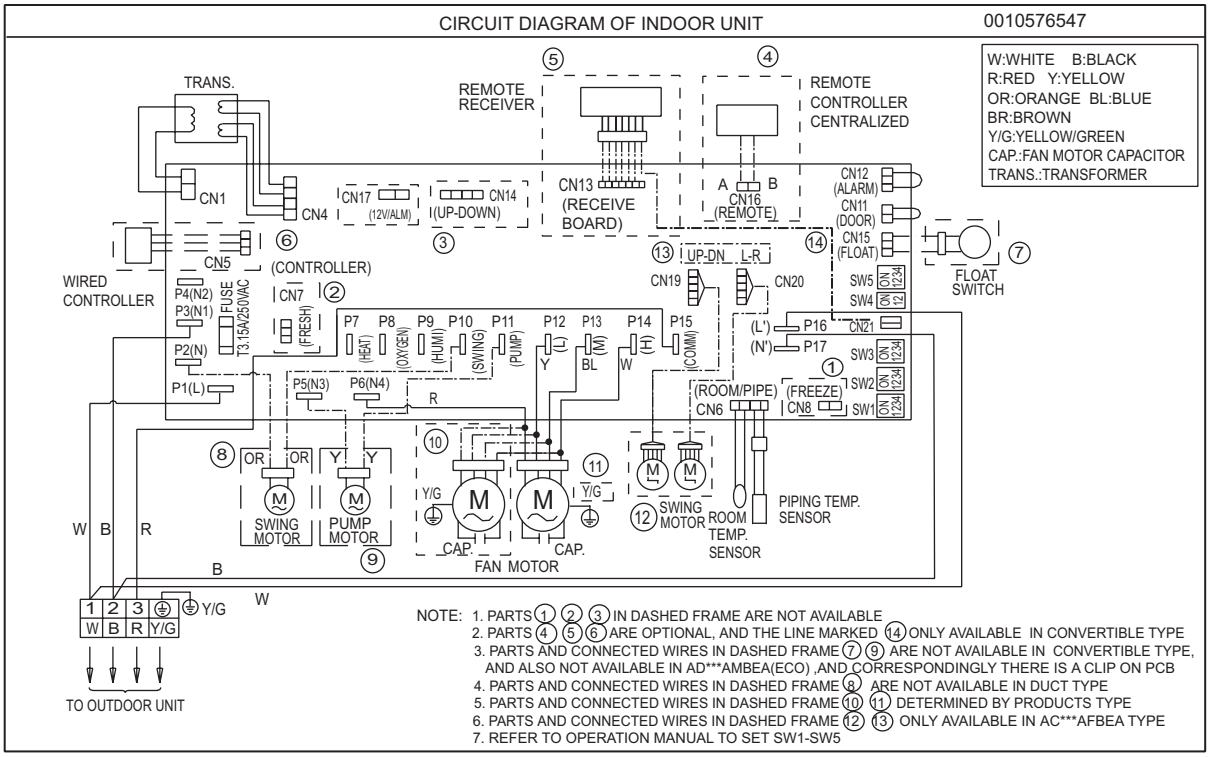


LED1: power lamp;
LED2: running lamp;
LED3: timer lamp;
LED4: compressor lamp.

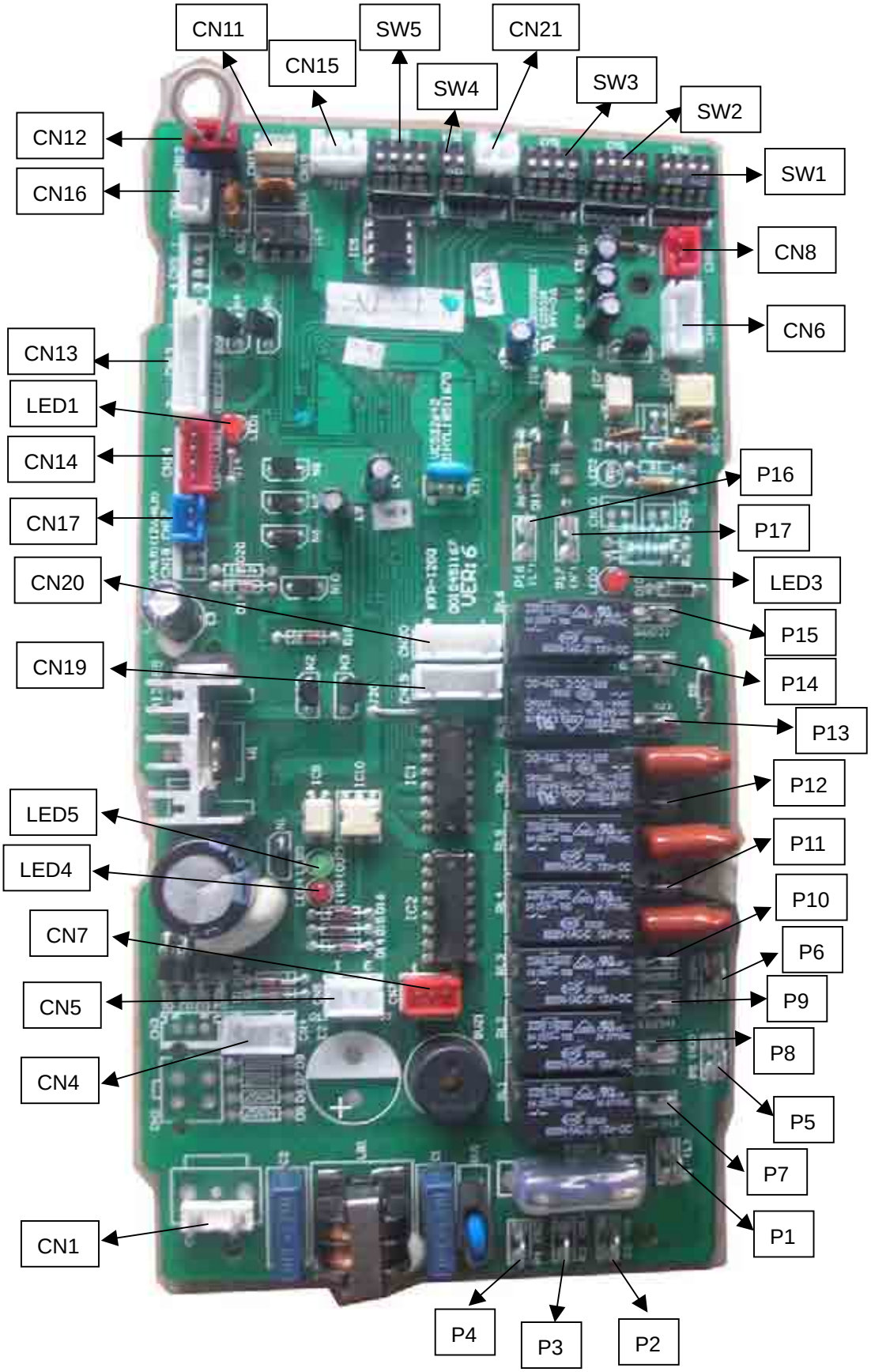
HCFU-28/42CF03, HCFU-28/42HF03



HCFU-42CH03, HCFU-42HK03



0010451167E for HCFU-28/42CF03, HCFU-28/42HF03, HCFU-42CH03 and HCFU-42HK03 indoor unit



Condition for the PCB data:

1.Working ambient temperature:－10℃～70℃, relative humidity:30%～95%

2.Preserved ambient temperature:－20℃～80℃，relative humidity：30%～95%

3.Power supply:220VAC、50/60Hz，voltage range:160V～250V

4.Precise of temperature control:±1℃

0010451167E PCB information – port and definition

P1——connect to external power supply, live line: L (220VAC)

P2——connect to external power supply, neutral line: N (0VAC)

P3、4、5、6——control external load, neutral line: N1、N2、N3、N4(0VAC)

P7——control external load, electrical heat: HEAT (control output 220VAC)

P8——control external load, health function: OXYGEN (control output 220VAC)

P9——control external load, humidification: HUMI (control output 220VAC)

P10——control external load, SWING(control output 220VAC)

P11——control external load, WATER PUMP(control output 220VAC)

P12——control external load, indoor fan motor low speed: L(control output 220VAC)

P13——control external load, indoor fan motor mid speed: M(control output 220VAC)

P14——control external load, indoor fan motor high speed: H(control output 220VAC)

P15——communication with fixed frequency single outdoor unit: COMM(0~220VAC)

P16——input control, signal live line: L'(220VAC)

P17——input control, signal neutral line: N'(0VAC)

CN1——input port of transformer (220VAC)

CN2——input port 1 of transformer (no use)

CN3——input port 2 of transformer (no use)

CN4——input port 3 of transformer (1-2、14VAC，3-4、12VAC)

CN5——input control, connecting port to wired controller: CONTROLLER（three bits: 1. power supply: 12VAC, 2. power supply: 0VAC, 3. communication: COMM.）.

CN6——input control, ambient temp.-coil temp. sensor connecting port: ROOM/PIPE（1-2、ROOM，3-4、PIPE。）

Indoor ambient temp. sensor: R25=23KΩ+-2.5%，B25/50=4200K+-3%，range:（-40，80）

Indoor coil temp. sensor: R25=10KΩ+-3%，B25/50=3700K+-3%，range:（-20，90）

CN7——control external load, fresh air control: FRESH（1. blank, 2. power supply 0VDC, 3. control output: 12VDC.）

CN8——input signal: FREEZE（no use）

CN9——input control（no use）

CN10——communication with fixed frequency single outdoor unit: (0~12VDC)

CN11——input signal, door switch: DOOR（1-2 short circuit is normal, cut off　P8 output）

CN12——input signal, external alarm input: ALARM（1-3 short circuit is normal, if cut off, air conditioner stops work.）

Note: For convertible type, cassette type, duct type units, CN11 and CN12 must be in short circuit, or PCB will display failure information.

CN13——input signal, wiring port of remote receiver board: RECEIVE BOARD（1. power supply 5VDC, 2. power supply 0VDC, 3. remote signal, 4. signal output of running lamp 0VDC, 5. signal output of timer lamp 0VDC,6. signal output of power lamp 0VDC, 7. signal output of water pump running lamp 0VDC）

CN14——control external load, auto elevating function （1. signal of door switch　close, 2. output of elevating direction control 0VDC, 3. output of elevating power control 0VDC, 4. power supply 12VDC）

CN15——input signal, detecting water level of float switch （1-3 short circuit is normal, cut off shows that level exceeds the limitation）.If float switch cuts off or occurs other failure, LED1 will flash 10 times.

CN16——input control, wiring port of central controller: REMOTE（1、RS485-B，2、RS485-A。）

CN17——output signal, output signal of failure alarm, control external load, 12V/ALM（1. control output 0VDC, 2. power supply 12VDC）

CN18——output signal (no use)

CN19——control external load, swing 1（1、16VDC，2、0VDC，3、0VDC，4、0VDC，5、0VDC.）.

CN20——control external load, swing 2（1、16VDC，2、0VDC，3、0VDC，4、0VDC，5、0VDC.）.

CN21——input signal, spring switch, CHECK（1、input signal of earthing, 2. power supply 0VDC）

CN22——short circuit means selecting single split communication type.(no use)

CN23——short circuit means selecting multi split communication type.(no use)

0010451167E PCB information – function selection（ON is 1, OFF is 0）

The standard condition for PCB in factory

SW1：4 bits are OFF

SW2：4 bits are OFF

SW3：4 bits are ON

SW4：2 bits are ON

SW5：4 bits are ON

SW1-SW2: used for indoor unit to set unit address from 1 to 128’

SW3-SW5: used for indoor unit to select different functions.(every dip switches are corresponding to J1-J10.

SW2-4——logistic relationship of control function（door card control and remote/ wired control）0 means logistic relationship is “and”, 1 means the later coming is preferential.

J1，SW3-1——function selection-control type: 1 means remote control, 0 means wired control.

J2，SW3-2——function selection-temperature compensation in heating mode: 1means “yes”, 0means “no”.

J3，SW3-3——function selection-outdoor communication: 1means “yes”, 0means “no”. This PCB must be 1.

J4，SW3-4——function selection-heat pump unit: 1means “heat pump”, 0means “cooling only”.

1/60——test in short circuit, but in operation short circuit mustn’t be permitted.

CHECK——short spring switch control, it also can be used as switch of convertible type except for testing.

J5，SW4-1——function selection-elevating function: 1means “yes”, 0 means “no”.

J6，SW4-2——function selection –health function: 1means common (indoor fan motor running); 0 means special (indoor, outdoor running).

J7，SW5-1——function selection –swing mode: 1 means common（simultaneous motor）, 0 means special (swing motor).

J8，SW5-2——function selection – system combination: 1means fixed frequency single unit, 0 means fixed frequency multi split.

J9，SW5-3——function selection –group control: 1 stands for the master unit (its address in wired controller is 0), 0 stands for the slave units (the address should be set by the dip switch, their addresses only can be in the range: 1~15)

J10，SW5-4——function selection –preset

0010451167E PCB information- control type

Control type selection between remote and wired: select by dip switch J1, SW3-1（1 means remote control；0 means wired control.)

For remote control type, please use remote controller YR-H71, and a remote receiver is equipped with indoor unit. For wired control type, wired controller YR-E12 will be used, 3-core shied wire is equipped with

indoor unit.

Door card control: controls ON/OFF, the start up setting will comply with last time request memorized according to condition memorize function. Its difference with emergency switch of convertible type unit lies: the emergency switch control will perform in the condition: 24degrees, auto fan speed in auto mode.

The function combination between door card and remote/wired control type: select by dip switch: SW2-4（0 means “and”, 1 means later coming is preferential.）

Dip switch position in wired control type: Only one indoor unit of all indoor units connected with wired controller is the master unit, whose address is 0, function selection switch（J9，SW5-3）is 1. The others are slave units, and the quantity can be 0~15, whose addresses are（SW1:1~4）from 1 ~15, and cannot repeat.

Wiring request in wired control type: the wired controller ports A-B-C are connected with indoor port CN5（1-2-3） through 3-core shield wire. Requirements:

1. Port A only connects with either of indoor port CN5（1）
2. Port B connects with port CN5 (2) of all indoor units.
3. Port C connects with port CN5 (3) of all indoor units.

Dip switch position in central control type: the addresses （SW1:1~4；SW2:1~4）of indoor units connected with central controller can not repeat. In principle, they should be in the order from small to big.

Wiring request in central control type: port A-B is connected with indoor port CN16（A-B）through 2-core shield wire. Requirements:

1. Port A connects with port CN16（A）of all indoor units.
2. Port B connects with port CN16（B）of all indoor units.

When only use remote control type, please select remote control unit, and install according to installation manual, there is no other special request.

When only use wired control type, please select wired control unit, and install according to installation manual. When control multi indoor units, take care the requirements of dip switch and wiring, there is no other special request.

When only use central control type, please firstly install according to air conditioner requests and set the dipswitch, there is no other special request.

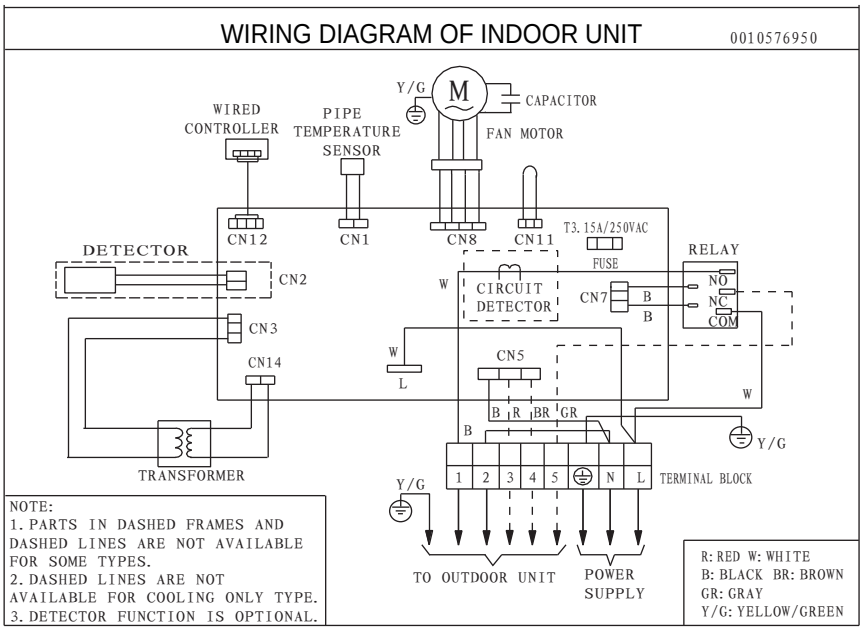
When central control type（128×）and remote control type are used simultaneously, set the dip switch according to central control type, there is no other special request.

When central control type（128×）and wired control type （16×）are used simultaneously, max. indoor units sets: 128×16 can be controller. Address setting of central controller can be met firstly, and then modulate the address setting of slave unit wired controlled.

LED in indoor PCB:

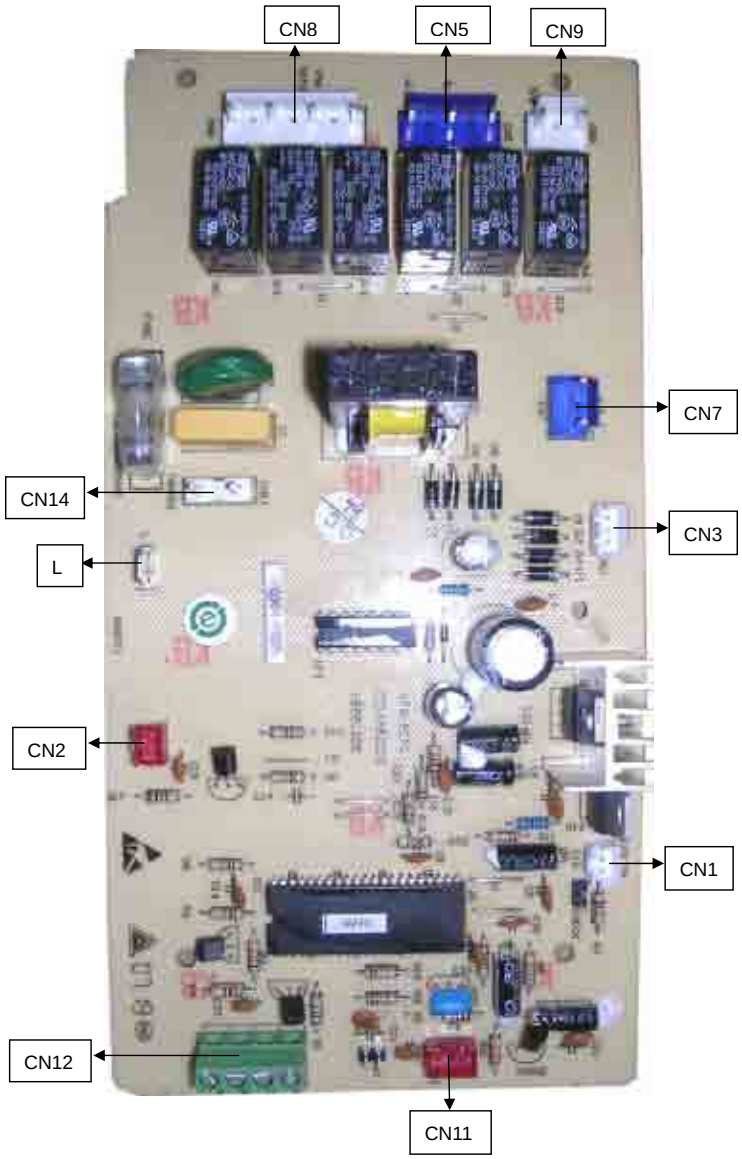
1. LED1：is the state lamp for remote receiver as well as failure lamp. If indoor unit is normal, LED1 is on, or if failure occurs, LED1 flashes regularly, and you can adjust failure type according to the flash times.
2. LED2：is used for multi split units as communication lamp. If communication between indoor and outdoor is normal, LED2 will be on.
3. LED3：is used for single split units as communication lamp. If communication between indoor and outdoor is normal, LED3 will be on.
4. LED4、LED5：is the lamp that shows the data receiving or sending between wired controller and PCB, If LED4、LED5 be on in turn, communication between wired controller and PCB is normal.

HDU-18CF03, HDU-18HF03

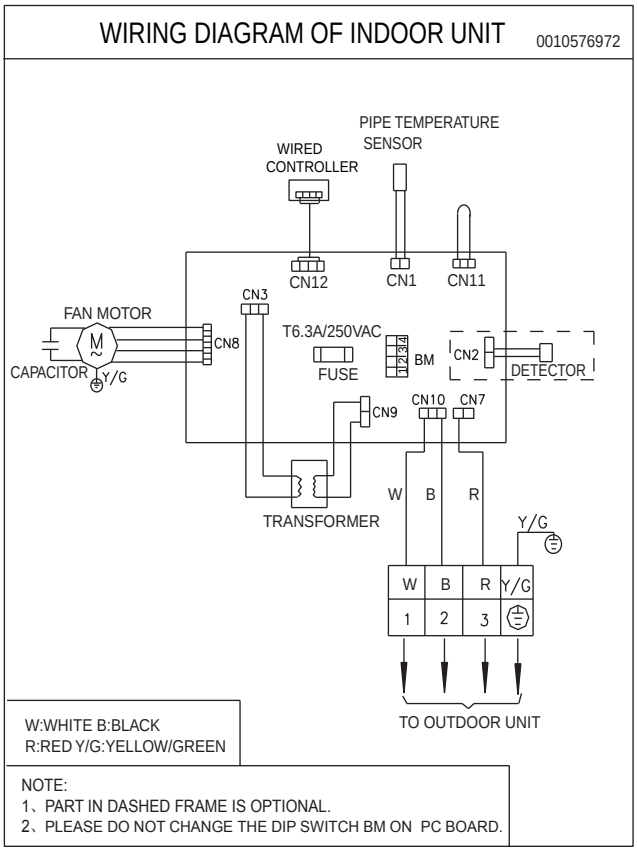


For HDU-18HF03 indoor unit, the PCB code is 0010400662.

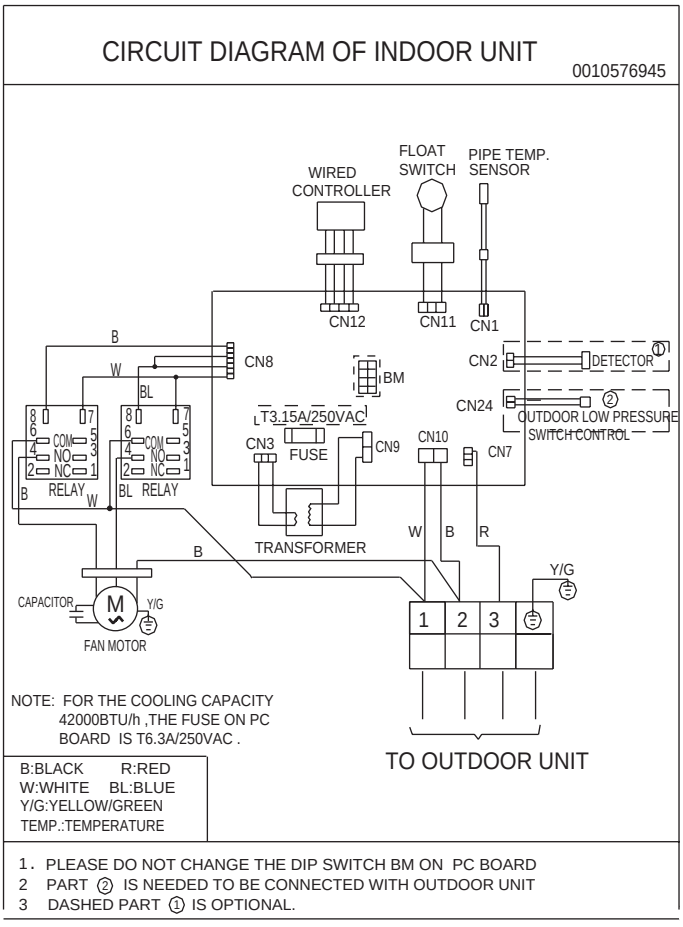
0010450010 for HDU-18HF03 indoor unit



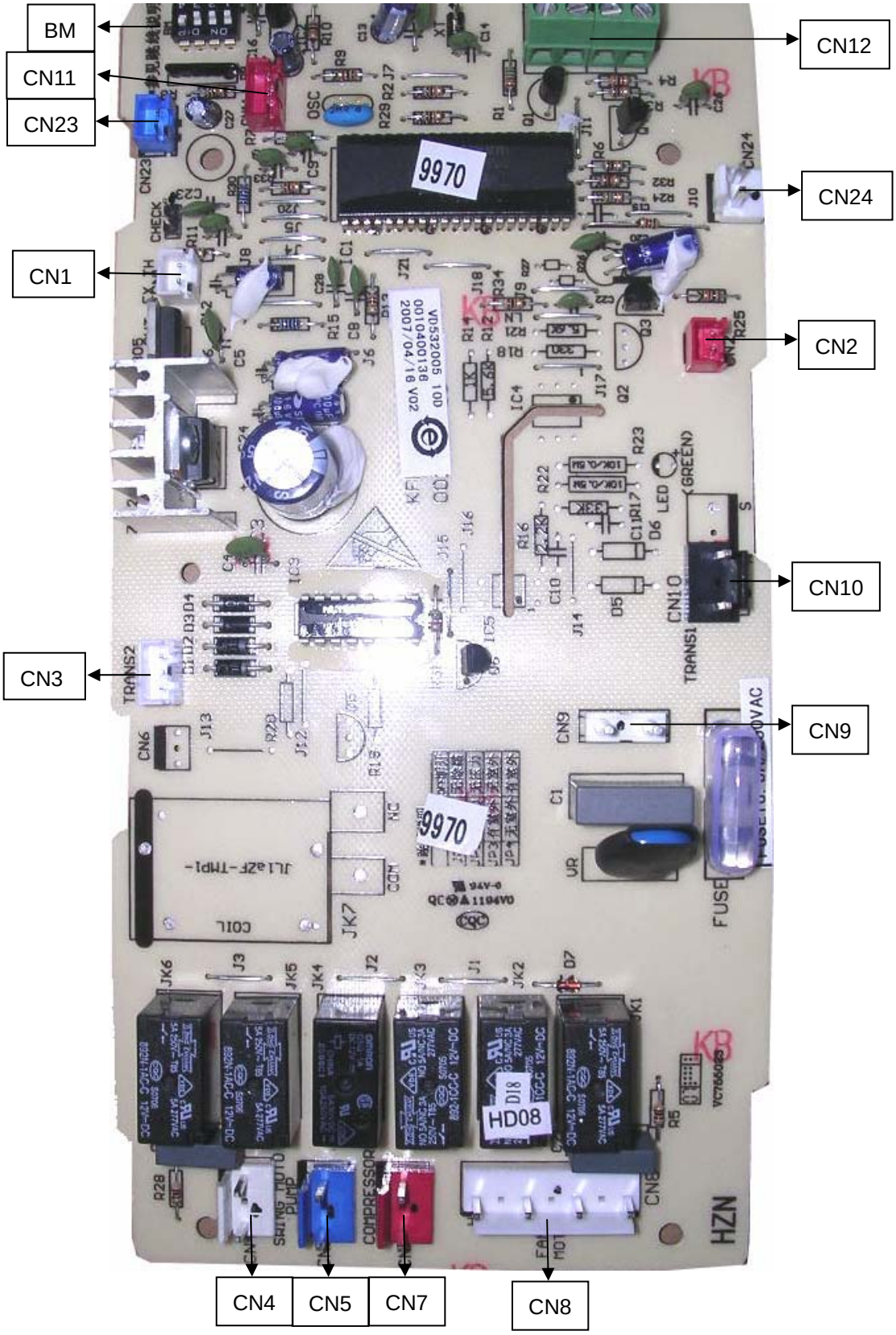
HDU-28CF03



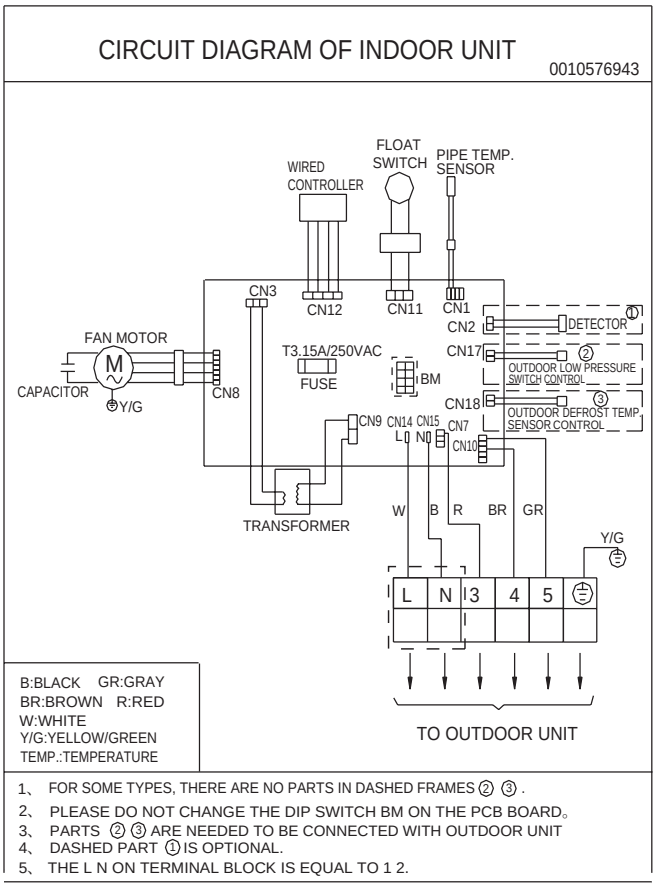
HDU-42CF03/H



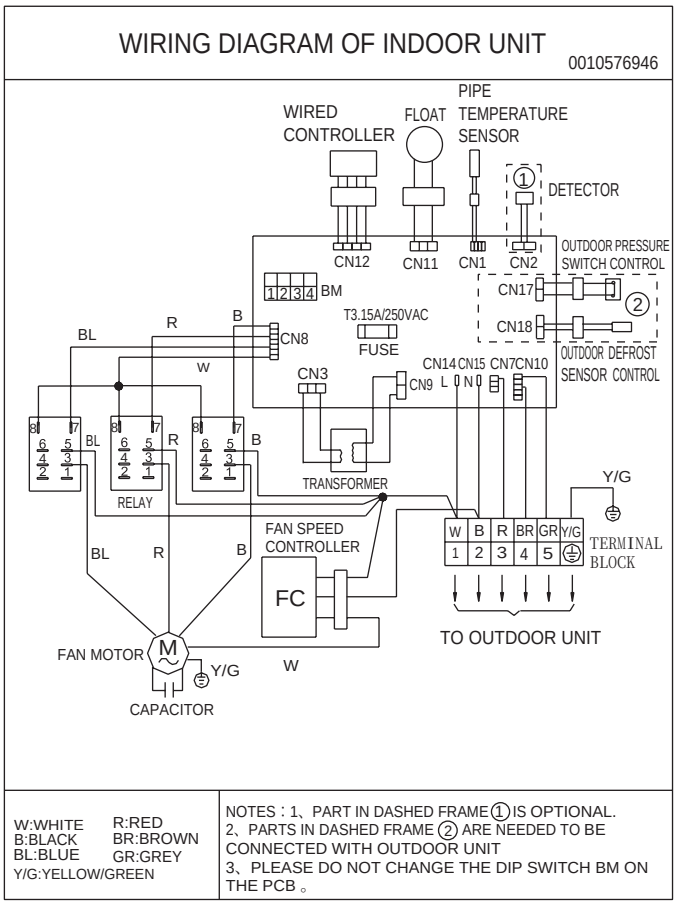
0010400136 for HDU-28CF03 and HDU-42CF03/H indoor unit



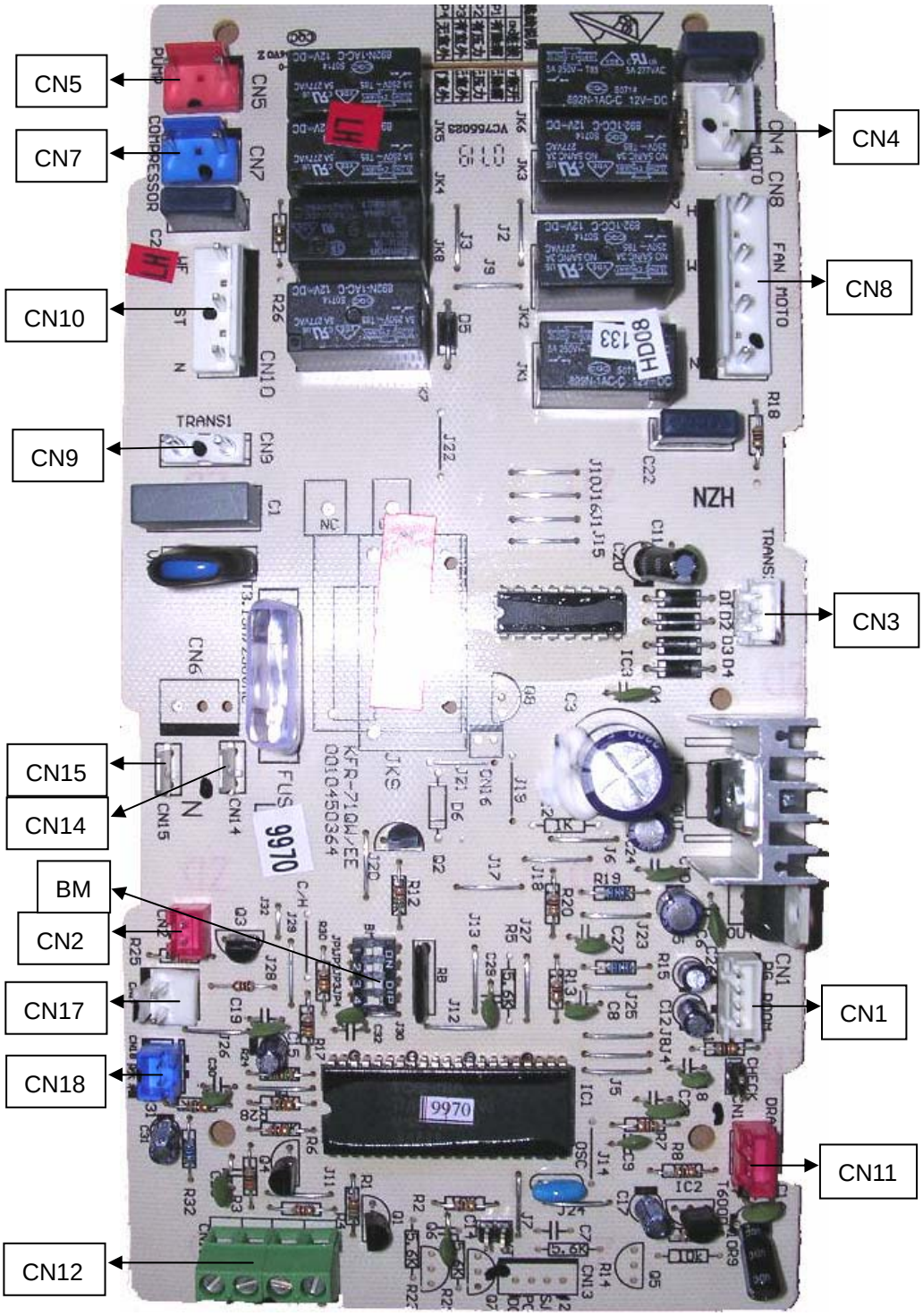
HDU-28HF03



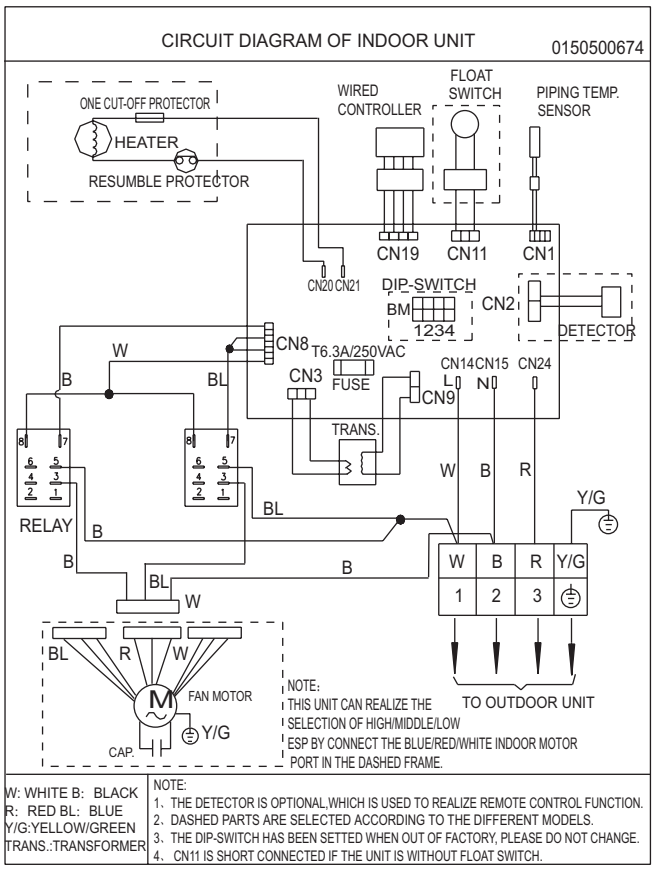
HDU-42HF03/H



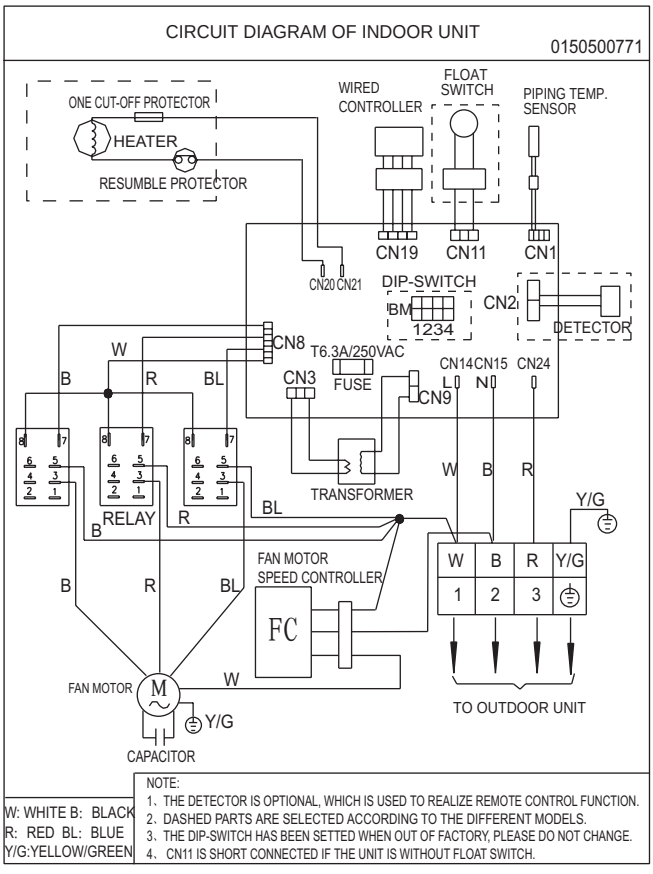
0010450364 for HDU-28HF03 and HDU-42HF03/H indoor unit



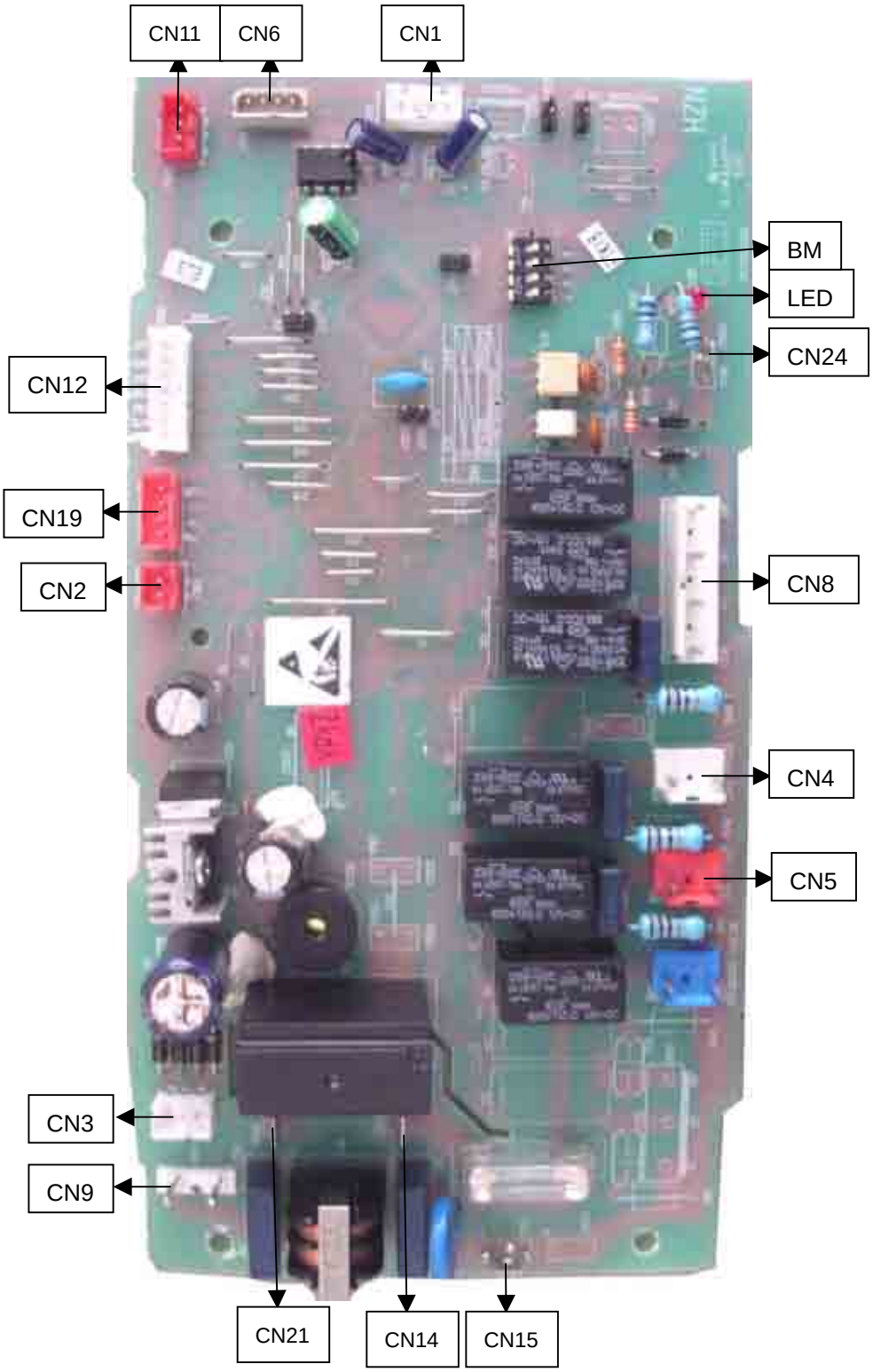
HDU-42CH03/H



HDU-42CI03/H, HDU-42HK03/H

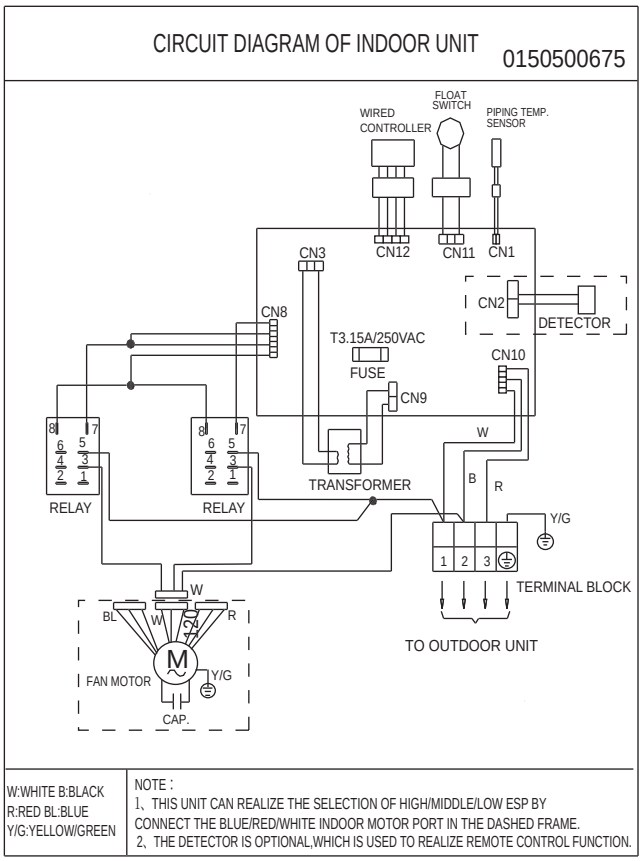


0010452032 for HDU-42CH03/H, HDU-42CI03/H and HDU-42HK03/H indoor unit

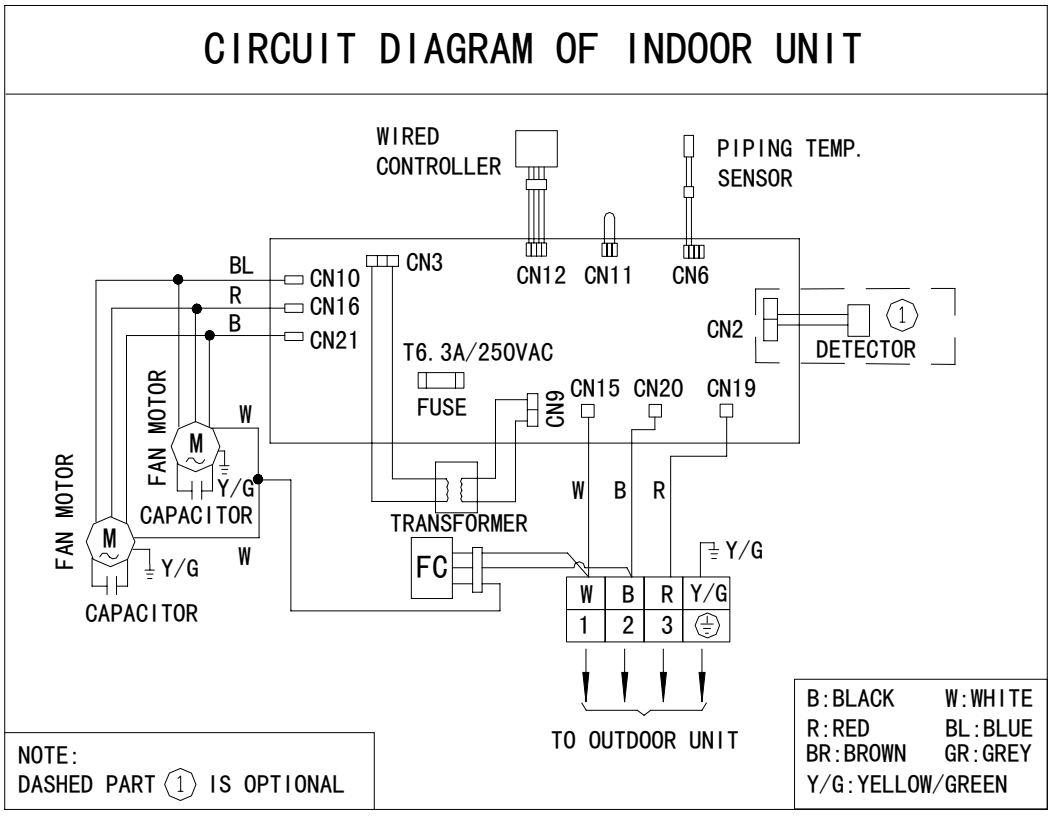


	BM(1)	BM(2)	BM(3)	BM(4)
Cooling only/heat pump	√/×	*	*	*
Wired/remote control	*	√/×	*	*
Pre-set	*	*	√/×	*
With/without temp. compensation	*	*	*	√/×

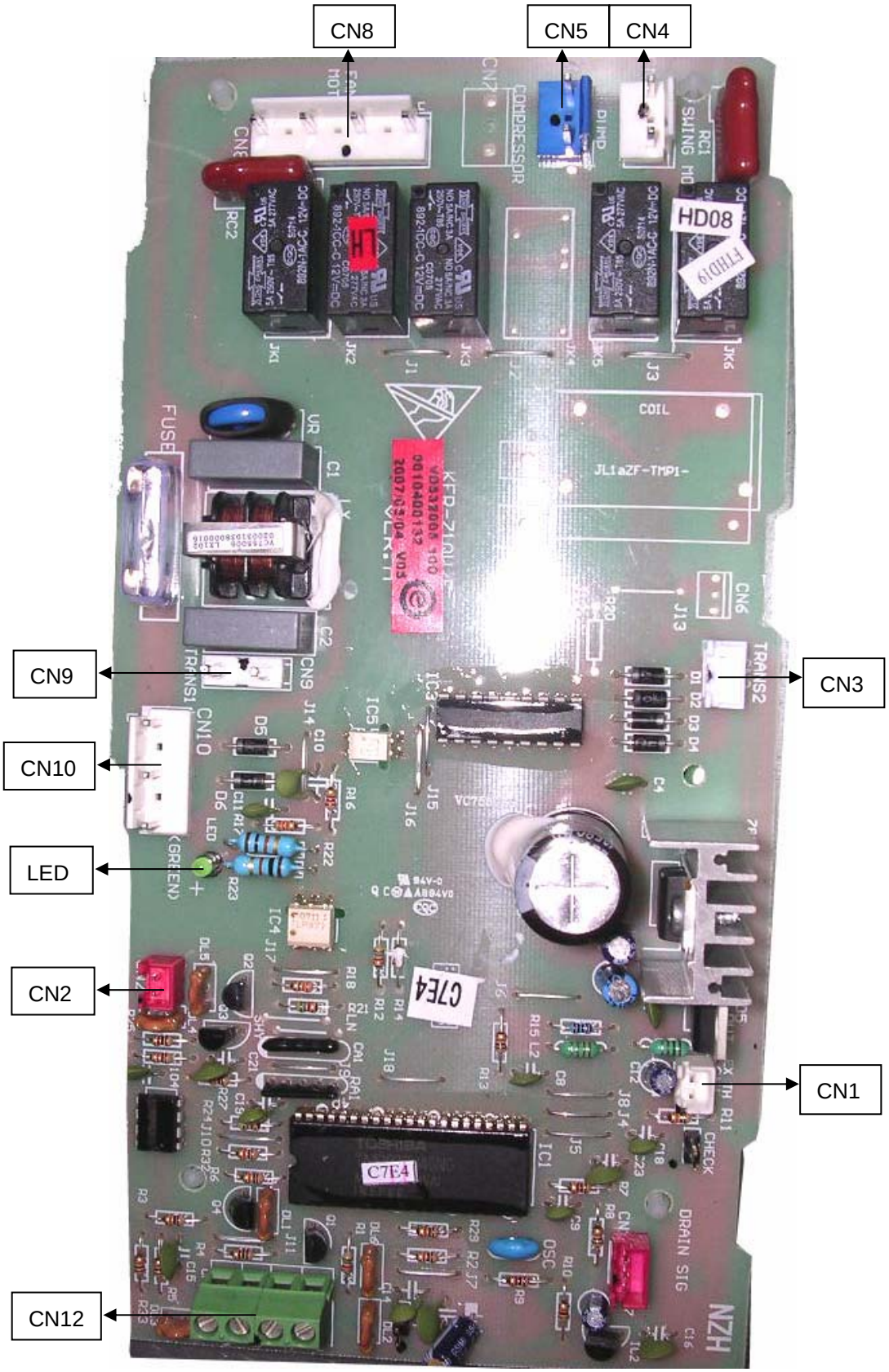
HDU-50HT03/H



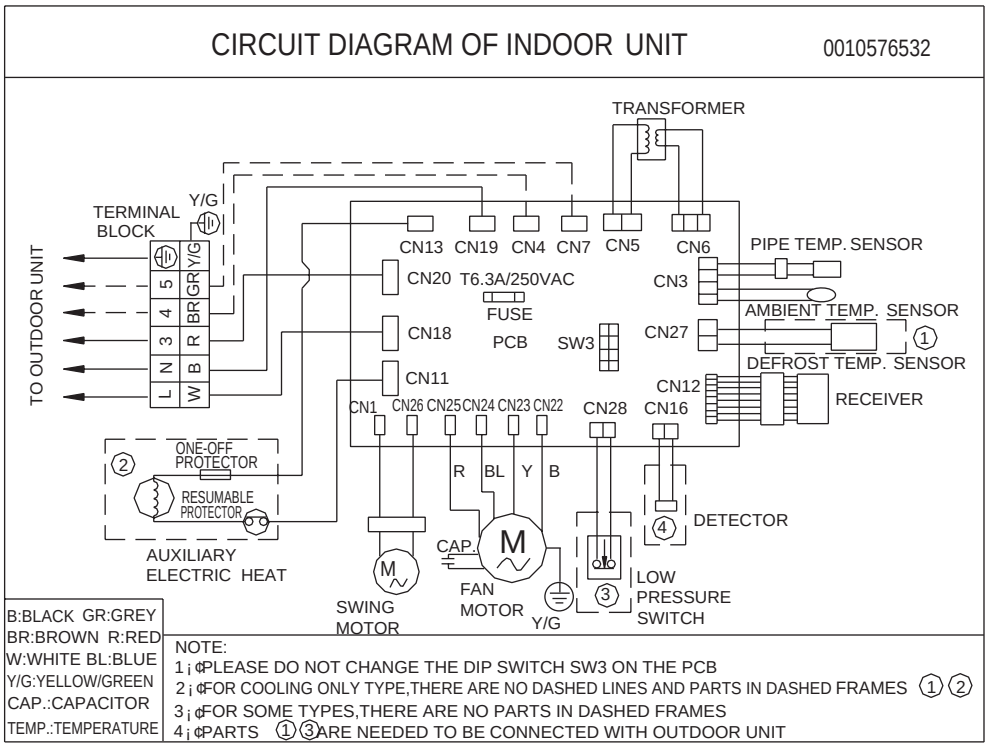
AD96NAHAEA



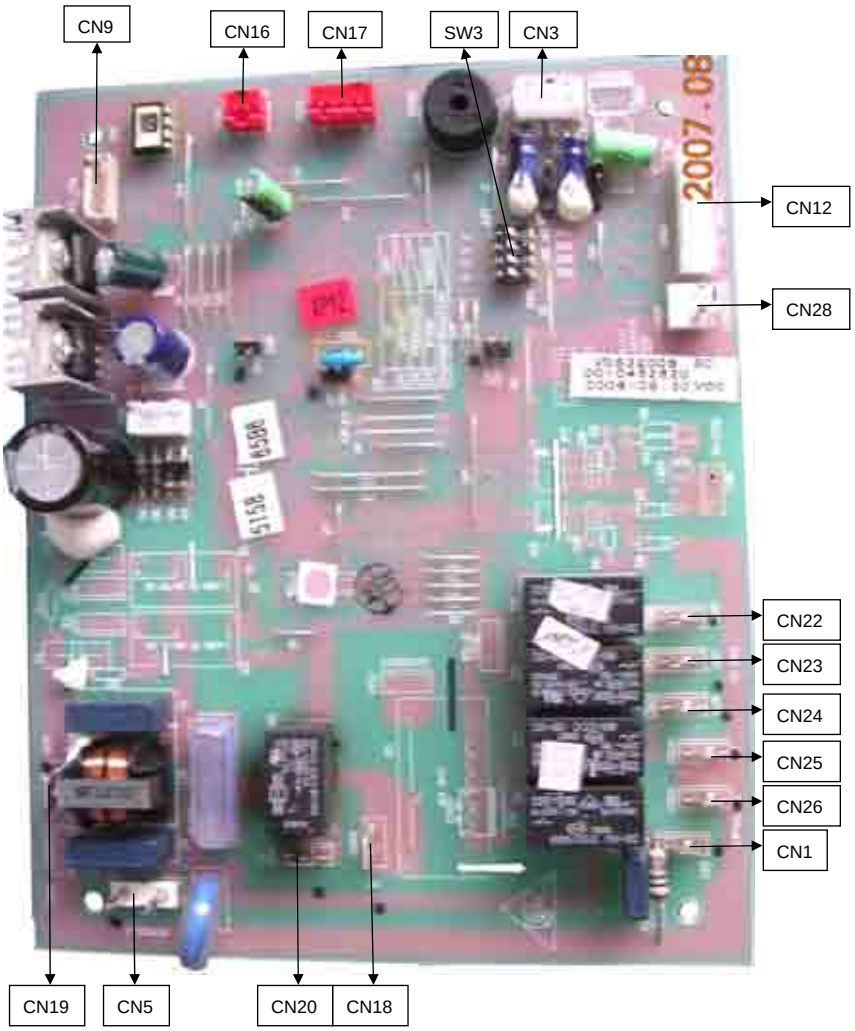
0010400132 for HDU-50HT03/H indoor unit and AD96NAHAEA



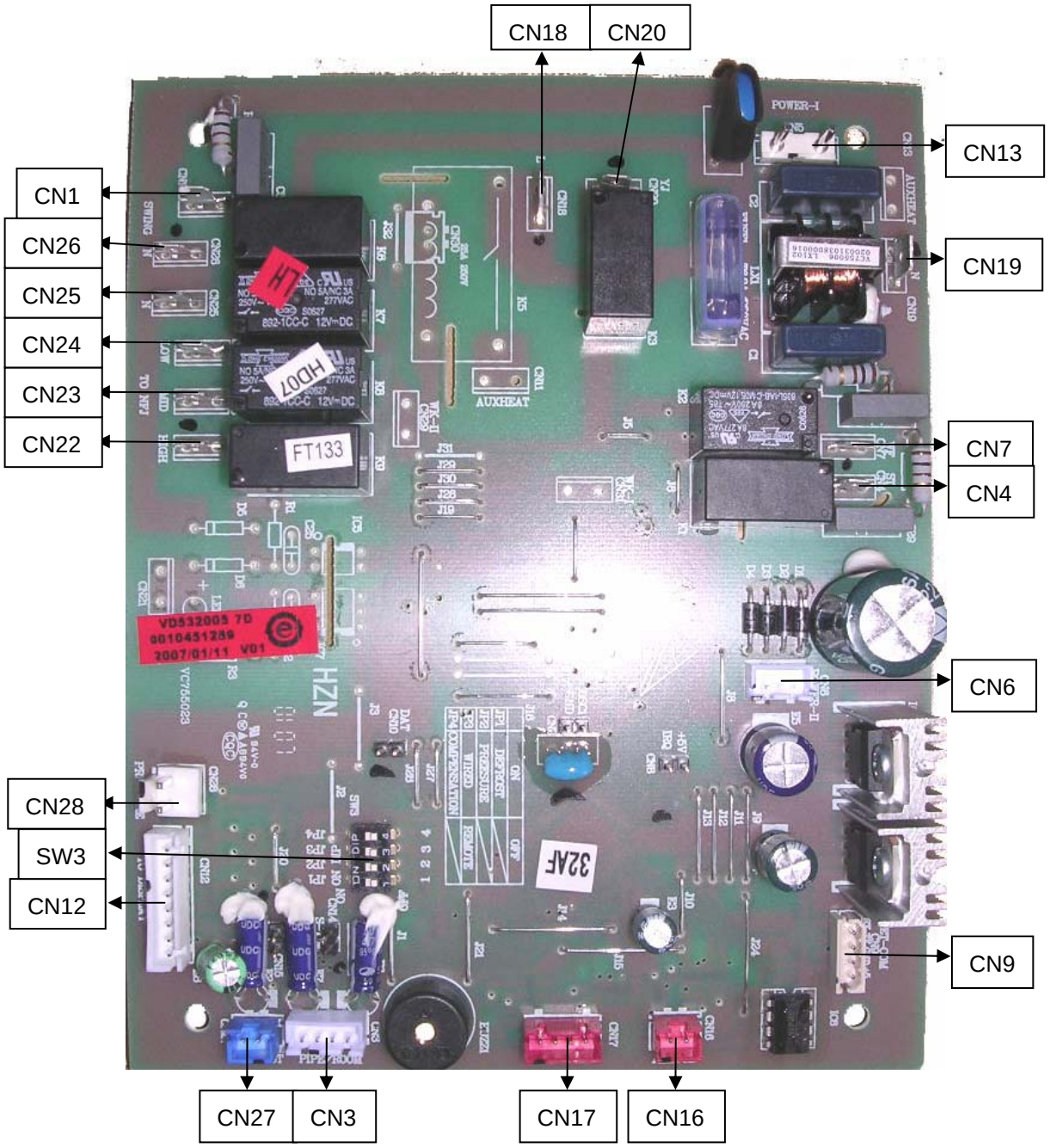
HPU-42CF03, HPU-42HF03



0010452620 for HPU-42CF03 indoor unit



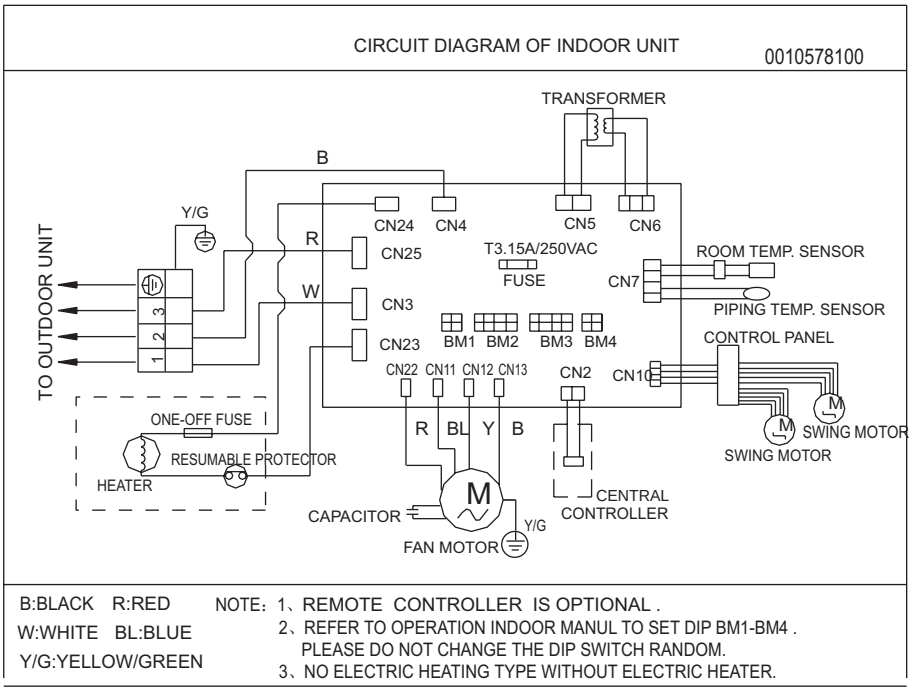
0010451289 for HPU-42HF03 indoor unit



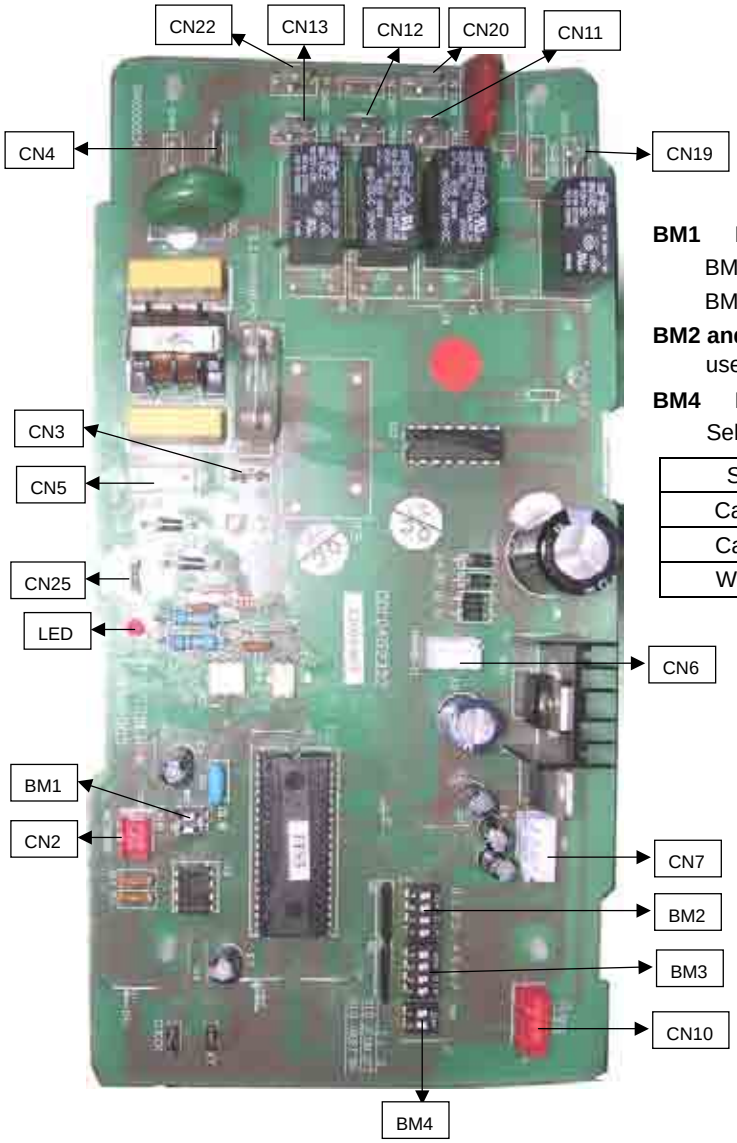
The dip switch definition of 0010452620 and 0010451289 are as following:

	SW3(1)	SW3(2)	SW3(3)	SW3(4)
With/without defrost sensor	√/×	*	*	*
With/without pressure switch	*	√/×	*	*
Wired/remote control	*	*	√/×	*
With/without temp. compensation	*	*	*	√/×

HPU-42CV03, HPU-42/48HV03



0010452322 for HPU-42CV03 and HPU-42/48HV03 indoor unit



BM1 Funcion selection

BM1-1 ON/OFF cooling only / heat pump

BM1-2 ON/OFF Automatic run B / A mode

BM2 and BM3

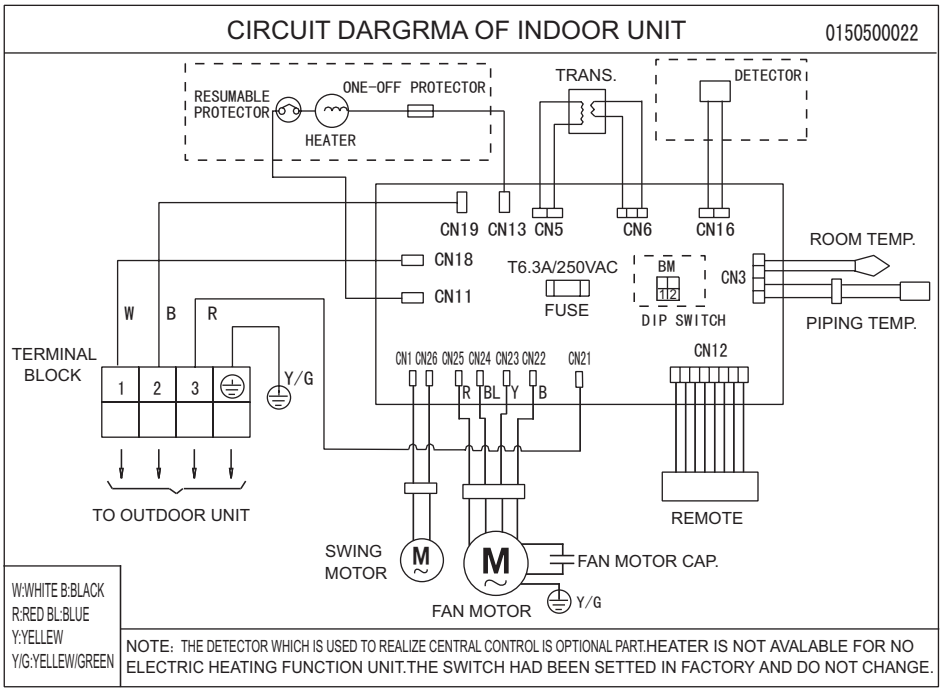
used for indoor unit to set unit address from 1 to 128'

BM4 Panel selection

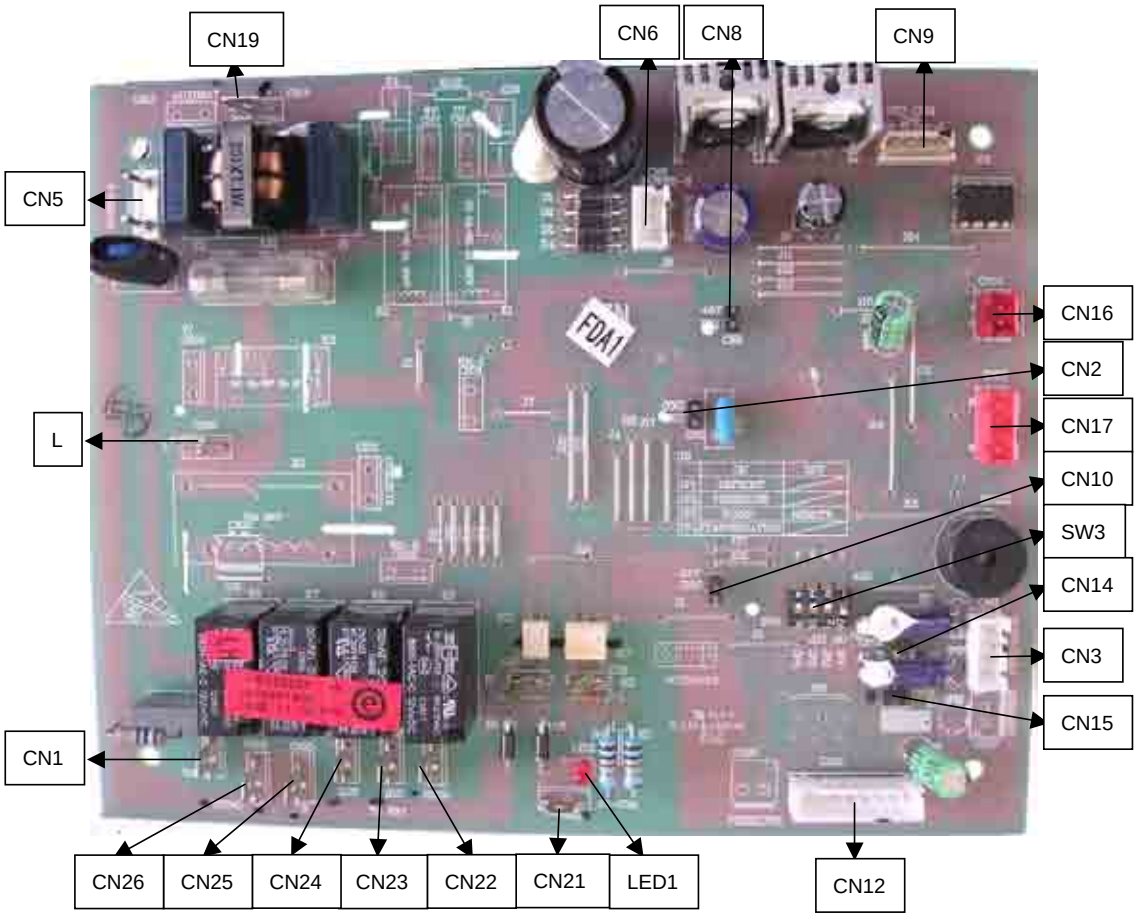
Select the panel according to the 2 dip switch

Style of panel	1	2
Cabinet V panel	OFF	ON
Cabinet Z panel	ON	OFF
Wired controller	ON	ON

HPU-42CH03, HPU-42HI03

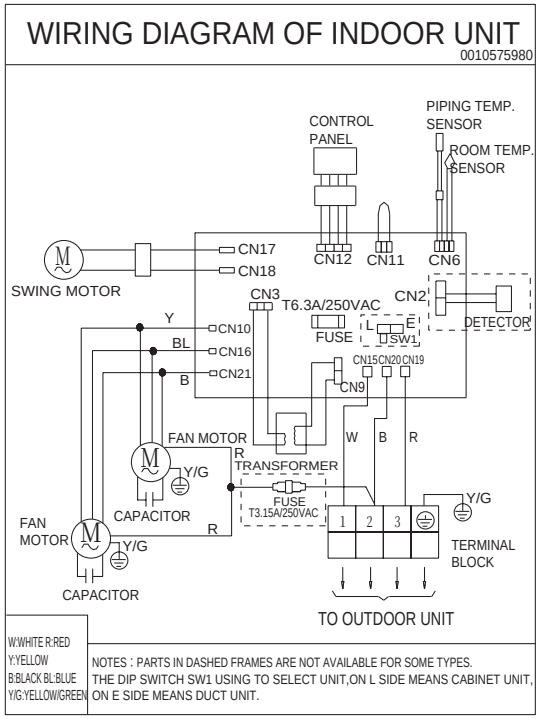


0010451432 for HPU-42CH03 and HPU-42HI03 indoor unit

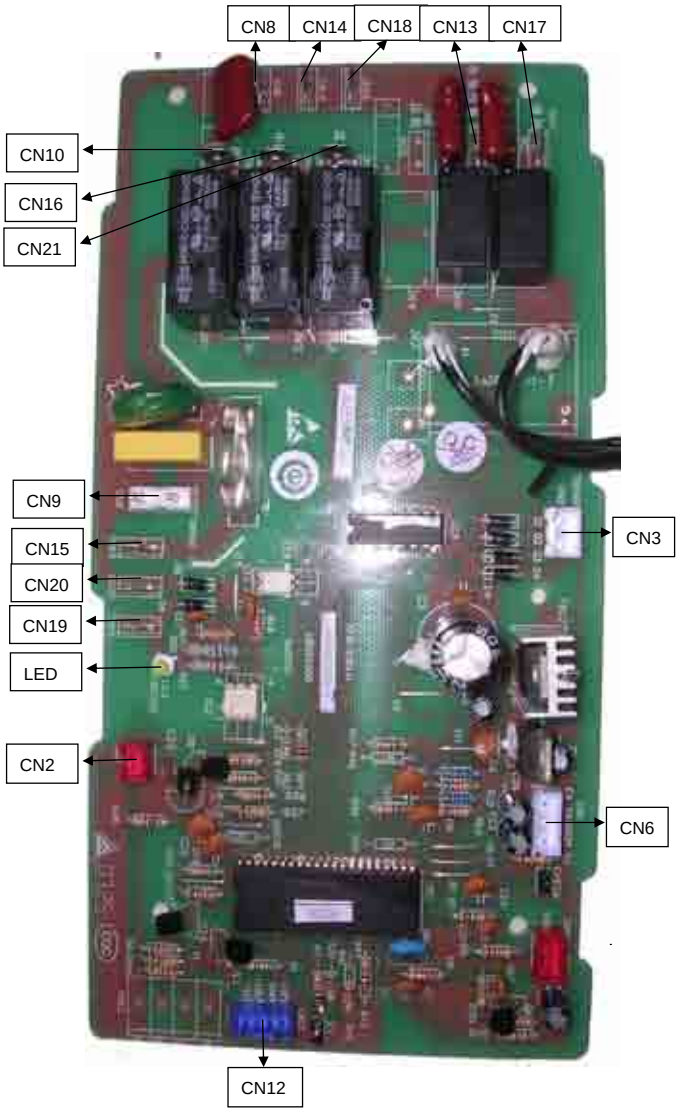


	SW3(1)	SW3(2)	SW3(3)	SW3(4)
Cooling only/heat pump	√/×	*	*	*
Wired/remote control	*	√/×	*	*
Pre-set	*	*	√/×	*
With/without temp. compensation	*	*	*	√/×

AP96NACAEA

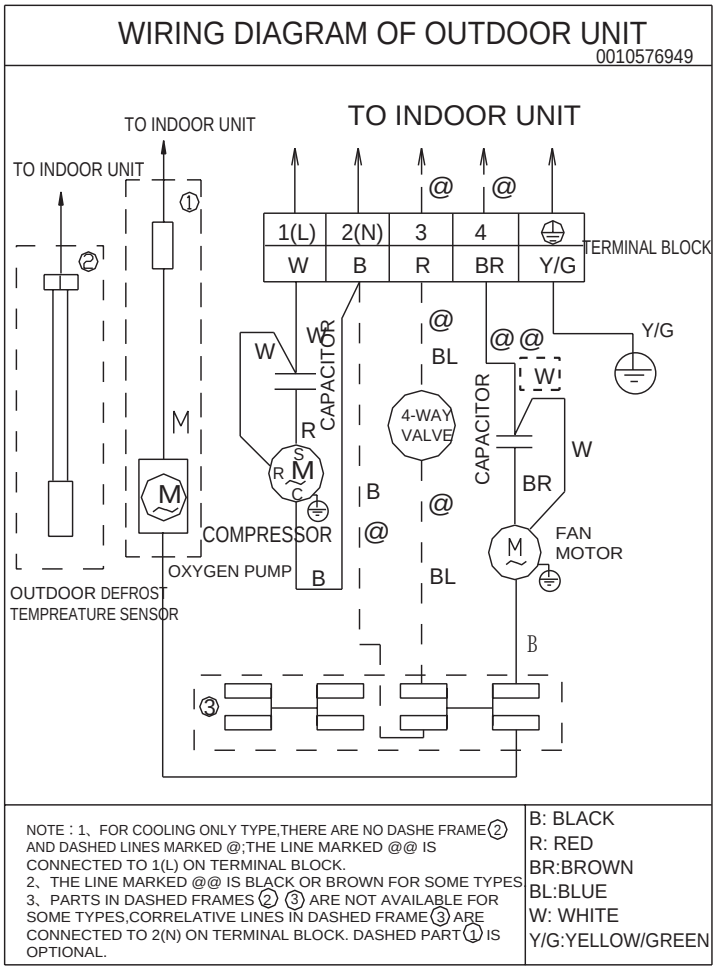


0010452039 for AP96NACAEA

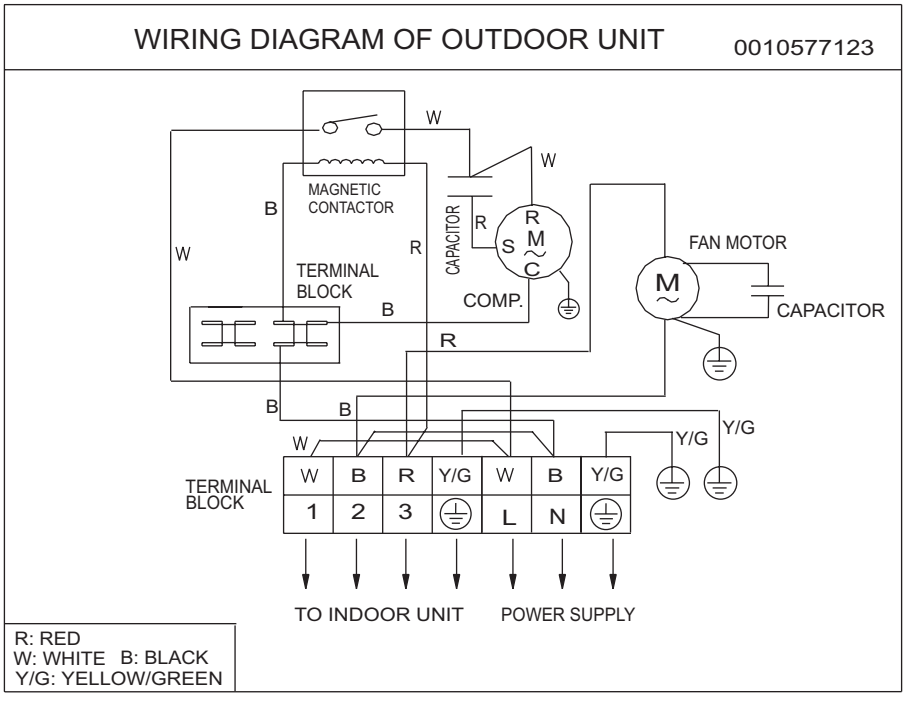


1.2 For outdoor unit

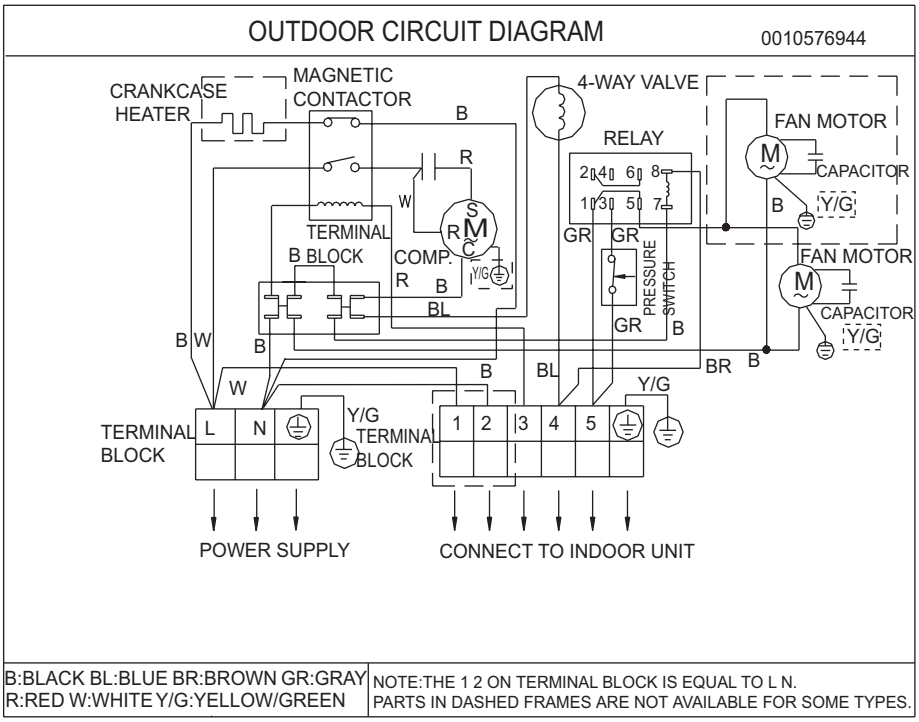
HBU-18CF03, HBU-18HF03, HCFU-18CF03, HCFU-18HF03, HDU-18CF03, HDU-18HF03



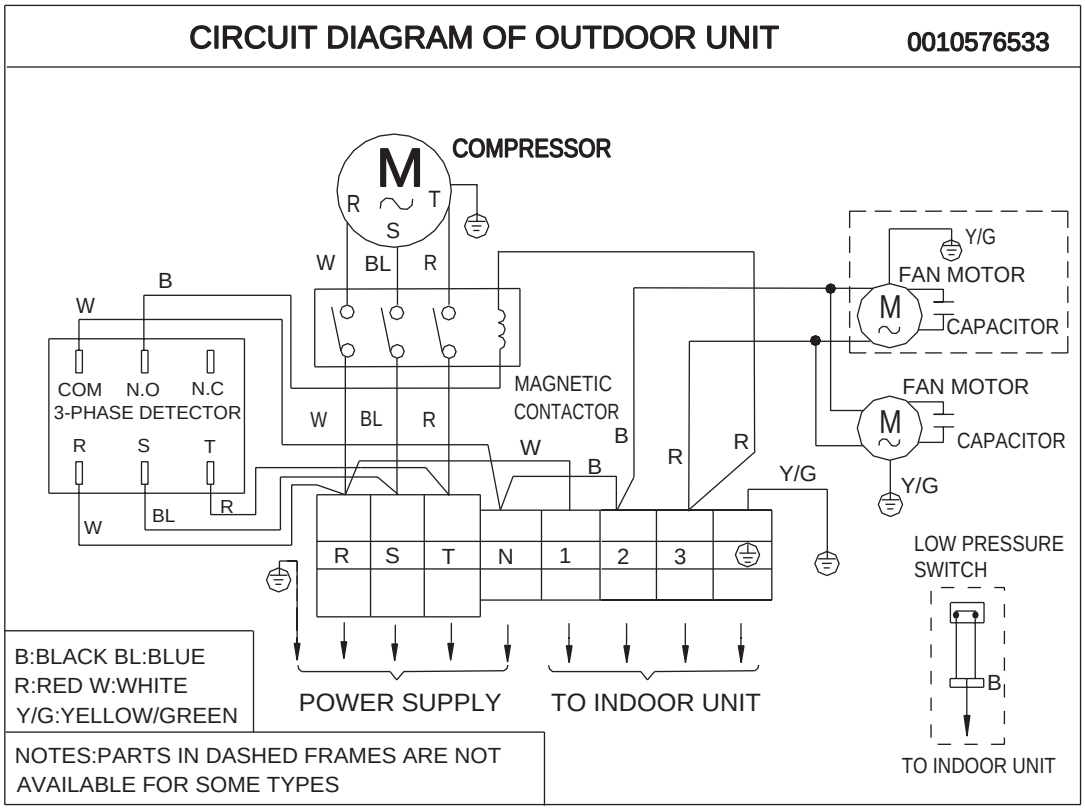
HBU-28CF03, HBU-28CH03, HCFU-28CF03



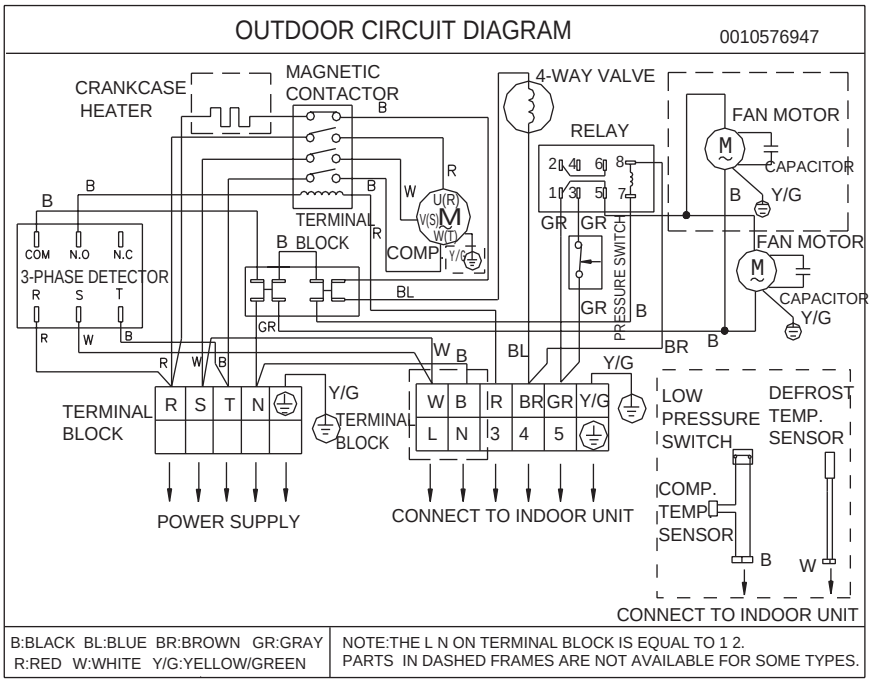
HBU-28HF03, HBU-28HH03, HCFU-28HF03, HDU-28HF03



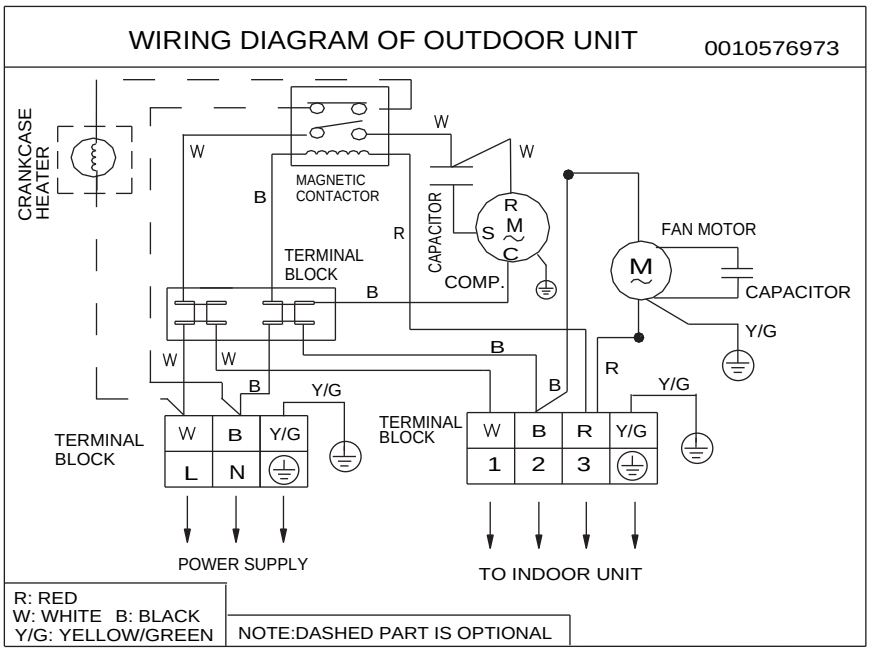
HBU-42CF03, HCFU-42CF03, HDU-42CF03/H, HPU-42CF03



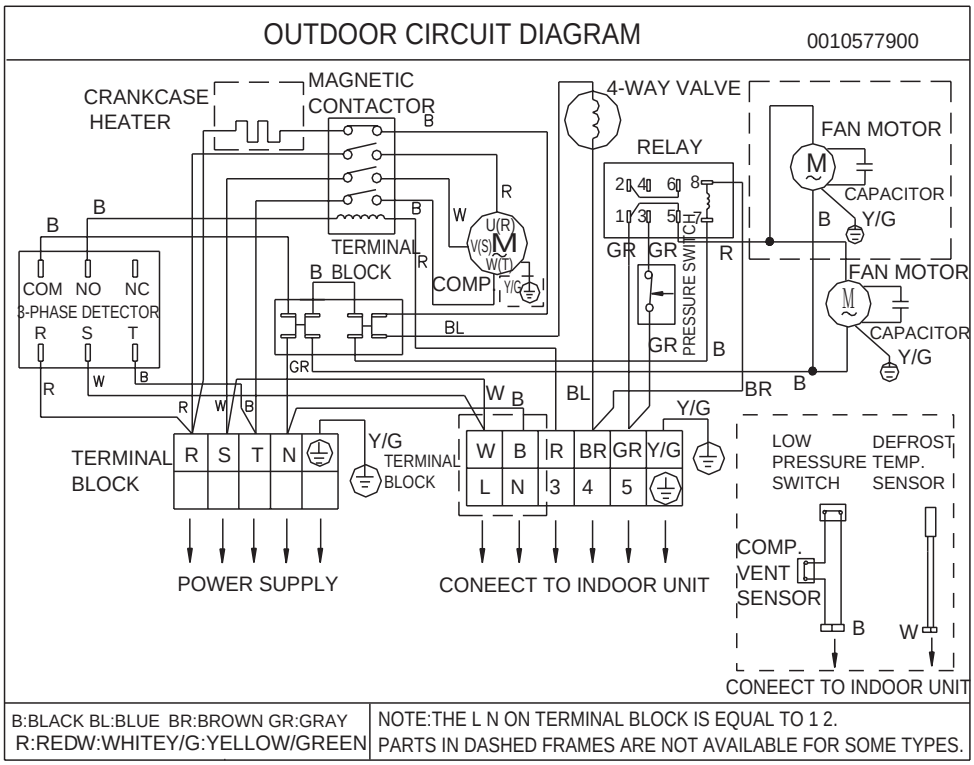
HBU-42HF03, HCFU-42HF03, HPU-42HF03



HDU-28CF03

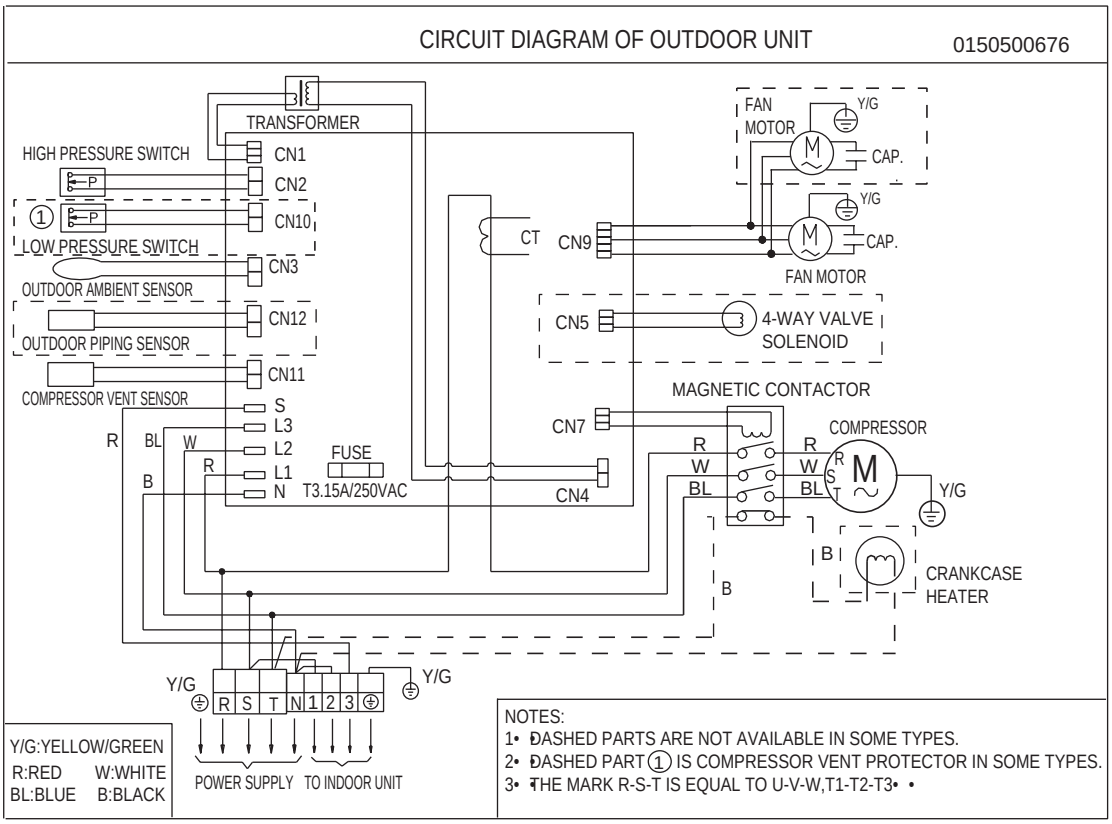


HDU-42HF03/H

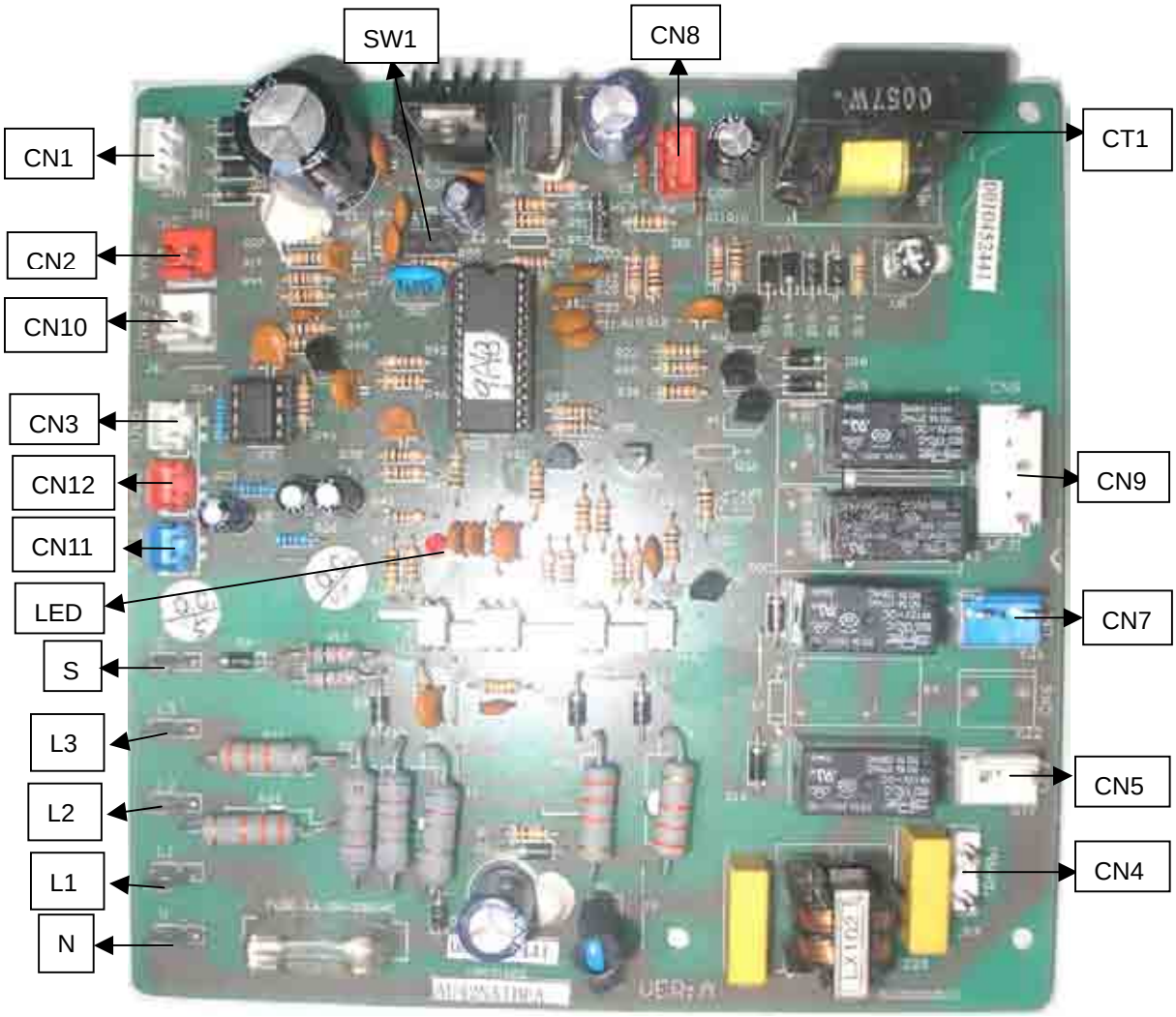


Note: For the above models, there are no outdoor PCB

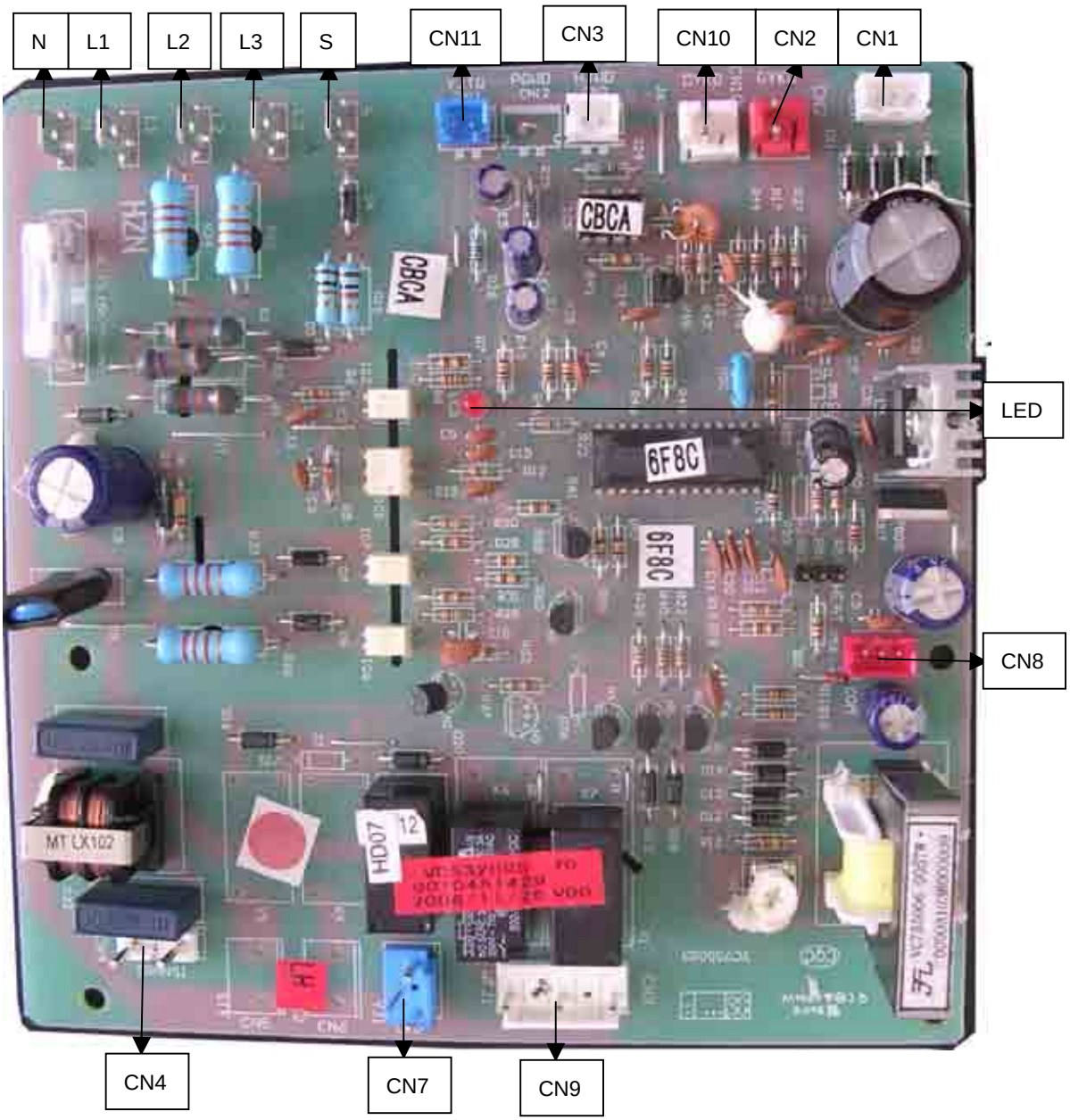
HBU-42CH03, HBU-42CI03, HBU-42HI03, HCFU-42CH03, HBU-42HK03, HDU-42CH03/H, HDU-42CI03/H
HDU-42HK03/H, HDU-50HT03/H, HPU-42CV03, HPU-42/48HV03, HPU-42CH03, HPU-42HI03



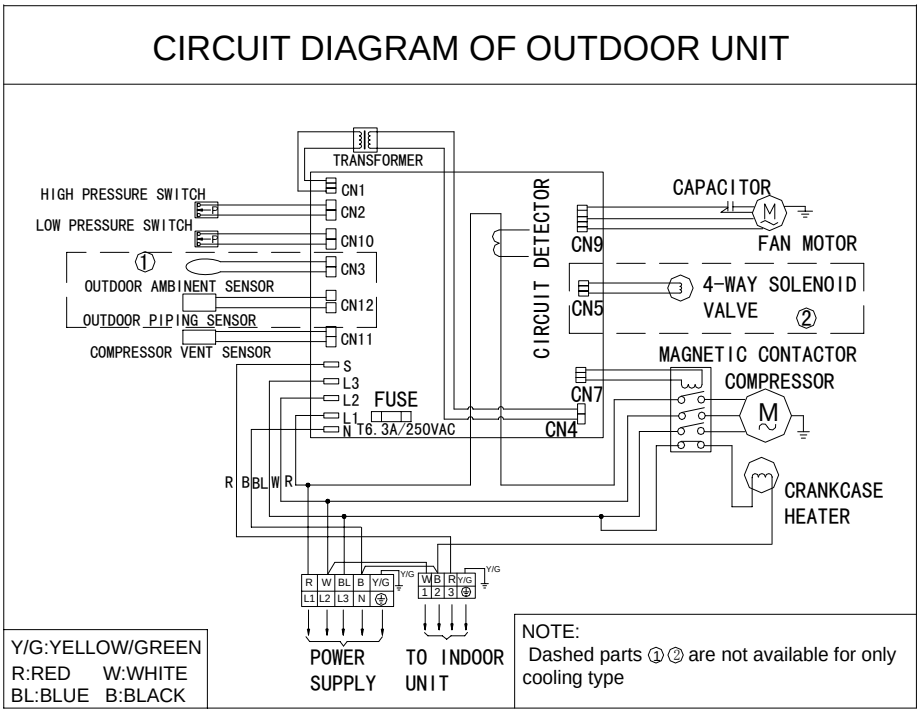
0010452441 for HBU-42HI03, HCFU-42HK03, HDU-42HK03/H, HDU-50HT03/H, HPU-42/42HV03 and HPU-42HI03 outdoor unit



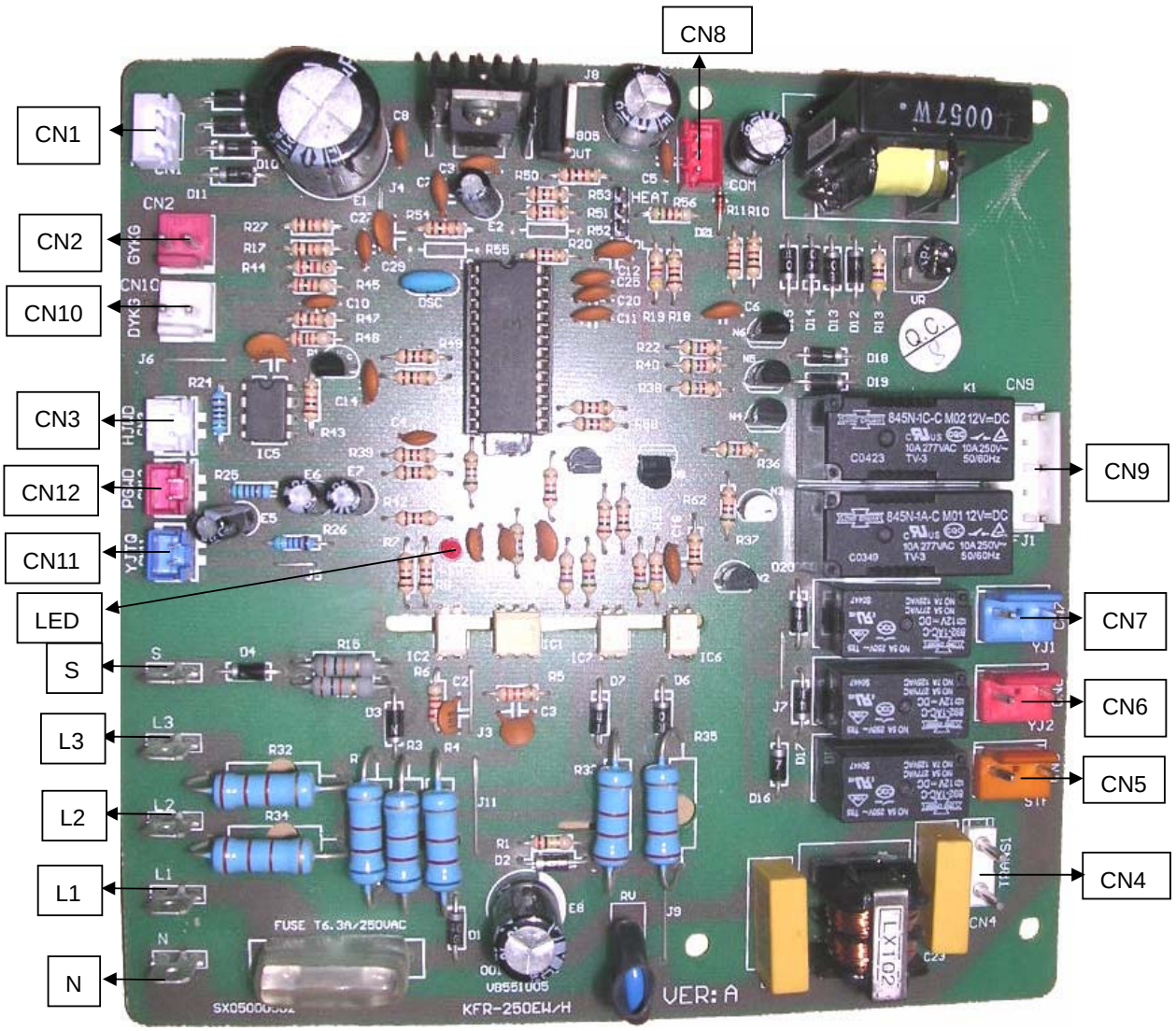
0010451429 for HBU-42CH03, HBU-42CI03, HCFU-42CH03, HDU-42CH03/H, HDU-42CI03/H, HPU-42CV03 and HPU-42CH03 outdoor unit



AU96NATAEA



0010452326E for AU96NATAEA



2. Sensor characteristic

Model	Name	Code	Sub-part code	characteristic
HBU-18CF03 HBU-18HF03 HBU-28CF03 HBU-28HF03	Indoor ambient temp. sensor	001A3900159	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	Indoor coil temp. sensor	001A3900006	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
	Outdoor defrost sensor	0010401922	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
HDU-18CF03 HDU-18HF03 HDU-28CF03 HDU-28HF03 HDU-42CF03/H HDU-42HF03/H	Indoor coil temp. sensor	001A3800128	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
	ambient temp. sensor	/	/	/
	Outdoor defrost sensor	0010401922	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
HBU-28CH03	Indoor ambient temp. sensor	0010451323	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	Indoor coil temp. sensor	001A3900006	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
HPU-42CF03 HPU-42HF03	Indoor ambient temp. sensor	001A3800127	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	Indoor coil temp. sensor	0010401922	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
	Outdoor defrost sensor	0010401922	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
HBU-42CF03 HBU-42HF03	Indoor ambient temp. sensor	0010451323	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	Indoor coil temp. sensor	001A3900006	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
	Outdoor defrost sensor	0010401922	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
HBU-42CI03 HBU-42HI03 HBU-42CH03	Indoor ambient temp. sensor	001A3900159	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	Indoor coil temp. sensor	001A3900006	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
	Outdoor compressor vent sensor	0010450398	001A3800096	R80=50KΩ±3% B25/80=4450K±3%
	Outdoor defrost sensor	0010451314	001A3800091	R25=5KΩ±3% B25/50=3700K±3%
	Outdoor ambient temp. sensor	001A3900110	001A3800090	R25=5KΩ±3% B25/50=4200K±3%

HPU-42CH03 HPU-42HI03	Indoor ambient temp. sensor	001A3800127	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	Indoor coil temp. sensor	0010401922	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
	Outdoor compressor discharge sensor	0010450398	001A3800096	R80=50KΩ±3% B25/80=4450K±3%
	Outdoor defrost sensor	0010451314	001A3800091	R25=5KΩ±3% B25/50=3700K±3%
	Outdoor ambient temp. sensor	001A3900110	001A3800090	R25=5KΩ±3% B25/50=4200K±3%
HDU-42CH03/H HDU-42CI03/H HDU-42HK03/H	Indoor coil temp. sensor	001A3800128	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
	ambient temp. sensor	/	/	/
	Outdoor compressor discharge sensor	0010450398	001A3800096	R80=50KΩ±3% B25/80=4450K±3%
	Outdoor defrost sensor	0010451314	001A3800091	R25=5KΩ±3% B25/50=3700K±3%
	Outdoor ambient temp. sensor	001A3900110	001A3800090	R25=5KΩ±3% B25/50=4200K±3%
HCFU-42CH03 HCFU-42HK03	Indoor ambient temp. sensor	001A3900005	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	Indoor coil temp. sensor	001A3900006	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
	Outdoor compressor discharge sensor	0010450398	001A3800096	R80=50KΩ±3% B25/80=4450K±3%
	Outdoor defrost sensor	0010451314	001A3800091	R25=5KΩ±3% B25/50=3700K±3%
	Outdoor ambient temp. sensor	001A3900110	001A3800090	R25=5KΩ±3% B25/50=4200K±3%
HCFU-18CF03 HCFU-18HF03	Indoor ambient temp. sensor	001A3900005	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	Indoor coil temp. sensor	001A3900006	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
HCFU-28CF03 HCFU-28HF03 HBU-28HH03	Indoor coil temp. sensor	001A3900006	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
	ambient temp. sensor	001A3900159	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
HCFU-42CF03 HCFU-42HF03	Indoor ambient temp. sensor	001A3900005	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	Indoor coil temp. sensor	001A3900006	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
	Outdoor defrost sensor	0010401922	001A3900004	R25=10KΩ±3% B25/50=3700K±3%

R25=5KΩ±1% B25/50=3450K±1%							
T(℃)	Rnom(KΩ)	T(℃)	Rnom(KΩ)	T(℃)	Rnom(KΩ)	T(℃)	Rnom(KΩ)
-20℃	47.12	1℃	16.55	22℃	5.744	43℃	2.339
-19℃	45.17	2℃	15.7	23℃	5.482	44℃	2.25
-18℃	43.24	3℃	14.89	24℃	5.235	45℃	2.165
-17℃	41.35	4℃	14.13	25℃	5	46℃	2.084
-16℃	39.49	5℃	13.41	26℃	4.778	47℃	2.006
-15℃	37.68	6℃	12.73	27℃	4.567	48℃	1.932
-14℃	35.92	7℃	12.08	28℃	4.36	49℃	1.862
-13℃	34.21	8℃	11.47	29℃	4.179	50℃	1.793
-12℃	32.56	9℃	10.9	30℃	3.993	51℃	1.729
-11℃	30.37	10℃	10.35	31℃	3.819	52℃	1.667
-10℃	29.44	11℃	9.837	32℃	3.657	53℃	1.608
-9℃	27.57	12℃	9.351	33℃	3.514	54℃	1.551
-8℃	26.57	13℃	8.892	34℃	3.368	55℃	1.457
-7℃	25.22	14℃	8.458	35℃	3.23	56℃	1.445
-6℃	23.94	15℃	8.048	36℃	3.098	57℃	1.395
-5℃	22.72	16℃	7.661	37℃	2.973	58℃	1.347
-4℃	21.55	17℃	7.295	38℃	2.845	59℃	1.301
-3℃	20.45	18℃	6.949	39℃	2.741	60℃	1.257
-2℃	19.39	19℃	6.622	40℃	2.633		
-1℃	18.39	20℃	6.313	41℃	2.536		
0℃	17.45	21℃	6.021	42℃	2.432		

R25=23KΩ±2.5% B25/50=4200K±3%			
T(℃)	Rnom(KΩ)	T(℃)	Rnom(KΩ)
-20℃	281.34	32℃	16.65
-19℃	263.56	33℃	15.92
-18℃	247.04	34℃	15.22
-17℃	231.66	35℃	14.56
-16℃	217.35	36℃	13.93
-15℃	204.02	37℃	13.34
-14℃	191.61	38℃	12.77
-13℃	180.04	39℃	12.23
-12℃	169.24	40℃	11.71
-11℃	159.17	41℃	11.22
-10℃	149.77	42℃	10.76
-9℃	140.99	43℃	10.31
-8℃	132.78	44℃	9.89
-7℃	125.11	45℃	9.49
-6℃	117.93	46℃	9.1
-5℃	111.22	47℃	8.74
-4℃	104.93	48℃	8.39
-3℃	99.04	49℃	8.05
-2℃	93.52	50℃	7.73
-1℃	88.35	51℃	7.43
0℃	83.5	52℃	7.14
1℃	78.94	53℃	6.86
2℃	74.67	54℃	6.6
3℃	70.65	55℃	6.34
4℃	66.88	56℃	6.1
5℃	63.33	57℃	5.87
6℃	60	58℃	5.65
7℃	56.86	59℃	5.44
8℃	53.91	60℃	5.24
9℃	51.13		
10℃	48.51		
11℃	46.04		
12℃	43.72		
13℃	41.52		
14℃	39.45		
15℃	37.5		
16℃	35.66		
17℃	33.92		
18℃	32.27		
19℃	30.72		
20℃	29.25		
21℃	27.86		
22℃	26.54		
23℃	25.3		
24℃	24.12		
25℃	23		
26℃	21.94		
27℃	20.94		
28℃	19.99		
29℃	19.09		
30℃	18.23		
31℃	17.42		

R80=50KΩ±3% B25/80=4450K±3%			
T(℃)	Rnom(KΩ)	T(℃)	Rnom(KΩ)
-30	11600	22	592
-29	10860	23	553.6
-28	10170	24	536.6
-27	9529	25	511.1
-26	8932	26	486.9
-25	8375	27	464
-24	7856	28	442.3
-23	7372	29	421.7
-22	6920	30	402.1
-21	6498	31	383.6
-20	6104	32	366
-19	5736	33	349.3
-18	5392	34	333.5
-17	5071	35	318.4
-16	4770	36	304.1
-15	4488	37	290.5
-14	4225	38	277.6
-13	3978	39	265.3
-12	3747	40	253.6
-11	3531	41	242.5
-10	3328	42	232
-9	3138	43	221.9
-8	2960	44	212.3
-7	2793	45	203.2
-6	2636	46	194.5
-5	2489	47	186.3
-4	2351	48	178.4
-3	2221	49	170.9
-2	2099	50	163.7
-1	1984	51	155.9
0	1877	52	150.4
1	1775	53	144.2
2	1680	54	138.3
3	1590	55	132.7
4	1506	56	127.3
5	1426	57	122.1
6	1351	58	117.2
7	1280	59	112.5
8	1214	60	108
9	1151	61	103.8
10	1092	62	99.68
11	1036		
12	983.2		
13	933.4		
14	886.4		
15	841.9		
16	800		
17	760.8		
18	722.8		
19	687.3		
20	653.8		
21	622		

R25=10KΩ±3% B25/50=3700K±3%			
T(℃)	Rnom(KΩ)	T(℃)	Rnom(KΩ)
-20	90.79	32	7.52
-19	85.72	33	7.23
-18	80.96	34	6.95
-17	76.51	35	6.68
-16	72.33	36	5.43
-15	68.41	37	5.6
-14	64.73	38	5.59
-13	61.27	39	5.73
-12	58.02	40	5.52
-11	54.97	41	5.32
-10	52.1	42	5.12
-9	49.4	43	4.93
-8	46.86	44	4.9
-7	44.46	45	4.58
-6	42.21	46	4.42
-5	40.08	47	4.26
-4	38.08	48	4.11
-3	36.19	49	3.97
-2	34.41	50	3.83
-1	32.73	51	3.7
0	31.14	52	3.57
1	29.64	53	3.45
2	28.22	54	3.33
3	26.4	55	3.22
4	25.61	56	3.11
5	24.41	57	3.11
6	23.27	58	2.9
7	22.2	59	2.81
8	21.18	60	2.72
9	20.21	61	2.63
10	19.3	62	2.54
11	18.43	63	2.49
12	17.61	64	2.38
13	16.83	65	2.3
14	16.09	66	2.23
15	15.38	67	2.16
16	14.71	68	2.09
17	14.08	69	2.03
18	13.48	70	1.96
19	12.9	71	1.9
20	12.36	72	1.85
21	11.84	73	1.79
22	11.34	74	1.73
23	10.87	75	1.68
24	10.43	76	1.63
25	10	77	1.58
26	9.59	78	1.54
27	9.21	79	1.49
28	8.84	80	1.45
29	8.48		
30	8.15		
31	7.83		

3. Electric control functions

3.1 For indoor unit

1. Communication control

1.1 Remote receive function, with remote controller YR-H71.

1.2 Long-distance communication, the long-distance control function is pre-setted.

1.3 Wired controller communication, the wired controller can be used for communication by dip-switch selection. The display board is not available when use wired controller.

Select one control type between wired and remote control, long-distance control can be used with wire/remote control.

2. Function description

2.1 The running mode includes AUTO, COOL, DRY, FAN and HEAT; can set the compulsory cooling function; AUTO/HIGH/LOW 3-speed for indoor motor; can set the TIMER ON,TIMER OFF, TIMER ON/OFF and SLEEP function; auto-check water level and control the water drainage of water pump; the swing is controlled by stepping motor; 3-minute protection for compressor; anti-overload protection, anti-freezed protection, temperature cutoff protection and bad-sensor protection; communication failure detect function; check indoor ambient temperature and indoor coil temperature; can be controlled by central controller.

2.2 LED indication: when the unit is switched on by the controller, the POWER LED will be ON, when being switched off, the POWER LED will be OFF. When the compressor is running, the compressor LED will be on; when it stops, this LED will be off. If the controller is in TIMER and SLEEP mode, the TIMER LED will be on; if it is not in TIMER and SLEEP mode, the TIMER LED will be off.

2.3 Temperature compensation 4℃ control: select by the dip switch on indoor PCB.

2.4 There is set temperature in AUTO mode as default.

2.5 Tr stands for room temperature; Ts stands for set temperature; Tg stands for indoor coil temperature; Tc stands for defrosting temperature; t stands for compensation temperature; ΔT stands for temperature difference.

2.6 ΔT=Tr-Ts+t (t=0 in cooling mode).

2.7 ΔT=Ts-Tr+t (t=compensation value, with compensation in heating mode; t=0, without compensation in heating mode).

3. Mode control

3.1 Indoor AUTO FAN control

3.1.1 If the unit enters AUTO FAN for the first time, when ΔT＞2, select high speed; when ΔT≤0, select low speed; or it will select med speed; when thermostat is OFF, fan will be low speed. (the conversion temperature difference is 1 degree).

3.1.2 If the present fan speed is AUTO HIGH, when ΔT＜2, fan speed will change to AUTO MED.

3.1.3 If the present fan speed is AUTO MED, when ΔT＜0, fan speed will change to AUTO LOW; when ΔT＞3, fan speed will change to AUTO HIGH.

3.1.4 If the present fan speed is AUTO LOW, when ΔT＞1, fan speed will chenge to AUTO MED.

3.1.5 Fan speed conversion in AUTO FAN mode: the conversion will delay for 3 minutes from HIGH to LOW, and no delay from LOW to HIGH.

3.1.6 When the fan speed is HIGH/LOW/MED, on the condition that the protection does not act, the unit will run at the set fan speed; when the protection acts, for the sake of the normal operation, the fan speed will be forced to conversion; in Dry mode, fan motor will be changed as request.

3.2 AUTO mode control

3.2.1 When entering AUTO for the first time, the unit will select the running mode due to the below conditions, then perform the selected mode.

Tr≥Ts-3℃ select COOL mode (includes FAN mode)

Tr＜Ts-3℃ select HEAT or FAN mode

3.2.2 After entering the AUTO mode, the mode can change over among COOL, HEAT or FAN modes according to the indoor ambient temperature (conversion temperature difference is ±3℃).

3.2.3 If the unit is in COOL mode, when it arrives compressor-stop temperature, the compressor will stop; after compressor stops for 15 minutes, the unit will check the room temperature, if Tr＜Ts-3℃, the unit will enter HEAT or FAN mode, or the unit will still be in COOL mode;

3.2.4 For the heat pump unit, if the unit is in HEAT mode at present, when it arrives compressor-stop temperature, the compressor will stop; after the compressor stops for 15 minutes, the unit will check the room temperature, if Tr＞Ts+3℃, the unit will enter COOL mode, or it will still be in HEAT mode.

3.2.5 For cooling only unit, if the unit is at FAN mode, if Tr＞Ts+3℃, the unit will enter COOL mode.

3.2.6 When the unit is in HEAT mode, if indoor heat exchanger temperature rises up to over 63℃, the unit will change into COOL mode. And within 1 hour, the heat exchanger temperature will not be limited, the heating operation will stop temporarily. 1 hour later, the unit will select the proper mode due to the above condition.

3.3 COOL mode control

3.3.1 4-way valve being powered off, compressor run/stop will depends on the temperature difference between the room temperature at present and the set temperature.

3.3.2 In cooling mode, every time the compressor starts up(thermostat ON), within 6 minutes, the compressor will not be limited by the temperature sensor, but the set temperature change, shutoff signal and protection action will not be limited by 6-minute protection, and the compressor can stop immediately.

3.3.3 ΔT≥1 compressor will run;

ΔT≤-1 compressor will stop;

-1<ΔT<1 compressor will stay in original state

3.3.4 Anti-freezed protection (invalid in compulsory operation, trial running, heating mode)

Indoor coil temperature Tg≥15℃, outdoor motor run in compulsory HIGH and resume to normal HIGH when Tg<13℃. Indoor coil temperature Tg＜5℃, outdoor motor run in compulsory LOW and resume to normal HIGH when Tg>7℃. Outdoor motor run in normal HIGH when 5℃≤Tg＜15℃.

When the unit has run for over 6 minutes after compressor starts up, if indoor coil temperature Tg<1℃ and lasts for 1 minute, the compressor and the outdoor motor will stop, and the unit will change to FAN mode; 9 minutes later after compressor stops and when indoor coil temperature rises to 10℃, the unit will resume to COOL mode, the compressor and the outdoor motor will run again.

3.3.5 Temperature cutoff protection

In cooling mode, the unit will check indoor coil temperature every time the compressor start and has run for 5 minutes, when indoor coil temperature Tg>Tr＋5, the unit will stop and 3 minutes later restart up; if the temperature cutoff occurs for 3 times continuously, the unit will stop and alarm.

3.4 DRY mode control

3.4.1 When the uint enters DRY mode for the first time, the compressor, outdoor motor and indoor motor will perform according to the below conditions:

ΔT＞2, the compressor and the outdoor motor will run continuously, indoor motor will run at the set speed, this area is defined as Area A;

0≤ΔT≤2, the compressor and the outdoor motor will always run for 10 minutes and then stop for 6 minutes, indoor motor will be LOW speed, this area is defined as Area B;

ΔT＜0, the compressor and the outdoor motor will stop, indoor motor will run at Low speed, this area is defined as Area C.

3.4.2 After the unit is running in DRY mode, the system will change over among Area A, Area B, and

Area C (the conversion temperature difference ±1℃)
If the system is in Area A, when △T＜1, change to Area B;
If the system is in Area C, when △T>1, change to Area B;
If the system is in Area B, when △T>3, change to Area A;
When △T＜－1, change to Area C.

3.5 FAN mode control

The compressor and the outdoor motor will stop running, indoor motor can be set at high/med/low speed, the fan blade can swing or stay at one position. In this mode, you can set the TIMER and SLEEP function.

3.6 HEAT mode control

3.6.1 4-way valve control

a. 4-way valve being electrified after compressor has started for 3 seconds when heating for the first time, then the 4-way valve will be electrified before compressor start;

b. Only in cooling(not heating) mode, 4-way valve and compressor will power off at the same time, the 4-way valve keeps being powered when shutoff, thermostat OFF and compressor stop .

Note: 4-way valve control is realized by outdoor unit for the unit with outdoor PCB, not concurrent completely.

3.6.2 In heating mode, for every time the compressor startup (thermostat ON), within 6 minutes, the 4-way valve will not be limited by the temperature sensor, but for the set temperature change, shutoff signal and the protection, the compressor can stop immediately without 6-minute limitation.

3.6.3 △T≥1 compressor running, indoor motor runs at anti-cold air mode;
△T≤-1 compressor stops, indoor motor runs at blowing remaining heat mode;
-1<△T<1 compressor retains original state

3.6.4 Overheat protection

Indoor coil temperature Tg>56℃, outdoor motor run in compulsory LOW and resume to normal HIGH when Tg<54℃. Indoor coil temperature Tg＜40℃, outdoor motor run in compulsory HIGH and resume to normal HIGH when Tg>42℃. Outdoor motor run in HIGH(normal state) when 40℃≤Tg＜56℃.

In heating mode, compressor has started up and indoor motor has run for over 30 seconds, if indoor coil temperature Tg>60℃, outdoor motor will stop; if Tg<56℃, and outdoor motor has stop for 45 seconds, outdoor motor will run again; if Tg>68℃, the compressor will stop and indoor motor will run in thermostat OFF. After the compressor stops for 3 minutes and Tg reduces to 48℃, the unit will resume to heating mode, and the compressor and the outdoor motor will run again.

3.6.5 Temperature cutoff protection

In heating mode (besides the defrosting), the unit will check indoor coil temperature every time the compressor has run for 5 minutes, when indoor coil temperature Tg＜Tr-5, the unit will stop and 3 minutes later restart up; if the temperature cutoff occurs for 3 times continuously, the unit will stop and alarm(not check in defrost and within 3 minutes after defrost).

3.6.6 Anti-cold air function in heating mode

After entering heating mode, or last defrosting is over, the compressor will start up, if Tg＜28℃(HW_D2), indoor motor will stop; if 38℃(HW_D1)>Tg≥28℃(HW_D2), indoor motor will run at low speed; if Tg≥38℃(HW_D1) or the compressor has run for over 4 minutes, indoor motor will run at the set speed; once the motor has started up, it will not stop because of Tg reduction.

3.6.7 Blowing remaining heat function

In heating mode, the thermostat is OFF, the compressor stops, indoor motor will run at low speed until Tg ＜28℃(HW_D3) and has run for 50 seconds at least. If Tg always over 28℃(HW_D3), compressor will stop after running for at max. 3 minutes.

3.6.8 Note: in heating mode, “the compressor stops----indoor motor delays to stop” adjust if the pipe blows remaining heat; “the compressor startup----indoor motor delays to start up” adjust if the pipe is anti-cold air; in other conditions, the compressor and the indoor motor are allowable not to be in company. In cooling mode, the motor will run according to the control, not together with the compressor.

3.6.9 Defrosting function in heating mode

In defrosting and when the compressor resumes to run for 3 minutes after defrosting is over, the unit will not adjust the sensor failure.

Manual defrost:

In heating mode, the set temperature 30℃ and in high speed, in 5 seconds, press SLEEP button 6 times continuously, then the buzzer will sound 3 times, you can enter the manual defrosting. Send manual defrost to outdoor unit, the indoor unit will control accordingly after received the outdoor defrost signal, the procedure is as the same as the auto defrost; the quit is controlled by outdoor unit.

Auto defrost:

For the unit with outdoor PCB, please refer to the outdoor control functions.

For the unit with auxiliary electric heating function:

a. If the auxiliary electric heating function is working when the defrosting condition is met, please stop electric heater firstly, 20 seconds later, defrosting can begin;

b. After defrosting, the unit will adjust the working state of electric heater according to the setting before defrosting.

3.6.10 Auxiliary electric heating function (valid in heating mode or heating state in AUTO mode)

Enter condition: 1) ΔT>1 2) Thermostat ON and running for 1 minute 3) Tr<25℃

4) Indoor motor running 5) Electric heating function start signal available

6) The system working in heating mode or in heating state of AUTO mode

If the above conditions can all be met, the electric heating function will work.

Quit condition: 1) ΔT≤1 2) Thermostat OFF 3) Tr>26℃ 4) Indoor motor stops

5) Electric heating function start signal not available 6) The system in non-heating operation

If one of the above conditions can be met, the electric heater will stop.

3.8 Indoor motor compulsory speed control in heating mode: if indoor coil temperature Tg>56℃, indoor motor LOW speed invalid, change to MIDDLE speed automatically; when Tg>60℃, indoor motor MIDDLE speed invalid, change to HIGH speed automatically; when Tg below 52℃, resume the orIginal fan speed, outdoor MCU will work in overheat protection due to the temperature value.

3.7 Special functions

3.7.1 CLOCK setting and TIMER function

The unit can set 24-hour TIMER ON/OFF, and the min. unit is 1 minute(the min. unit of set time is concerned with remote controller), after being set, the TIMER lamp of indoor will be on, and after the timer is over, the TIMER lamp will be off.

TIMER ON: RUN LED is off, compressor LED is off, and TIMER LED is on, the unit is in stop state. When timer is over, the unit begins to run, and the timer LED is off. The unit operation begins from receiving the timer signal for the last time. The SLEEP function only can be set before the TIMER ON begins.

TIMER OFF: the unit running, the TIMER LED on, while the timer is over, TIMER LED off, the unit will stop, the sleep can be set, the sleep time will replace the original time of TIMER ON/OFF.

TIMER ON/OFF set at the same time: when the timer on/off is set, the timer LED will be off; the sleep function can be set, the sleep time will replace the original time of TIMER ON/OFF.

3.7.2 SLEEP function (energy saving function at night)

3.7.2.1 Standard sleep function in cooling or dry mode, after running at SLEEP mode for 1 hour, the set temperature will rise 1℃, another 1 hour later, the set temperature will rise another 1℃; the unit

continues running for 6 hours, then the unit will stop.

3.7.2.2 Standard sleep function in heating mode, after running at SLEEP mode for 1 hour, the set temperature reduces 2℃, another 1 hour later, the set temperature will reduce 2℃, and another 3 hours later, the set temperature rises 1℃; the unit continues running for 3 hours, then the unit will stop.

3.7.2.3 Non-standard SLEEP function: the sleep function can realize 1~8 hours sleep mode when being combined with the TIMER function.

1) When in Auto mode, the unit will make SLEEP operation due to the setting.

2) After setting SLEEP function, the clock can not be adjusted.

3) If sleep time is no more than 8 hours, when the time arrives, the unit wil shut off.

4) If sleep function is set after setting TIMER OFF function, the unit will execute as the SLEEP function.

5) If SLEEP function is set, the TIMER function can not be set.

6) If sleep function is set after setting TIMER ON function, the sleep function only can be set befroe the TIMER ON time arrives.

7) After setting sleep function, press CLOCK button to check the clock; press TEMP button to display the set temperature, and press again to change the set temperature.

3.7.3 Emergency operation

Press emergency button for over 1 second continuously, when loosing it, the buzzer will sound once. Press and will enter emergency operation.

Emergency operation: AUTO cooling state, the set temperature 24℃, indoor motor at high speed, not adjusting the temperature sensor abnormal and the protection, the thermostat ON, 3 minutes later, the compressor starts up, and another 3 minutes later, quit the trial running and enter the normal operation as the setting(resume temperature sensor and protection); Press again, enter the shutoff state.

3.7.4 Compulsory cooling operation

In OFF state, press compulsory button for over 10 seconds continuously, loose it and the buzzer will sound twice, then the unit enters the compulsory cooling operation, or after the panel receives the compulsory cooling signal from wired controller, the unit enters the compulsory cooling state, there is no compressor 3-minute protection, the unit will run in cooling mode, and indoor/outdoor motors are in high speed for 5 minutes; in the 5 minutes, the system will not adjust the protection and not be limited by the ambient temperature, 5 minutes later, the unit will enter the normal state. In the compulsory cooling state, you can press any button to quit the state.

3.7.5 Water level inspection and water pump control

1) In COOL (including cooling state of AUTO mode and the compulsory cooling) and DRY mode, as long as the compressor runs, water pump will work; and once the compressor stops, water pump will stop 5 minutes later;

2）In standby state of cooling mode, heating mode and fan mode, after water tank is full, the float switch will disconnect, if the controller detects this signal for 2 seconds, the water pump will begin to work. After the float resets, water pump will continue working and stops 5 minutes later;

3) If the water-full signal is detected for over 5 minutes, the compressor will stop; water pump will work for 5 minutes and stop for 5 minutes, then repeat as a cycle, until the float resets, the water pump will stop 5 minutes later; if water pump has repeated for 4 cycles and the float can not reset, and the unit will alarm water drainage abnormal, and the water pump will continue the cycle.

3.7.6 Time shorting function

If the time shorting port is in short circuit for 2 seconds after conditioner being electrified, the buzzer will sound once and enter time shorting operation, the unit will perform a 1/60 time shorting control.

3.7.7 Auto-restart function

In 5 seconds press the SLEEP button for 10 times, the buzzer sounds 4 times, that is setted as

auto-restart mode, if shutoff and power again, the system will run in the original state before been shuttoff. The following information will be memorized: ON/OFF, running mode (AUTO, HEAT, COOL, DRY, FAN), fan speed (AUTO, MANUAL(HIGH, MED, LOW)), the set temperature (16℃-30℃) and HEALTH, while the louver position, TIMER, SLEEP and CLOCK will not be memorized. Press SLEEP button 10 times again, the buzzer will sound 2 times and auto-restart function is cancelled.

3.7.8 Auto check function

Short connect the emergency switch before being electrifed, after being electrified, 10 seconds later, it will enter auto-check circuit. Before auto-check, please ensure the input values (sensor, pressure switch) normal, or the buzzer will sound 5 times to show there is abnormal; all the ports will output as the following sequence: run lamp-timer lamp-electric heater-water pump/pump lamp-compressor/compressor lamp-(outdoor motor-4-way valve) –HIGH speed-MED speed-LOW speed-swing-HEALTH ; after the auto-check is finished, the buzzer sounds once.

3.8 System protection

3.8.1 3-minute protection for compressor startup

After the compressor stops, at least 3 minutes later, the compressor can restart up; if the unit is powered off in running, after being electrified, 3 minutes later, the compressor can restart up. Being electrifed for the first time, there is 3-minute delay protection.

3.8.2 Anti-current rush

2 seconds later after compressor is running, outdoor motor can work.

3.8.3 Sensor failure

Indoor ambient temperature sensor: Mainboard checks that the sensor is in open circuit, short circuit or close to short circuit for 2 minutes continuously, the mainboard will confirm that sensor is failure, the system will stop running, alarm occurs; If the signal is resumed, the system will resume automatically.

Indoor coil temperature sensor: Mainboard checks that the sensor is in open circuit, short circuit or close to short circuit for 2 minutes continuously, the mainboard will confirm that sensor is failure, the system will stop running, alarm occurs; If the signal is resumed, the system will resume automatically.

Shield indoor coil temperature sensor failure in 3 minutes before compressor start and dring defrost procedure(include defrost finish and quit).

3.2 For outdoor unit

1. Outdoor motor control

When the system does not occur overcooling, overheating, and over current protections, the outdoor motor will occur the below changes according to the outdoor ambient temperature and indoor coil temperature.

1.1 General information

Outdoor motor is 2-speed type: high, low and stop.

The fan speed will change unless every step has been run for 45 seconds.

1.2 Cooling mode

1.2.1 Indoor coil temp.≥15℃, outdoor motor runs at high speed.

1.2.2 Indoor coil temp.＜5℃, outdoor motor runs at low speed.

1.2.3 5℃≤Indoor coil temp.＜15℃, outdoor motor will change due to the outdoor ambient temp.

Outdoor ambient temp. ＞28℃, enter high speed; outdoor ambient temp.＜26℃, enter high speed; 26≤outdoor ambient temp.≤28℃, keep the current speed.

In running, the system will be controlled as 2℃ temperature tolerance; if outdoor ambient temp. ＜26℃, enter low speed; if outdoor ambient temp.＞28℃, enter high speed.

1.3 Heating mode (heat pump model)

1.3.1 Indoor coil temp.≥50℃, outdoor motor will run at low speed.

1.3.2 Indoor coil temp. ＜40℃, outdoor motor will run at high speed.

1.3.3 40℃≤indoor coil temp.＜50℃, outdoor motor will change with outdoor ambient temp.

Outdoor ambient temp.＜13℃, enter high speed; Outdoor ambient temp.＞15℃, enter low speed; 13≤Outdoor ambient temp.≤15℃, keep the current speed;

In running, the system will be controlled as 2℃ temperature tolerance; if outdoor ambient temp. ＜13℃, enter high speed; if outdoor ambient temp.＞15℃, enter low speed.

Every step will run at least 45 seconds, and the motor will start up 2 seconds earlier than compressor.

2. Defrost control

2.1 Defrosting condition

In heating mode, the compressor will run for 30 minutes continuously or run for 45 minutes in all and for over 5 minutes contineously, outdoor motor at least runs for 2 minutes; If the outdoor ambient temperature and outdoor coil temperature can comply with the shadow area in the figure and keep for 1 minute, the defrost will work and send defrost signal to indoor unit, then indoor unit will control indoor motor accordingly.

2.2 Quit condition

Outdoor coil temp. arrives the defrost-end temp. 14℃ or the defrost time is over 12 minutes, the defrost will finish and send signal to indoor unit.

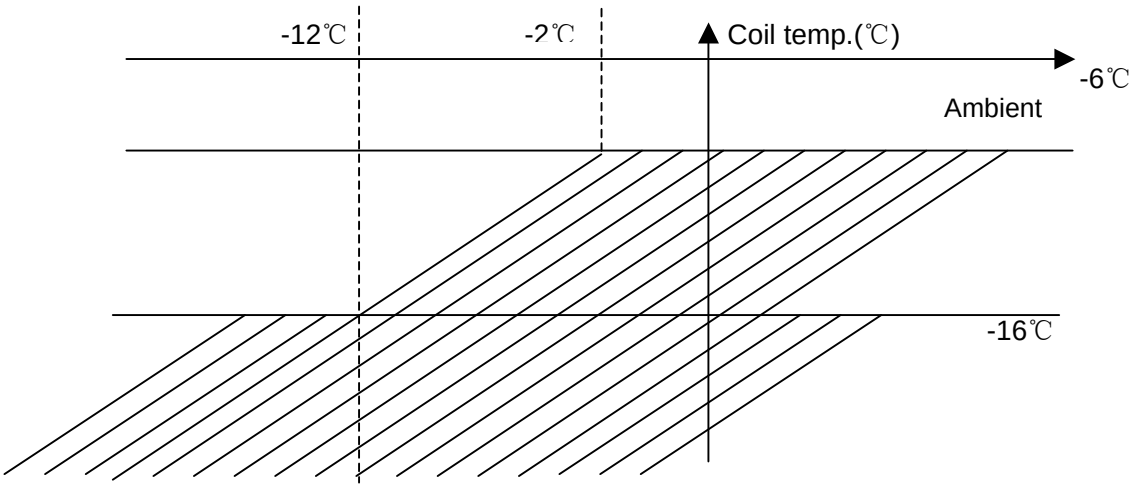
2.3 Defrost operation

Compressor and outdoor motor stop, indoor motor stops meanwhile; 55 seconds later, the reversing valve will close. Another 5 seconds later, compressor starts up.

After defrost is over, compressor stops, outdoor motor runs at high speed; 55 seconds later, the reversing valve will open. Another 5 seconds later, compressor starts up and indoor motor runs at anti-code mode.

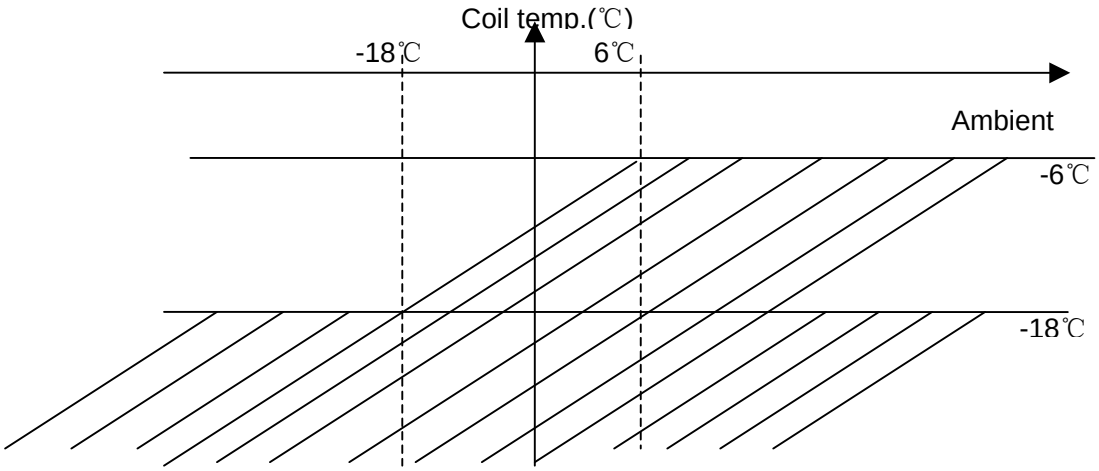
Type 1: Standard defrost

1) If Tr≥-2℃, when Tp≤-6℃, enter defrost.
2) If -12℃≤Tr＜-2℃, when Tp≤-6℃, please refer to the following chart.
3) No matter the ambient temperature, when Tp≤-16℃, enter defrost.



Type 2: Non-standard defrost (rectify defrost data by the device)

1) If Tr≥6℃, when Tp≤-6℃, enter defrost.
2) If -18℃≤Tr＜-6℃, when Tp≤-6℃, please refer to the following chart.
3) No matter the ambient temperature, when Tp≤-18℃, enter defrost.



2.4 Manual defrost

Indoor sends defrost signal to outdoor, and the outdoor will receive the defrost signal when compressor is running in heating mode, then enter the defrost process. When outdoor coil temperature arrives the defrost-end point and the defrost time is over 5 minutes, outdoor will send the defrost-end signal to finish the defrost.

3. Compressor crankcase heater working condition

By the N.C. (normal close) auxiliary point of AC contactor to control, when compressor stops, the heater will work; when compressor works, the heater will stop.

4. System protection function

4.1 Anti-freezed protection

When compressor has run for over 6 minutes, to prevent indoor evaporator freezing (in cooling/dry mode), if indoor coil temp. is below -1 degree for over 1 minutes, compressor and outdoor motor will stop and enter Fan mode. After compressor stops for 9 minutes, and indoor coil temp. rises up to 10 ℃, the unit resumes to cooling mode, compressor and outdoor motor will work again.

4.2 Overheat protection

In heating mode, if indoor motor is running and the compressor has run for over 30 seconds, the

sensor will check the indoor coil temperature, and send the temp. to outdoor; if indoor coil temp. >T1（53℃）, the outdoor motor will enter low speed; if indoor coil temp.＜T2（50℃）, outdoor motor will enter high speed; if indoor coil temp. >T3（56℃）, outdoor motor will stop; if indoor coil temp. ＜T4（53℃）, outdoor motor will resume low speed; when indoor PCB receive the signal of outdoor motor stop from outdoor PCB over 2 minutes, if indoor coil temp. >T6（70℃）or 10 minutes later indoor coil temp. >T5（56℃）, send compressor stop signal to outdoor unit; if indoor coil temp.＜46℃ and the compressor has stopped over 3 minutes, send compressor run signal to outdoor unit, and compressor resume to normal.

The outdoor motor is control by oudoor unit.

4.3 Over current protection

4.3.1 In heating mode

After compressor running for 40 seconds, if the current thermostat has measured that system working current is more than 21A and keep it for 5 seconds, outdoor motor will convert into low speed; if working current is less than 18A, it will resume to high speed; if working current is more than 25A and keep it for 5 seconds, outdoor motor will stop; if working current is less than 22A, outdoor will resume to low speed (fan speed conversion frequency must be more than 45 seconds); after compressor running for 5 minutes, if working current is more than 34A and keep it for 5 seconds, compressor will stop and will resume 3 minutes later.

If within 30 minutes there are 3 times compressor over current protection, compressor will not start up, meanwhile, LCD will display E5. Only shut off and powered on again, the protection can be cancelled.

4.3.2 Not in heating mode

After compressor running for 5 minutes, if working current is more than 34A and keep it for 5 seconds, compressor will stop and will resume 3 minutes later.

If within 30 minutes there are 3 times compressor over current protection, compressor will not start up, meanwhile, LCD will display E5. Only shut off and powered on again, the protection can be cancelled.

4.4 Power protection

4.5 High/Low Pressure protection (cooling only unit without this function)

After compressor running for 8 minutes, the system will check the pipe pressure. If pipe pressure is over high, high pressure switch has acteivated more than 15 seconds, compressor, outdoor motor will stop and 3 minutes later it will resume. If within 30 minutes there are stop phenomenon 3 times because of pressure over high, the compressor will stop and LCD will display E6. only shut off and powered on again, the protection can be cancelled.

Low pressure protection

(1) After compressor running for 3 minutes, if low pressure switch has acteivated for 15 seconds continuously, compressor will stop and alarm.

(2) Check the low pressure switch when compressor is stop, the compressor will not run if low pressure switch act, low pressure switch has acteivated more than 30 seconds, LCD will display Low pressure abnormal

(3) In defrosting and in 6 minute after defrost is over , low pressure switch will not be checked.

(4) In heating, compressor run and outdoor motor stop, low pressure switch will be shielded.

(5) Low pressure protection can be resumable when power-off.

4.6 3-minutes protection for compressor

After compressor stops, it cannot be started until 3 minutes later. During the machine's running, if the time not more than 3 minutes after power is off, the compressor cannot be restarted until 3

minutes later after it is powered on again

4.7 Sensor broken down protection

a. Check if sensor breaks down

After compressor has run for 2 minutes, the unit will check the sensor, Outdoor board checks the sensor in short circuit or in open circuit or near to short/open circuit for 2 minutes continuously, then it will adjust the sensor broken down.

b. How to deal with it?

If the outdoor ambient temperature sensor and the outdoor coil temperature sensor have broken down, the unit will stop running, and alarm E3, E4, E4 simultaneously.

4.8 Starting current control

Outdoor unit load control: after the outdoor motor running for 2 seconds, main compressor start up, the secondary compressor will run 2 seconds later.

4.9 4-way valve control

5. Outdoor PCB test

(1) There are three pins marked with TEST, please make the two ones near to COOL in short circuit. Outdoor begin to run in cooling mode, that is, compressor run and outdoor motor works at high speed.

(2) There are three pins marked with TEST, please make the two ones near to HEAT in short circuit. Outdoor begin to run in heating mode, that is, compressor and 4-way valve run, outdoor motor works at low speed.

Part 5 Maintenance

1. Failure code

1.1 For convertible type units

For remote type, flash times	Failure code on wired controller	For central control, failure code	Failure description	Reason
10	08	21	Drainage system failure	Float switch broken down for more than 25m continuously
1	01	01	Indoor ambient temp. sensor failure	sensor broken down or short circuit for more than 2m continuously
2	02	02	Indoor coil temp. sensor failure	sensor broken down or short circuit for more than 2m continuously
3	4A	11	Outdoor ambient temp. sensor failure	sensor broken down or short circuit for more than 2m continuously
4	49	12	Outdoor coil temp. sensor failure (compressor discharging temp. sensor)	Sensor broken down or short circuit for more than 2m continuously
5	48	10	Over-current protection	CT check abnormal 3 times in 30m
6	53	14	High pressure abnormal	High pressure switch acts 3 times in 30m
8	07	06	Communication between wired controller and indoor abnormal	Communication abnormal for more than 4m continuously
9	06	05	Communication between indoor and outdoor abnormal	Communication abnormal for more than 4m continuously
11	0B	30	Outside alarm signal input	Outside signal broken down for more than 10s
12	03	20	Gas pipe temp. sensor abnormal	Sensor broken down or short circuit for more than 2m continuously
13	0D	31	Solenoid valve abnormal	Solenoid valve act incorrectly 3 times continuously
15	05	17	EEPROM abnormal	EEPROM data missing
16	54	26D	Outdoor pressure switch or discharging protector abnormal	Pressure switch or discharging protector disconnected; or CN11 on indoor PCB disconnected. The failure occurs only when there is no outdoor PCB.

1.2 For HPU-42CV03, HPU-42HV03 and HPU-48HV03

1.2.1 For outdoor units

Failure description	Fault code
Outdoor ambient temp. sensor failure	E3 / flash 3 times
Outdoor coil temp. sensor failure	E4/ flash 4 times
Fault in discharging temp. sensor	E4/ flash 4 times
Phase failure	E5/ flash 5 times
Compressor current protection	E5/ flash 5 times
High pressure abnormal	E6/ flash 6 times
Low pressure malfunction	E6/ flash 6 times
Communication failure	E9/ flash 9 times

1.2.2 For indoor unit

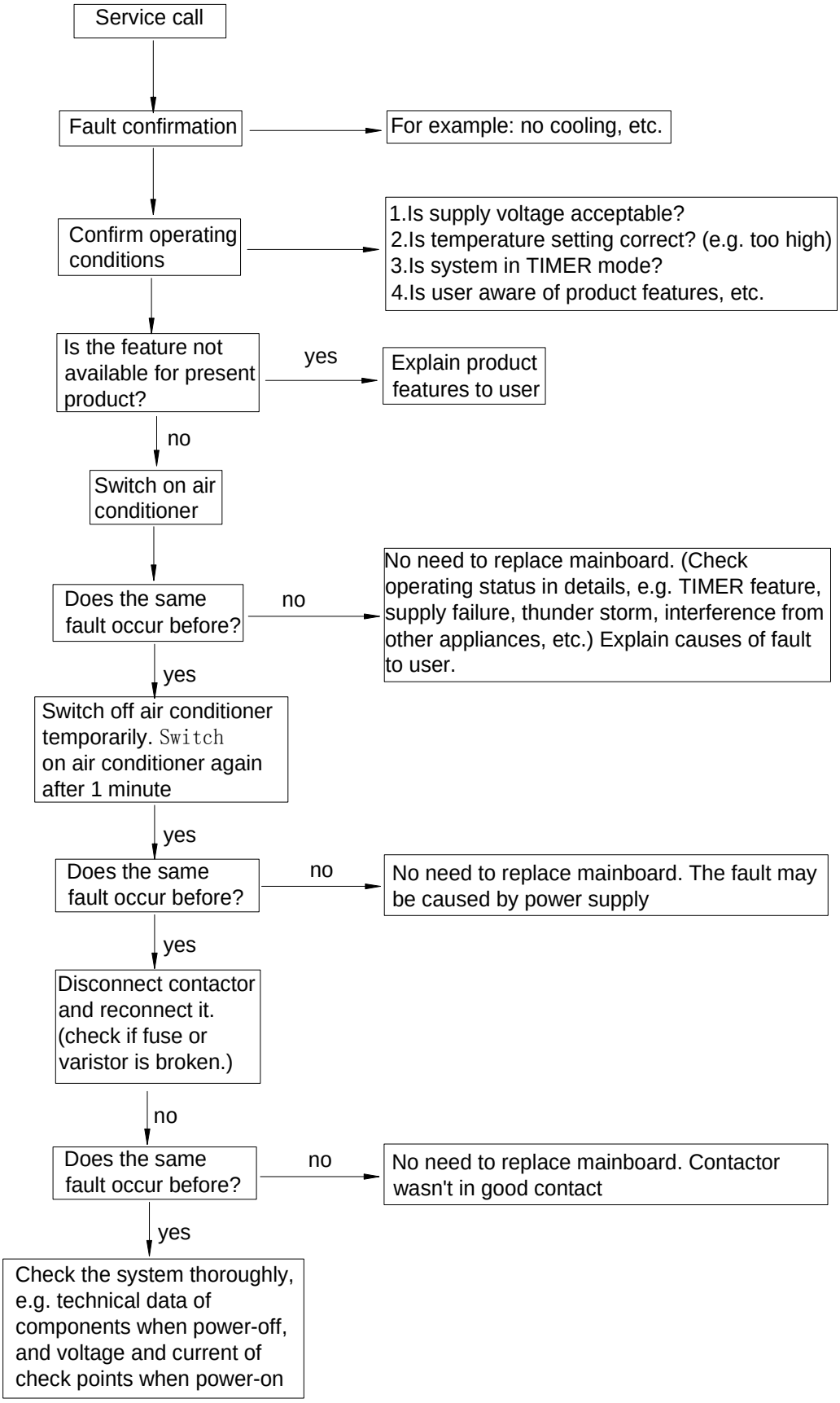
No.	Fault description	Operation panel display
1	Indoor ambient temp. sensor failure	E1
2	Indoor coil temp. sensor failure	E2
3	Outdoor ambient temp. sensor failure	E3
4	Outdoor coil temp. sensor failure	E4
5	CT current failure	E5
6	Pressure protection	E6
7	Communication failure between indoor units panel	E8
8	Communication failure between indoor and outdoor PCB	E9

1.3 For other models

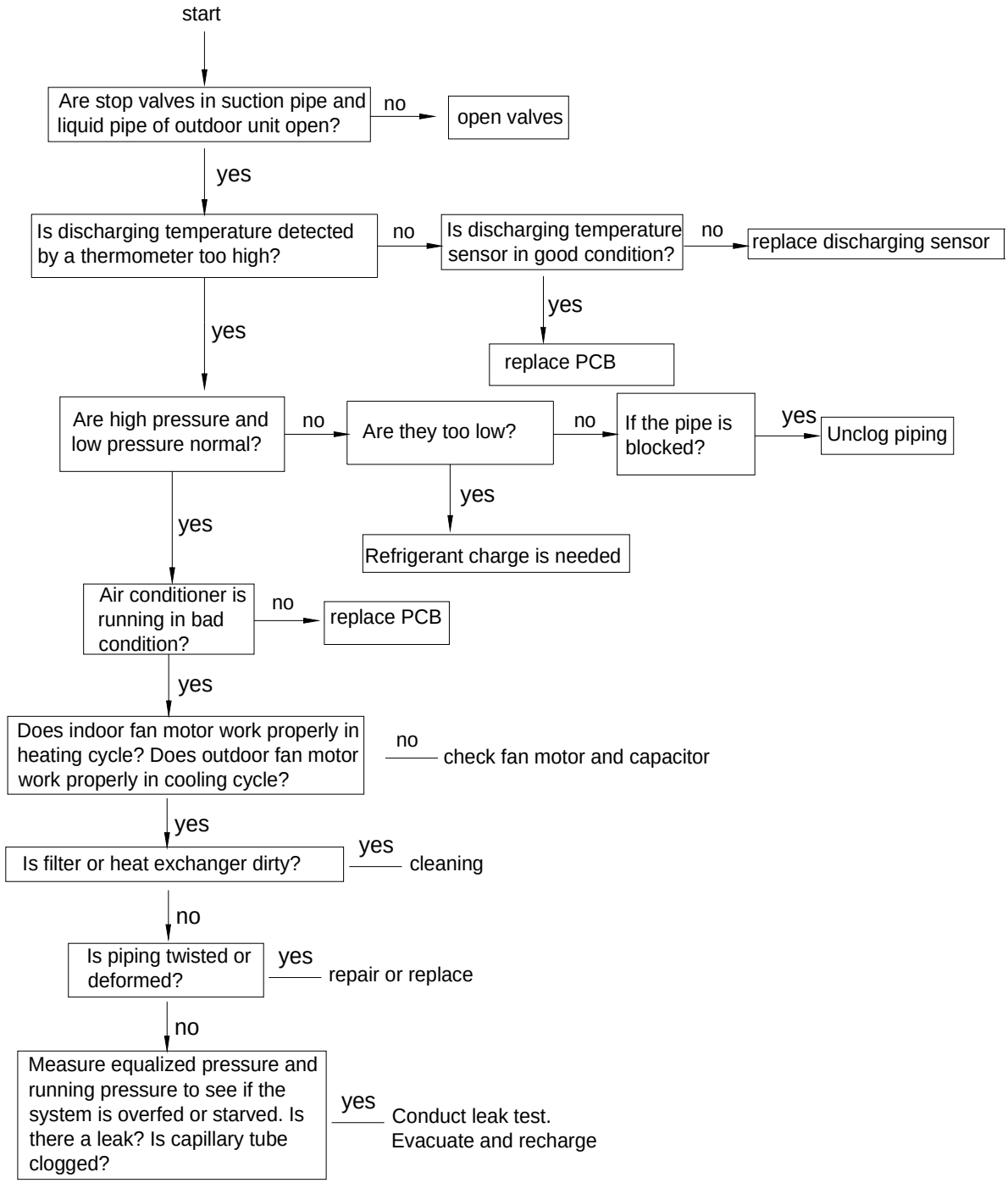
Failure code on wired controller	Power lamp flash times/LED on PCB flash times	failure description	Reasons
E0	10	Fault in drain system	Float switch is open
E1	1	Indoor ambient temp. sensor failure	Sensor broken down or short circuit for more than 2m continuously
E2	2	Indoor pipe temp. sensor failure	Sensor broken down or short circuit for more than 2m continuously
E3	3	Outdoor ambient temp. sensor failure	Sensor broken down or short circuit for more than 2m continuously
E4	4	Outdoor pipe or discharge temp. sensor failure	Sensor broken down or short circuit for more than 2m continuously or outdoor discharge temp. over 120℃ for 3 times continuously in 30m
E5	5	overcurrent	Indicate phase failure when been electrified for the first time, indicate overcurrent protection during working procedure
E6	6	High pressure malfunction	Outdoor high pressure switch acts
	16	Low pressure malfunction	Outdoor low pressure switch acts or the proctector on the top of compressor breaks for protection
E8	8	Communication failure between indoor PCB and panel or wired controller	communication abnormal for more than 4m continuously
E9	9	Communication failure between indoor and outdoor unit	communication between indoor PCB and outdoor PCB open for more than 4m
E7	13	Temperature cutoff protection	System failure. System cooling or heating function abnormal

2. Troubleshooting

Troubleshooting (before replacement of PCB)

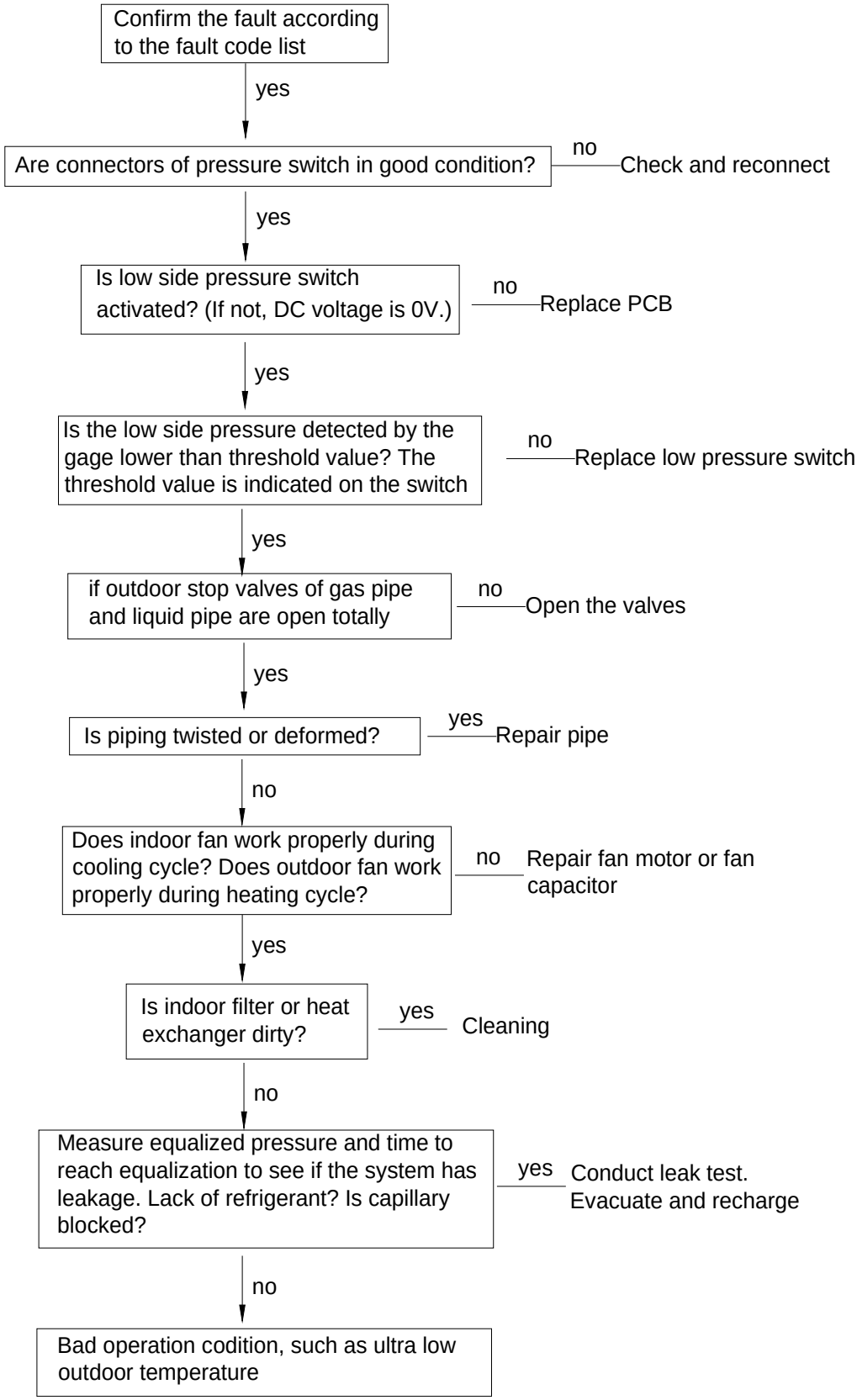


1) Compressor discharging temperature protection

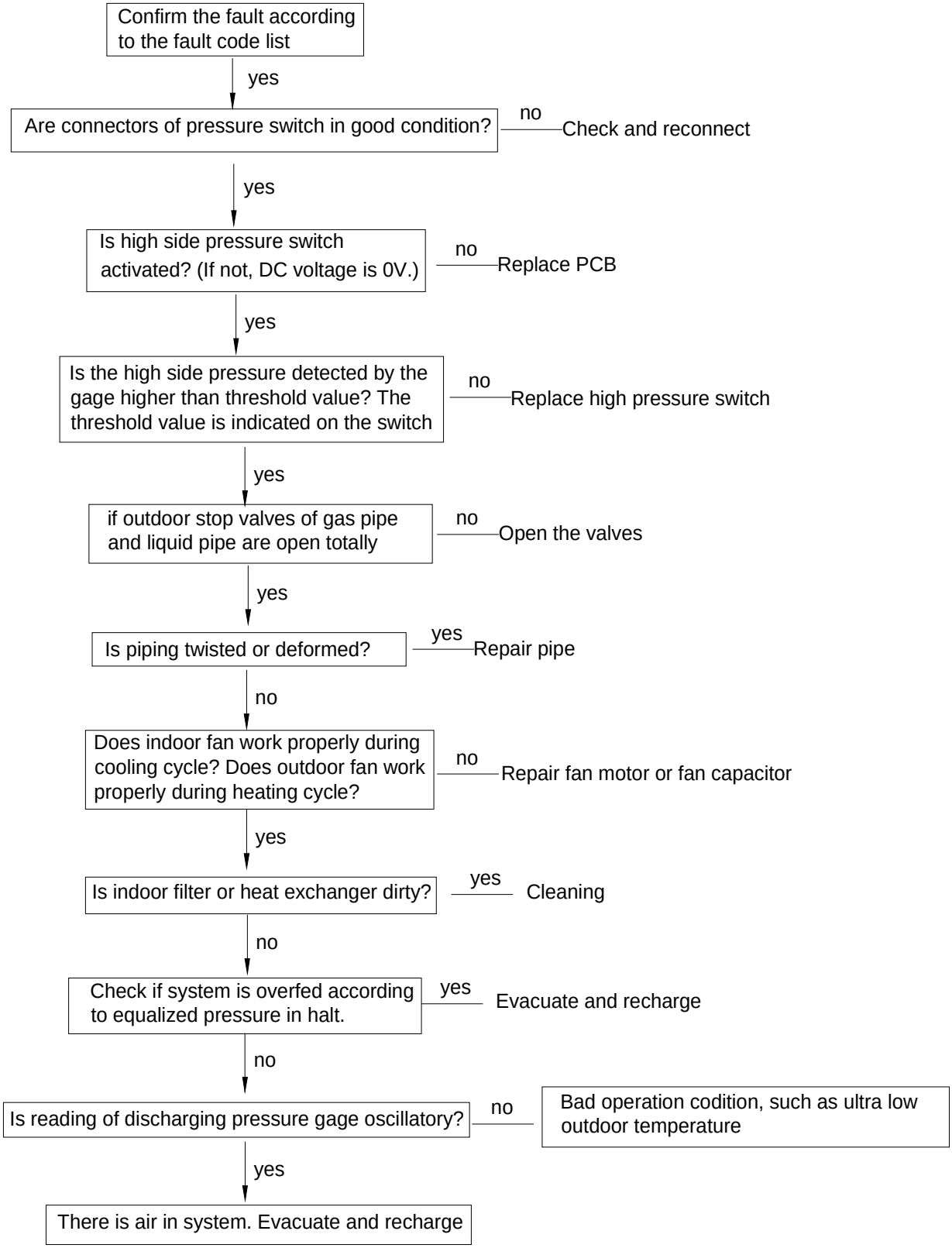


Note: The protection is activated when temperature is higher than 120° C and restored when lower than 100° C.

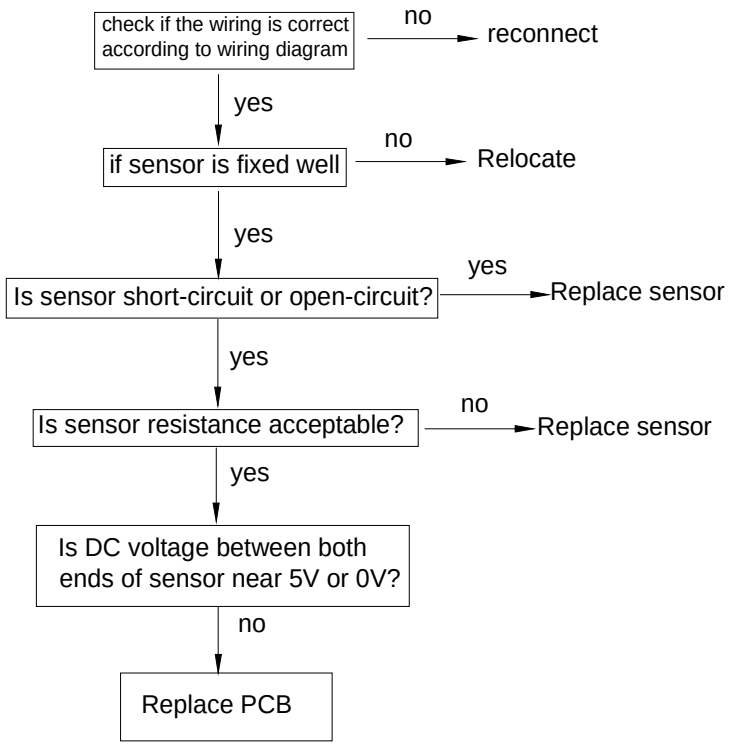
2) Low pressure protection



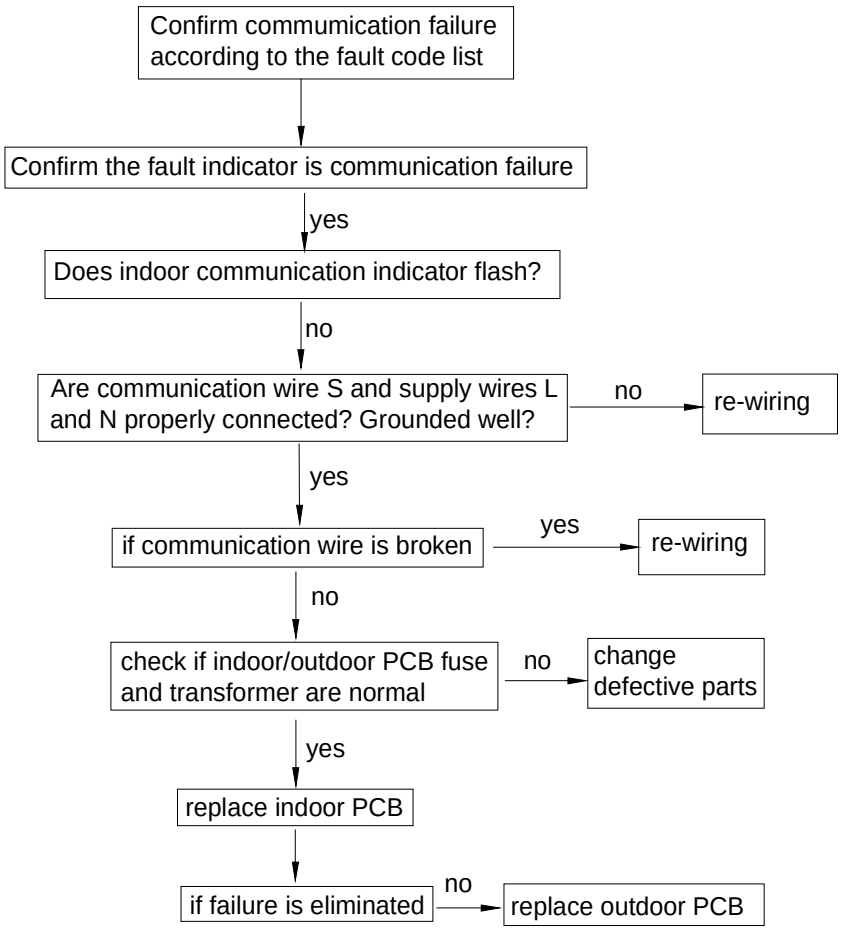
3) High pressure protection



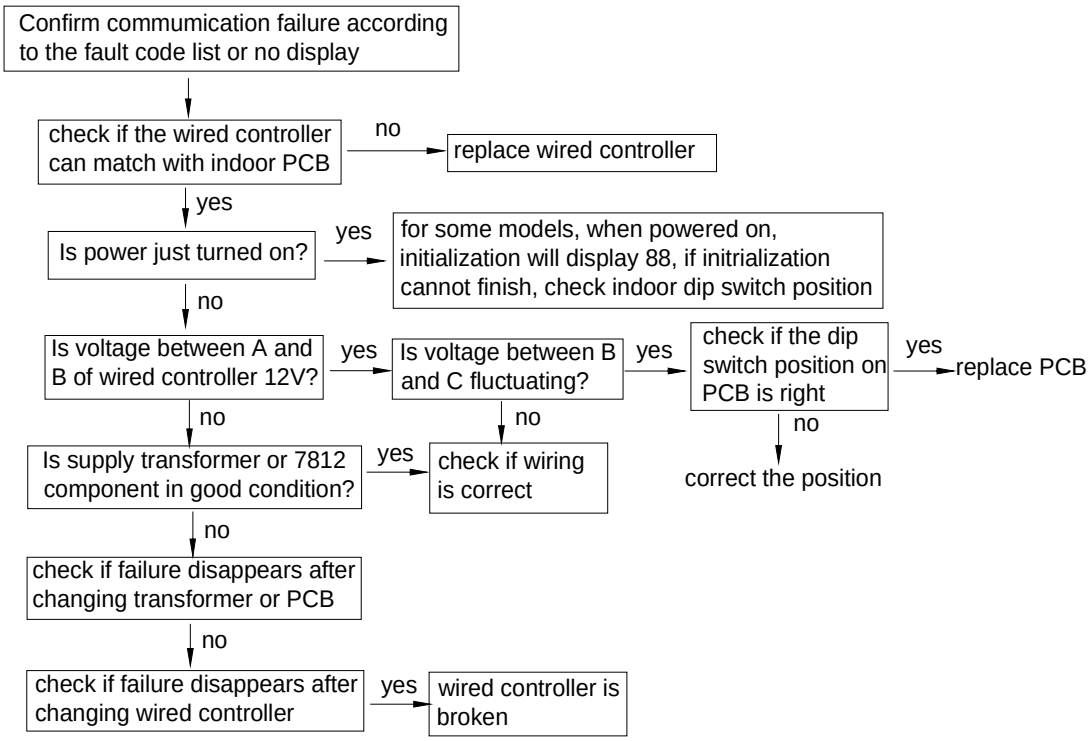
6) Sensor failure



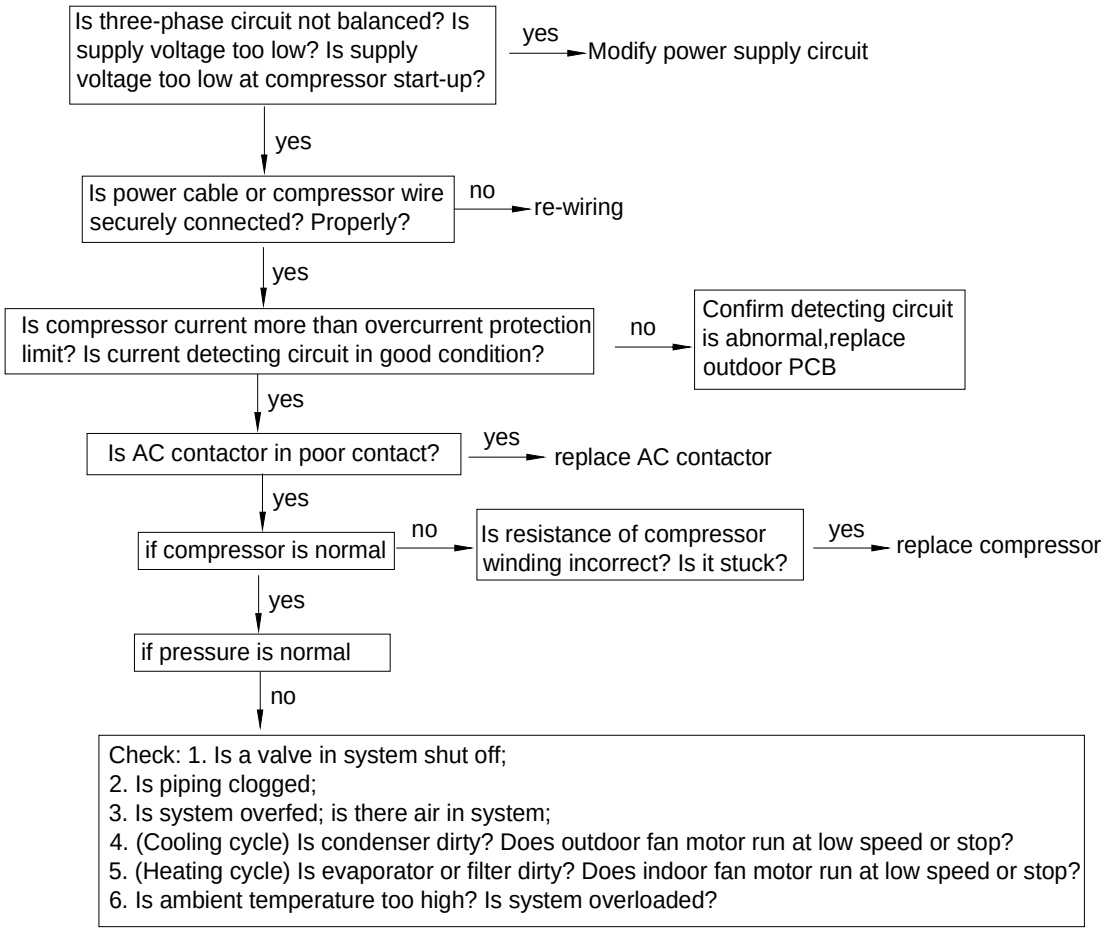
5) Communication error between indoor and outdoor units



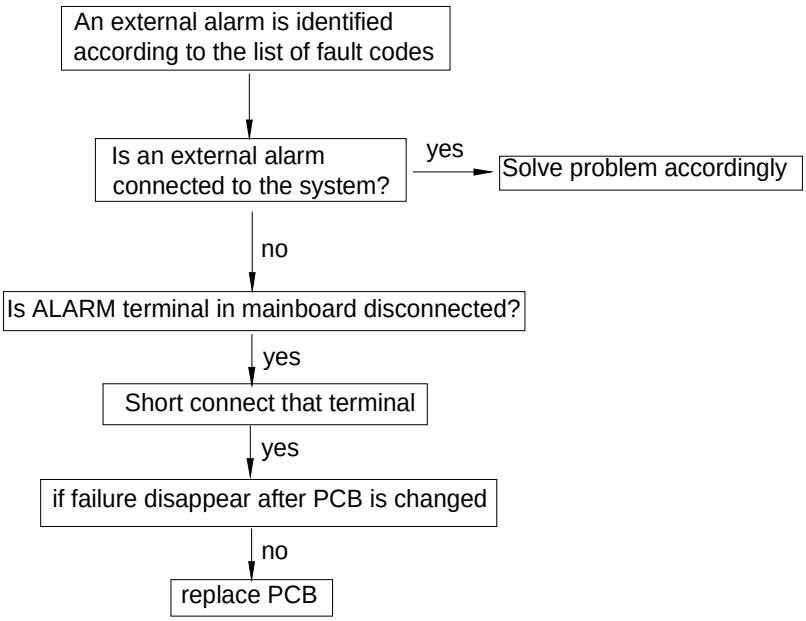
6) Communication failure between wired controller and indoor PCB or no display on wired controller



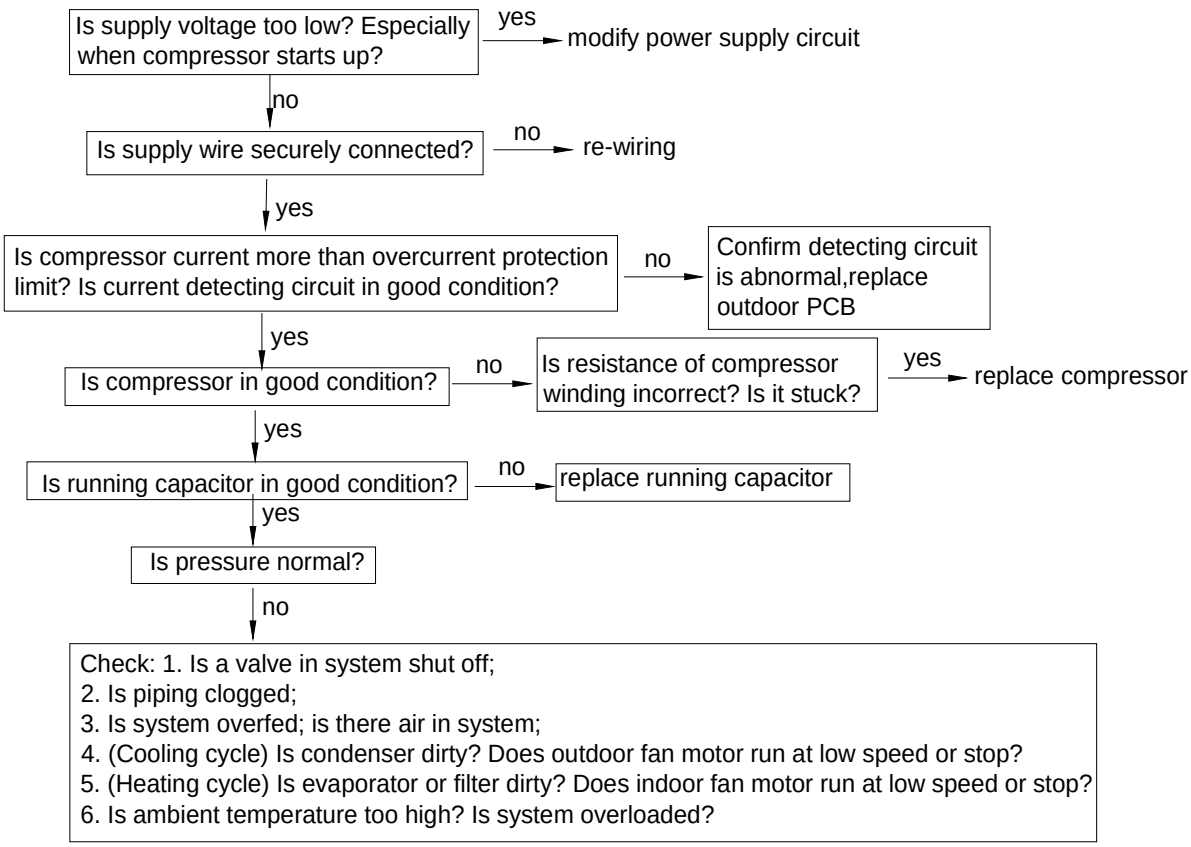
7) Over current protection in 3-phase fixed frequency models



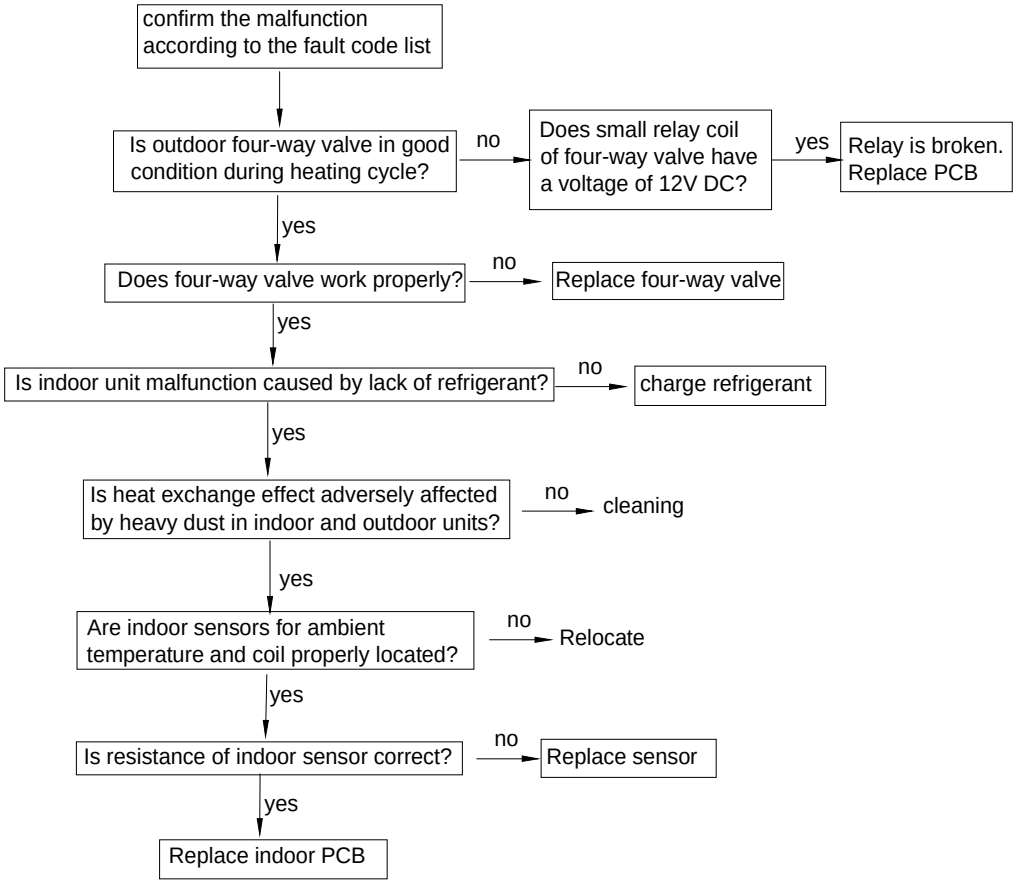
8) External alarm



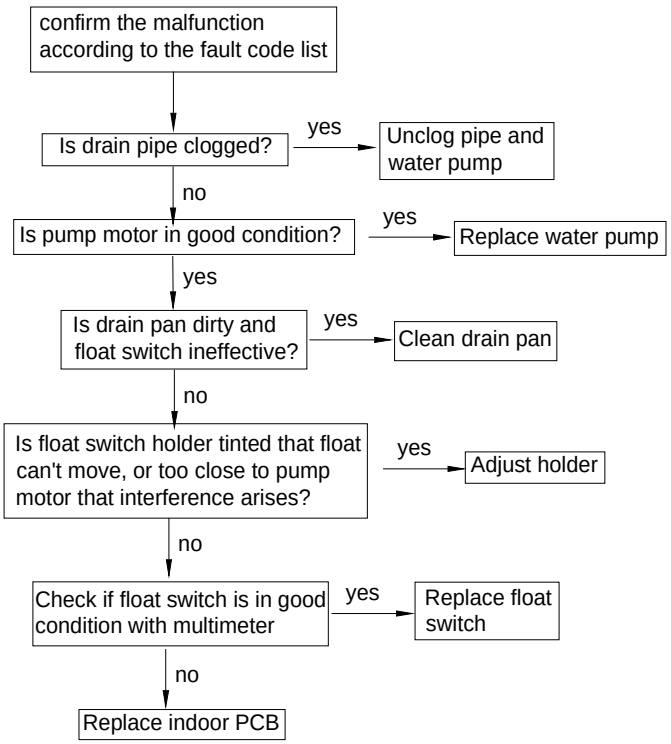
9) Overcurrent protection for single-phase fixed frequency models



10) Temperature cutoff protection



11) Fault in drain system

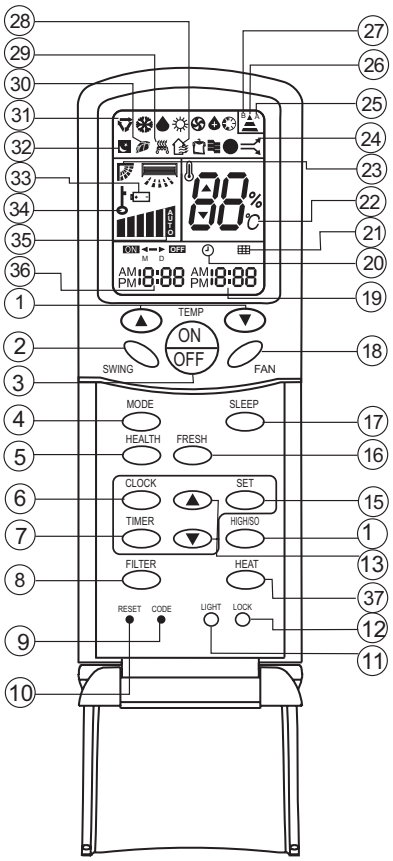


Note: Float switch is close in normal state, when being activated, it is open. Voltage between both ends is 0V when close, approximately 5V when open.

Part 6 Control Devices

1 Infrared controller

1.1 Infrared controller YR-H71



1.TEMP Setting Button

Used to set temperature. Setting ranges: 16˚C to 30˚ C)

In Up/Down function of filter, for controlling up and down filter.

2.SWING Button

If you press this button once, auto swing will be activated.

If you press this button again, the louver will fix in the present position.

3.Power ON/OFF Button

Used for unit start or stop

After power on, the LCD of remote controller will display the previous operation state (except for TIMER,SLEEP and SWING state).

4.Operation MODE

Used to select operation mode.

Every time you press MODE button, operation mode changes according to following sequence:

Code A: → AUTO → COOL → DRY → HEAT → FAN

5.HEALTH Button

6.CLOCK Button

Used to set correct time.

7.TIMER Button

Used to select TIMER mode:TIMER ON,TIMER OFF, TIMER ON/OFF.

(Note: if time of TIMER ON is the same as TIMER OFF,TIMER ON/OFF cannot be set)

8. FILTER Button

Used to set up/down function of filter.

9.CODE Button

Used to select Code A or B, Normally at Code A.

As you cann't controll the indoor unit, please change the Code to B.

10.RESET Button

Press this button by using a sharp article to resume the correct operation of the remote controller in case of need, i.e. for example in case of malfunctions due to electromagnetic disturbance.

11.LIGHT Button

Used to light the control panel

12.LOCK Button

Used to lock operation button and LCD display contents: by pressing this button, other buttons comes out of function and lock state display appears; if you press it again, lock state will be no more active and lock state display will disappear.

13.HOUR Adjustment

Used to set clock and timer setting

14.HIGH/SO Button

Used to select HIGH or SOFT operation.

15.SET Button

Used to confirm TIMER and CLOCK settings.

16.FRESH Button

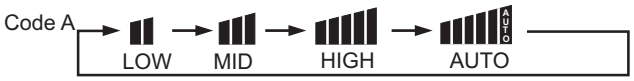
Used to set fresh mode, the unit will draw in fresh air.

NOTE: 1.Single cooling air conditioner does not have the displays and functions related to heating.
2.For some units, the function ⑤⑧⑪⑭⑯㊲ are optional.
3.HIGH/SO button
This button is active in Cooling/Heating mode, the fan speed is in AUTO mode after pressing it and " high functon " will be automatically cancelled after 15 minutes running.

17.SLEEP Button
(The clock must be corrected before setting sleep function)
Used to set sleep mode.
18.FAN Button
Used to select fan speed:LOW,MID,HIGH,AUTO.
19.TIME Display
20.TIMER Display
21.FILTER Display
When the filter need be cleaned, you can press the FILTER button for 3s, to up/down function.
22.TEMPERATURE Display
23.AUTO SWING Display
24.HIGN/SO Run Display
25.Code A of controller's state
Code A is used for this unit
26.SIGNAL SENDING Display
27.Code B of controller's state
28.Fresh Display
29.Auxiliary ELECTRICAL HEATING Display
30.HEALTH Display
Displays when healthy run function is set.
31.Operation MODE Display

AUTO RUN	COOL RUN	DRY RUN	HEAT RUN	FAN RUN

32.SLEEP State Display
33.BATTERY Energy Display
Notify the user when it is time to change the batteries.
34.LOCK State Display
35.FAN SPEED Display

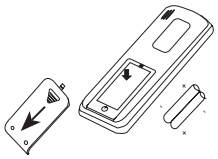


36.TIMER ON Display
37.HEAT Button
Used to select auxiliary heater.

Remote Controller Operation

- When in use, direct signal transmission head to the receiver placed on the indoor unit
- The distance between the remote controller and the receiver should be max 7m and there should be no obstacle between them.
- Do not throw the remote controller; prevent it from being damaged.
- When operating the remote controller in an area where electronically controlled lights are installed or wireless handsets are used, please move closer to the indoor unit as the function of the remote controller might be affected by signals emitted by the above mentioned equipments.

Battery loading



Battery loading
Batteries are fitted as follows:
Remove the battery compartment lid
Slightly press and disengage the battery compartment lid marked with "▽" and then hold the remote controller by the upper section and then remove the battery compartment lid by pressing in the direction of the arrow as shown in the figure above.

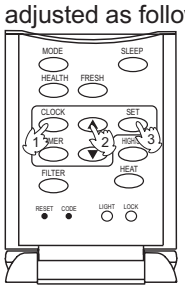
Loading the battery
Ensure that batteries are correctly placed in the compartment as required for positive and negative terminals.
Replacing the battery compartment lid
The battery compartment lid is reinstalled in the reverse sequence.
Display review
Press the button to see if batteries are properly fitted. If no display appears, refit the batteries.

Confirmation indicator

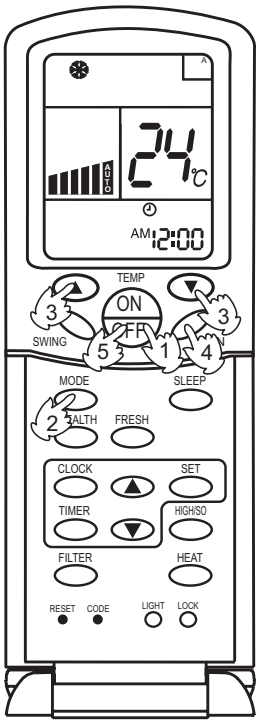
If no indication is displayed after press ON/OFF button, reload the batteries.
Caution:
If the remote controller does not operate as designed after fitting new batteries of the same
type, press the Reset button (marked⬇) with a pointed article.

Note:
It is recommended that the batteries be removed from the compartment if the remote controller is not used for an extended period.
The remote controller is programmed for automatic test of operation mode after the batteries are replaced. When the test is conducted, all icons will appear on the screen and then disappear if the batteries are properly fitted.
When throw away the waste batteries, please perform in accordance with the local regulation.

Clock Set
When unit is started for the first time and after replacing batteries in remote controller, clock should be adjusted as follows:
1.Press CLOCK button, clock indication of " AM " or " PM " flashes.
2.Press ▲ or▼ to set correct time. Each press will increase or decrease 1 min. If the button is kept pressed, time will increase or decrease quickly.
3.After time setting is confirmed, press "SET" : AM or PM stop flashing, while clock starts working.
Note: AM means morning and PM means afternoon.



AUTO, COOL, HEAT and DRY Operation



1. Unit start

Press ON/OFF button,unit starts.

Previous operation status appears on LCD (except for TIMER, SLEEP and SWING setting)

2. Select operation mode

Press MODE button. At each press, operation mode changes as follows:

Code A: → AUTO → COOL → DRY → HEAT → FAN

Then select AUTO run or select COOL operation or select DRY operation or select HEAT operation

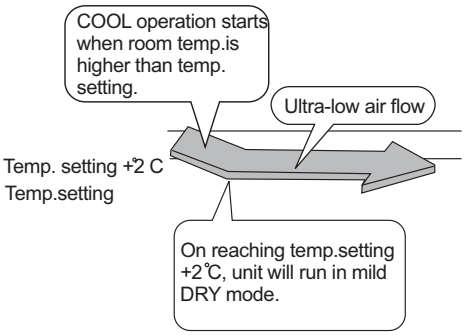
3. Temperature setting

Press TEMP button.

▲ Every time the button is pressed, temp. setting increases 1℃; if the button is kept pressed, temp. setting will increase quickly.

▼ Every time the button is pressed, temp. setting decreases 1℃, if the button is kept pressed, temp. setting will decrease quickly.

Set proper temperature



4.Adjust FAN button

Press FAN button. At each press, fan speed changes as follows:

Code A → AUTO → LOW → MID → HIGH

Air conditioner will run at the selected fan speed.

5. Unit stop

Press ON/OFF button,unit stops.

In FAN mode, the temperature setting is not displayed on LCD.
In DRY mode, when room temperature becomes 2 C higher than temperature setting, unit will run intermittently at LOW speed regardless of FAN setting. When room temperature is lower than temperature setting, unit will only run FAN operation.
In HEAT mode,warm air will blow out after a short period of time due to cold-draft prevention function.

Fan Operation (Only for Code A)

1. Unit start

Press ON/OFF button to start your air conditioner. Previous operation status appears on LCD (except for TIMER, SLEEP, and SWING setting).

2. Select operating mode

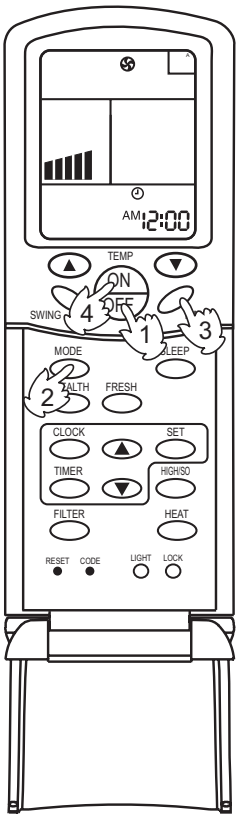
Press MODE button. At each press, operation mode changes as follows:

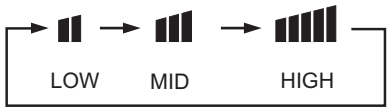
→ AUTO → COOL → DRY → HEAT → FAN

Then select FAN

3. Adjust fan speed

Press FAN button. At each press, fan speed changes as follows:





Air conditioner will run at the selected fan speed.

When in AUTO mode, unit will adjust fan speed according to room temperature automatically.

4. Unit stop

Press ON/OFF button to stop unit.

About FAN mode

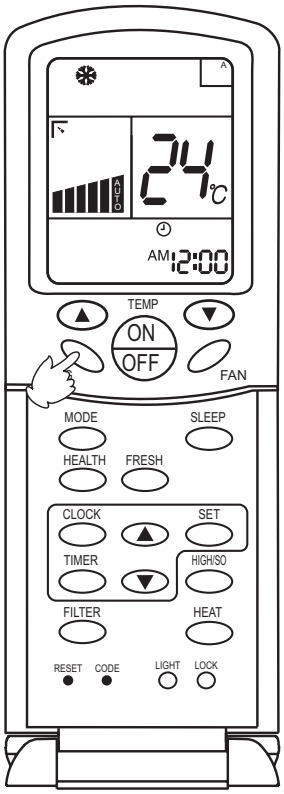
When the air conditioner runs in FAN mode, it is not possible to select AUTO FAN or to set temperature.

Adjusting air flow direction

AUTO SWING

Press SWING button. Up and down airflow varies upwards and downwards. Left and right airflow varies left and right sides

When the automatic swing louver moves to the proper angle, press SWING button can fix the airflow direction.



- Always use SWING button on the remote controller to adjust flaps. Adjusting them by hand may result in air conditioner s abnormally running.
- In COOL or DRY mode, do not leave the louver in downward position for a long time, as the water vapor close to the grille may condense and water may drop from the air conditioner.
- Please carefully set temperature when children, old or infirm people use the air conditioner.
- In case of great humidity, If the vertical flaps are completely turned towards left or right, the louver will drop water.
- Never adjust the louver directly by hand, as this could make it work abnormally.If the louver work abnormally, stop unit, restart and adjust the louver by remote controller.

After unit stops:

Displays on the LCD disappear.

All indicators on the indoor unit go out.

Swing louver automatically close the air outlet.

Hints:

As in COOL mode air flows downwards, adjusting airflow horizontally will be much more helpful for a better air circulation

As in HEAT mode air flows upwards, adjusting airflow downward will be much more helpful for a better air circulation.

Be careful not to catch a cold when cold air blows downward directly

Sleep Function

Before going to bed you can press down the SLEEP button and the air conditioner will run so as to make you sleep more comfortably.
Before using this function, the clock must be set.

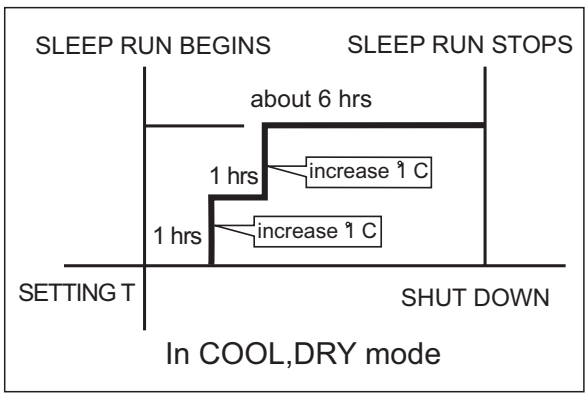
Use of SLEEP function

After the unit's start, set running mode and then press SLEEP button once to make the air conditioner have the previous-set sleep time (first power-on is "1h"). The sleep symbol will appear. Press time button ▲/▼ : you can choose the time in 1~8 hours. Each time the button is pressed, the time increases/decreases 1 hour: "xh" and "OFF" indications appear on the display.

Operation Mode

1.In COOL, DRY mode

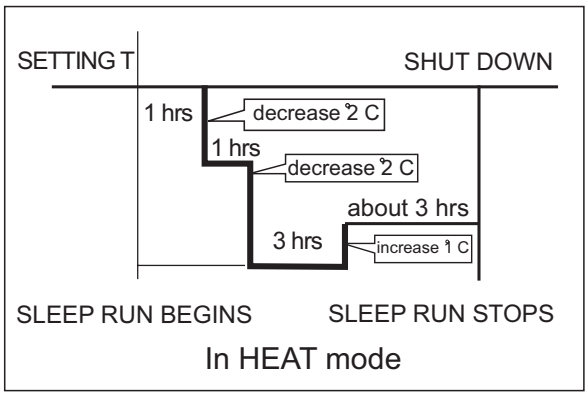
One hour after sleeping operation start, the temperature is 1˚C higher than the setting one. After another hour, temperature rises 1˚C: sleep run continuously for another 6 hours and then stops. The actual temperature is higher than the setting one which is to prevent from being too cold to your sleep.



In COOL,DRY mode

2.In HEAT mode

One hour after sleeping operation start, the temperature is 2˚C lower than the setting one. After another hour, temperature decreases by 2℃ more. Temperature will automatically rise by 1˚C after another 3 hours' continuous operation and keep running for another 3 hours. The actual temperature is lower than the setting one which is to prevent from being too hot to your sleep.



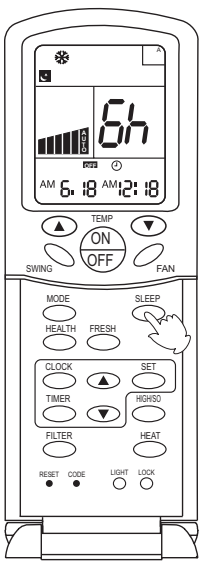
In HEAT mode

3.In AUTO mode

The air conditioner will run in corresponding sleep operation according to the automatically selected operation mode.

Notes:

- After setting SLEEP function, it is not possible to set clock.
- If set-sleep time does not reach 8 hours, unit will automatically stop 0operation after set time is reached.
- Set " TIMER ON " or " TIMER OFF "In COOL,DRY mode function first, then set SLEEP. After set SLEEP function, the TIMER function cannot be set.



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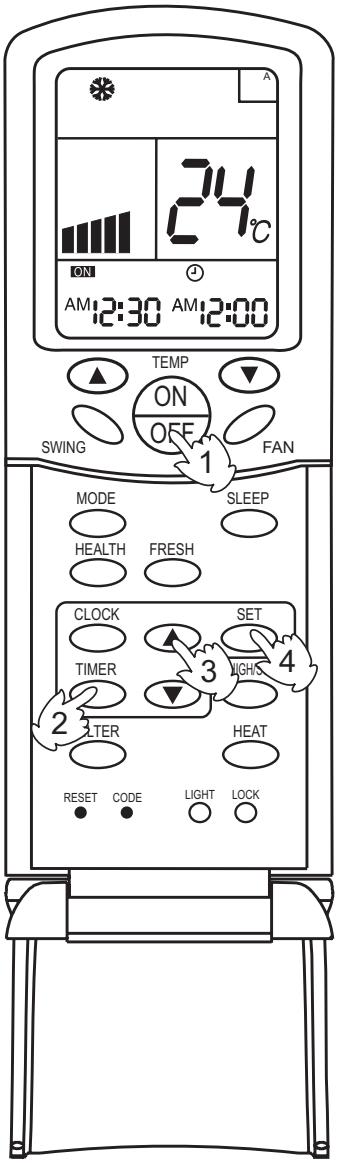
Timer ON/OFF Function

Set clock correctly before starting TIMER operation

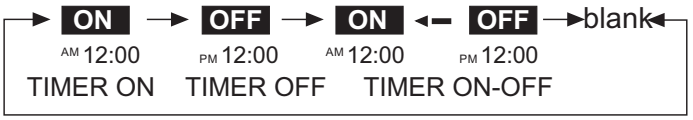


1.Unit start

After unit start, select your desired operation mode (operation mode will be displayed on LCD)

2.TIMER mode selection

Press TIMER button on the remote controller to change TIMER mode. Every time the button is pressed, display of TIMER mode changes as follows:



Then select TIMER mode as needed (TIMER ON or TIMER OFF). Now **ON** or **OFF** will flash.

3.TIMER setting (press time adjust buttons ▲▼)

▲ Every time the button is pressed, time increases 10 minutes. If the button is kept pressed, time will changes quickly.

▼ Every time the button is pressed, time decreases 10 minutes. If the button is kept pressed, time will changes quickly. It can be adjusted within 24 hours at will.

4.Confirm setting

After setting correct time, press SET button to confirm time. Now **ON** or **OFF** stop flashing.

Time displayed: unit starts or stops at X hour X min (TIMER ON or TIMER OFF)

5.Cancel TIMER mode

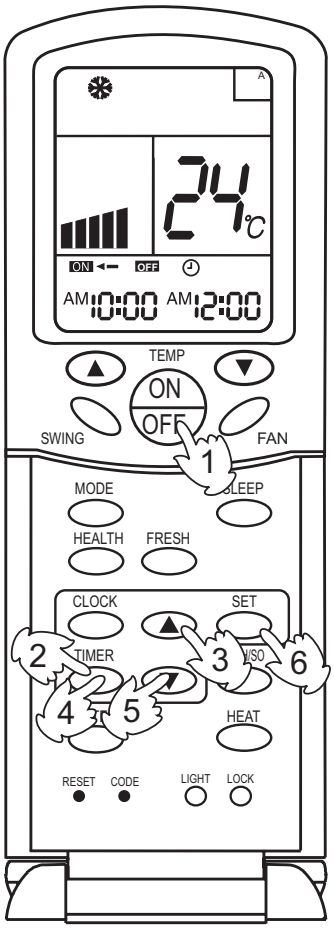
Just press TIMER button several times until TIMER mode disappears

Hints:

After replacing batteries or if a power failure occurs, TIMER setting must be reset.

Remote controller has memory function. When you use TIMER mode next time, just press SET button after mode selection if timer setting is the same as the previous one.

Timer ON-OFF Function



Set clock correctly before starting TIMER operation

1.Unit start

After unit start, select your desired operation mode (operation mode will be displayed on LCD)

2.TIMER mode selection

Press TIMER button on the remote controller to change TIMER mode. Every time the button is pressed, display of TIMER mode changes as follows:

Then select TIMER ON-OFF mode. **ON** will flash.

3.Time setting for TIMER ON

Press time button ▲▼

▲ Every time the button is pressed, time increases 10 minutes.
If the button is kept pressed, time will changes quickly.

▼ Every time the button is pressed, time decreases 10 minutes.
If the button is kept pressed ,time will changes quickly.
It can be adjusted within 24 hours at will.
AM refers to morning and PM refers to afternoon.

4.Timer confirming for TIMER ON

After setting correct time, press TIMER button to confirm time. Now **ON** stops to flash, while **OFF** starts flashing.

5.Timer setting for TIMER OFF

Press time buttons ▲▼ and follow the same procedures in " Time setting for TIMER ON"

6.Time confirming for TIMER OFF

After time setting, press SET button to confirm time. **OFF** stops to flash.

Time displayed: unit starts or stop at X hour X min.

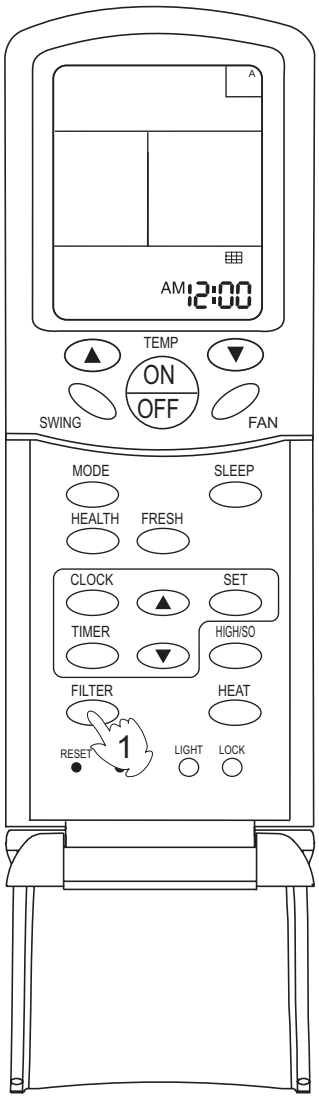
7.Canel TIMER mode

Just press TIMER button several times until TIMER mode disappears.

According to the time setting sequence of TIMER ON and TIMER OFF, either start-stops or stops-start can be realized.

If the time setting of TIMER ON is the same as TIMER OFF, TIMER ON-OFF function cannot be set.

Filter Up/Down



After the air conditioner has operated for a certain period, dust has accumulated on the filter, and the filter up/down function can be used to clean it. This function is convenient to pull out the filter for customer.

1.Whether unit starts or stops, continuously press FILTER button for 3 seconds, and enter the filter up/down waiting status (when unit stops, the TIMER indicator flashes, and filter and clock indication are displayed on the remote controller. Only the FILTER button, the temperature buttons "▲" "▼" and time buttons ▲▼ are active).

2.Press temperature "▼" button or time "▼" button in filter up/down waiting status: the up/down mechanism makes the filter moving downward and does not stop until it has reached the maximum limit.

3.Press temperature"▲" button or time"▲" button in filter up/down waiting status: the up/down mechanism makes the filter to moving upward till near the surface board and then automatically adjusts it to reset (when adjusting to reset, it will not be controlled by the remote controller till the adjustment is finished).

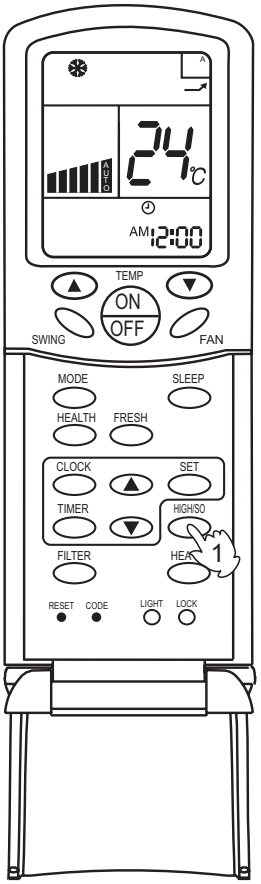
4.During moving downward, press temperature"▲" button or time"▲" button: moving stops.

5.During moving upward, press temperature"▼" button or time "▼" button: moving stops.

6.Continuously press FILTER button 3 seconds again tocancel the filter up/down waiting mode (unit stops, the yellow timer indicator stops flashing, the filter goes back tothe original position, the remote controller goes back to off status and only clock is displayed).

Note:
If the filter does not thoroughly go back to the original position, only needs to operate several times repeatedly.

" High mode " Operation



Outline of operation in "High Mode"

This function is suitable when the set temperature must be reached in the shortest delay.
The button "HIGH/SO", referred to this function, is effective in Cooling/Heating mode (not in Auto/Dry/Fan modes).

ON
Press the HIGH/SO button noce The indication appears on the display of the remote controller and in "High Mode" starts. The AUTO fan speed is automatically set and the corresponding indication is also displayed. In this mode, fan speed cann't be adjusted.

OFF
Press the HIGH/SO button twice If the button is pressed once, the indication is displayed on the remote controller. If you press the button once again, the indication disappears, regular operation is restored and fan speed goes back to the mode set before "High Mode" operation.

NOTICE:

- When the air conditioner is operating in " High Mode " , unevenness of room air temperature may occur due to the intensive operation in a short time.
- Anyway, operation in "High Mode", does not last for more than 15 minutes, then regular operation is automatically restored.

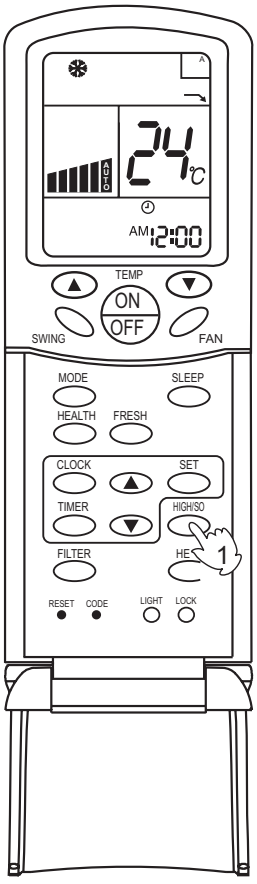
" Soft mode " Operation

Outline of operation in "Soft Mode"

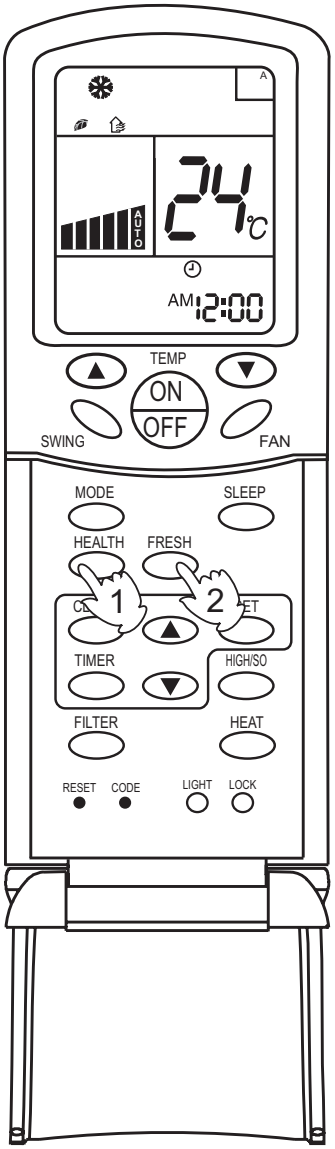
Operation in "Soft Mode", more silent, is suitable when noises should be reduced, e.g. for reading or sleeping.
The button "HIGH/SO", referred to this operation, is effective in Cooling /Heating mode (not in Auto/Dry/Fan modes).

ON
Press the HIGH/SO button twice The indication appears on the display of the remote controller and operation in "Soft Mode" starts. The AUTO fan speed is automatically set and the corresponding indication is also displayed.

OFF
Press the HIGH/SO button twice If the button is pressed once, the indication is disappears from the remote controller's display. If you press the button once again, regular operation is restored and fan speed goes back to the mode set before "Soft Mode" operation.



Health & Fresh Air operation



Health operation

After turning on the unit and set the desired working mode. Press the Health button, the LCD will display " ", the unit begins health operation (start the negative ion generation device). Press the Health button again, the " " displayed on the LCD disappears, health operation is cancelled (turn off the negative ion generation device).

Note: When indoor fan motor does not work, the unit will automatically turn off negative ion generation device.

About Health operation

After the start of Health operation, the negative ion generator will generate large amount of negative ion, which can effectively balance the amount of positive & negative ion in the air and has the bacteria-killing and accelerating the dust deposition of the room to make the room air fresh and healthy.

Fresh Air operation

After turning on the unit and set the desired working mode (the remote controller LCD and control panel LCD display the working mode).

Press the Fresh Air button of the remote controller, the LCD displays " ", and the unit begins continuous fresh air operation; press the button again, the " " in " " flashes and begin automatic fresh air operation. Press the the button for the third time to cancel fresh air function.

Continuous fresh air operation: That is to say, if there is no intervention, the fresh air operation will contiunously run and not stop.

Automatic fresh air operation: That is to say, the fresh air operation runs intermittently. After 20 minutes operation, the fresh air operation will stop for 20 minutes; runs for another 20 minutes, it will stop for another 20 minutes, repeatedly runs.

Note: Either in ON or OFF state, the fresh air operation can be independently set to run.

About Fresh air operation

The ventilation device of this air conditioner can discharge the indoor air to outdoors, while the outdoor fresh air supplement to indoors, so that fulfills the fresh air function

Infrared controller YR-H71 and remote receiver RE-01:

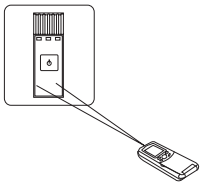
If the unit is wired type and it is without the remote receiver, you can use the remote receiver RE-01 and the remote controller YR-H71 to realize the remote function. The installation of remote receiver and usage function are as follows:

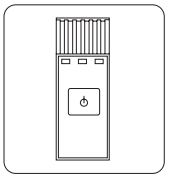
The right figure is a remote controller, which can be used on series remote control units and the matching remote control receiver

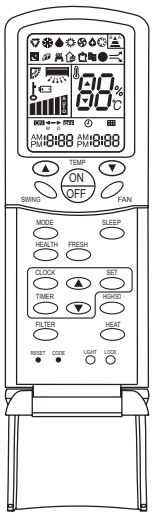
1.Remote control receiver using method :

Use remote controller control the remote control window of the remote control receiver.

2.For Unitary Free, Unitary Smart and Multi units, the controller CODE please select code "A"; for H-MRV and ASX ABAA unit, please select code "B".**







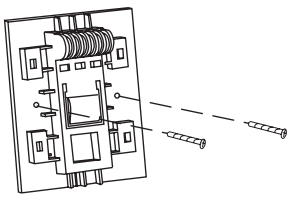
Remote receiver Remote controlller

Installation of receive display

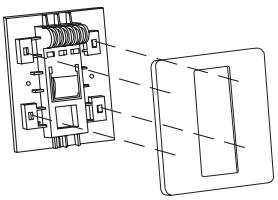
Because of the temperature sensitive device, do not install the receive display at straight sunlight place, either in front of air outlet grill, for it is effected greatly from cool air and heat air, the receive display is at least 20mm distance to the air outlet grill.

Since there is light sensitive device which receives wireless remote signal, so do not installed behind the window curtain or other obstacles, in order not to obstruct the signal.

Must fix the remote control wire far from strong electricity (such as the wiring of electric light, air conditioner, etc.) and weak electricity (such as the wiring of telephone, interphone, etc.).



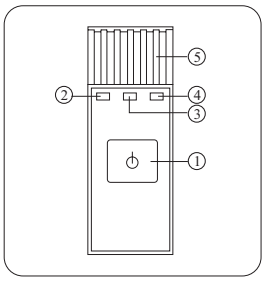
1.Fix the receive display with screws on the selected place



2.Place the panel onto the fixed frame, pay attention that the four claws must be placed into the corresponding four poles on the frame

Connecting wiring method of receiver :

- Refer the indoor unit wiring diagram .
- Safety cautions see the electrical wiring part .



①.Emergency switch

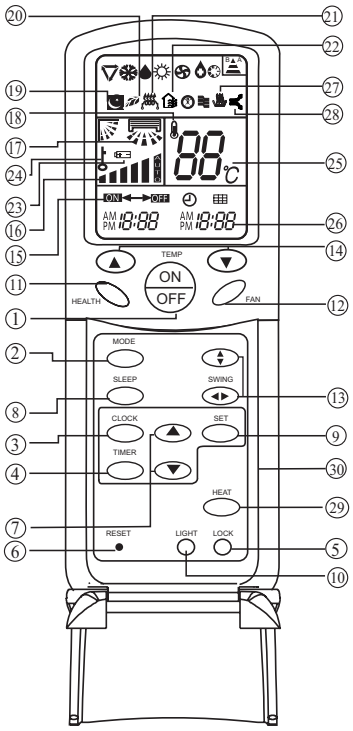
②.Running lamp: When the compressor working, this lamp bright.

③.Timing lamp: When the unit been setting Timing running, this lamp bright.

④.Power lamp: After open the unit, this lamp bright when the unite enter health running, the lamp change from orange to blue lamp.

⑤.Indoor temp. sensor: Test the room temperature.

1.2 Infrared controller YR-H50



Except [SWING][POWER/SOFT][HEAT] function, the other basic functions are same with YR-H71, please reference YR-H71 manual.
[Swing] function description:

Air flow adjustment

Swing louvers
Up and down
(Horizontal louvers)

Position 1
Position 2
Position 3
Position 4
Position 5 [COOL/DRY/FAN/AUTO(COOL) HAVE NOT]
Position 6 (AUTO SWING)

Left and right
(Vertical louvers)

Position 1
Position 2
Position 3
Position 4
Position 5
Position 6
Position 7
Position 8

Swing ◄►

- Press SWING ◄► the vertical ouvers move from left and right.

Fixed position ◄►

- Press the SWING ◄► again to fix the vertical louvers at your desired position.

Swing ▲▼

- Press SWING ▲▼ the horizontal louvers move from up to down.

Fixed position

- Press the SWING ▲▼ again to fix the horizontal louvers at your desired position.

⑬SWING
Used to set UP/DOWN air sending and RIGHT /LEFT air sending direction.

㉙HEAT
Select Auxiliary electric heater

㉚POWER/SOFT
Select power/soft

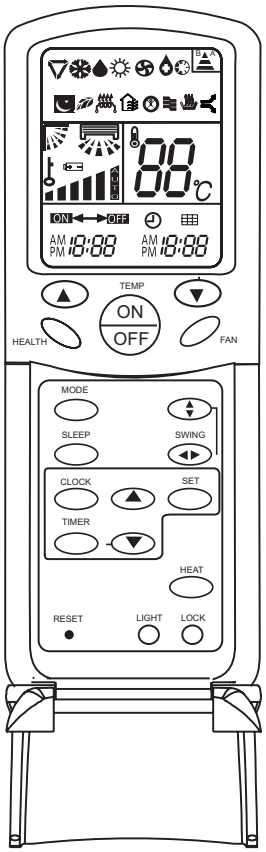
Note: Put louvers at up position in cooling and down position in heating mode. This will be helpful to keep an even room temp.

Note: In cooling or dry operation, don't put horizontal louvers at downward position for a long time, or outlet grill might get frosted. Don't expose your skin to cool or warm air for a long time.

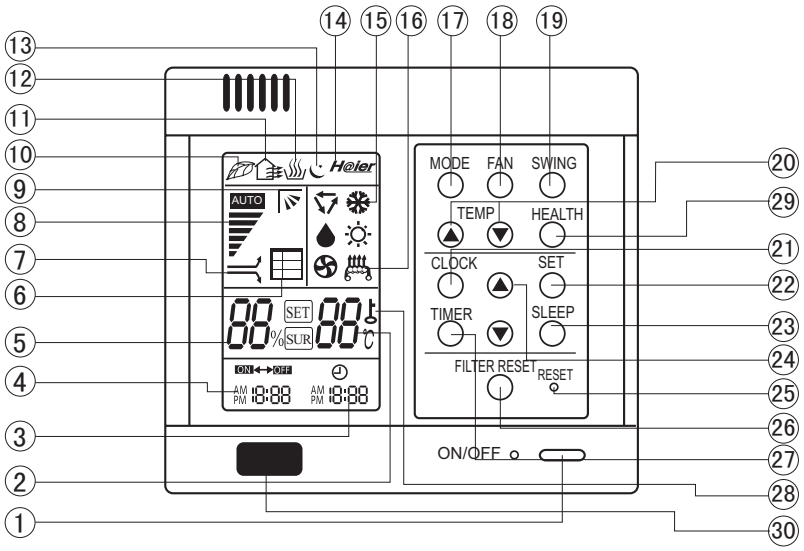
Note: For new apperance convertible unit, the position 3 and position 4 are "Auto Swing".

1.3 Infrared controller YR-H49

The main functions of YR-H49 are same with YR-H50, please reference YR-H71 and YR-H50 manuals.



2. Wired controller YR-E06



1.ON/OFF button
Used to turn on/off unit

2.Temperature display

3.Clock display

4.Timer ON/OFF display

5.Humidity display

6.Air filter cleaning display
When there is too much dust collected on the air inlet, the wire controller will show this display to remind theuser to clean the air inlet.After cleaning and installation, just press the air filter reset button.

7.Super/Soft operation display

8.Fan speed display

9.Auto Swing display

10.Health state display

11.Fresh air state display

12.Humidifying state display

13.Sleep state display

14.Network control display

15.Working mode display

Working mode	Auto operation	Cooling operation	Dehumidifying operation	Heating operation	Fan operation
Wire controller					

16.Electric heating display

17.Operation mode button
Used to set working mode: Auto, Cooling, Dehumidifying, Heating, Fan

18.Fan speed button
Used to set fan speed: Low Fan, Med Fan, High Fan, Auto

19.Swing button
Used to set Auto Swing or Fixed air sending direction

20.Temperature Setting button
Used to set temperature, ° temperature range: 16 C~30 C

21.Clock button
Used to calibrate the time of timer and clock

22.Setting button
Used to confirm the time of timer and clock

23.Sleep button
Used to set Sleep state

24.Time Adjusting button
Used to adjust the time of timer and clock

25.Reset button
When the wire controller appears abnormal condition, use a sharp-pointed article to press this button to make the wire controller resume normal

26.Air Filter Reset button
After cleaning the air inlet, press this button, the unit can start to operate

27.Timer button
Used to set the mode of timer

28.Lock state display

29.Health
Used to control the generating oxygen function and negative ion-function

30.Remote control window
Used to receive the remote control signal

Note: 1.This model does not have the following related display and function ⑤⑥⑦⑨⑪⑫⑭⑯㉖
2.The outdoor unit no oxygen-bar function or no negative ion unit no ⑩㉙ health function and health display.

Calibration of clock

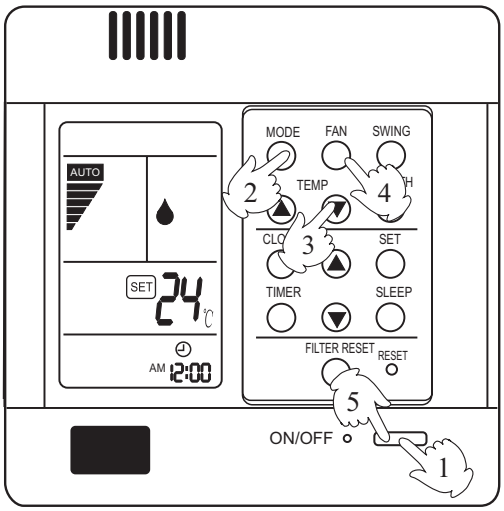
When turning on the unit for the first time, the clock should be calibrated. The method of calibration is:

1.Press "Clock" button, the Clock display " AM" " PM" will flash.

2.Press ▲ or ▼ to adjust time. For each press, the time will increase or decrease 1 minute. If depressing the button, the time will increase or decrease rapidly.

3.After confirming the time, press " Set" button, " AM" or " PM" will stop flashing,the clock will begin to work.

Recommendations
- Use COOL in summer.
- Use HEAT in winter.
- Use DRY in spring,autumn and in damp climate.



(1) Unit

Press ON/OFF button, unit starts.
Previous operation status appears on display (Not Timer setting). Power indicator lights up.

(2) Select operation

Press MODE button. For each press, operation mode changes as follows:

Unit will run in operation mode displayed on LCD.Stop display at your desired mode.

(3) Select temp.

Press TEMP button

▲Every time the button is pressed, temp. setting increases°1 C.
If button is kept depressed, temp.setting will increase quickly.

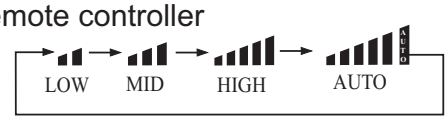
▼Every time the button is pressed, temp. setting decreases°1 C.
If button is kept depressed, temp. setting will decrease quickly.
Unit will start running to reach the temp. setting on LCD.

(4) Fan speed

Press FAN button. For each press, fan speed changes as follows:

Wire controller

Remote controller



Unit runs at the speed displayed on LCD.In HEAT mode, warm air will blow out after a short period of time due to cold-draft prevention function.
In DRY mode, when room temp. becomes 2 C higher than temp. setting, unit will run intermittently at LOW speed regardless of FAN setting.

(5) Unit stop

Press ON/OFF button.
Only time and room temp remains on LCD.
All indicators go out.
Vertical flap closes automatically.

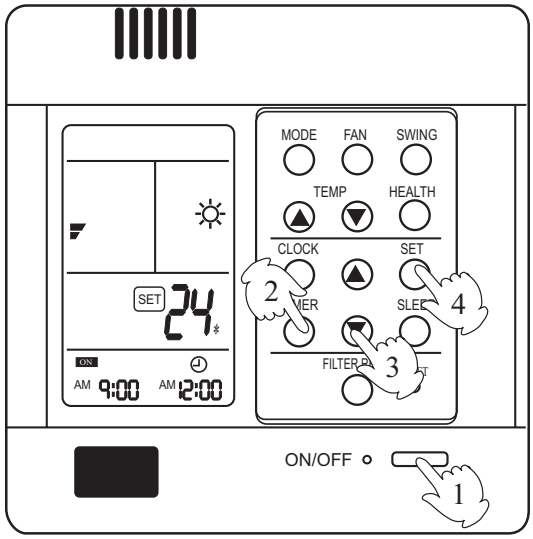
Hint
Wire controller can memorize each operation status.
When starting it next time, just press ON/OFF button and unit will run in previous status.

- Auto running: During the Auto running mode, air conditioning running and can auto-select the cooling,heating, fan mode according to the room temperature.
- Fan running: The AC only have air supply running no cooling and heating running at the condition, AC can't have auto air supply running, and can't display the setting temperature value on the LCD.
- During the heating running, after start the AC, in order to prevent cooled air, AC can stop for a while before send heat air.
- During the dehumification running, when the room temp. setting temp. , not setting condition according to the air speed.

Set Clock correctly before starting Timer operation.

You can let unit start or stop automatically at following time: Before you wake up in the morning, or get back from outside or after you fall asleep at night

TIMER



(1)After unit start, select your desired operation mode.

Operation mode will be displayed on LCD.Power indicator lights up.

(2)TIMER mode selection

Press TIMER button to change TIMER mode.Every time the button is pressed, display changes as follows:

Select your desired TIMER mode (ON or OFF)

(3)Timer setting

Press TIME ▲/▼ button.

▲ Every time the button is pressed, time increases 10min.If button is kept depressed, time will change quickly.

▼ Every time the button is pressed, time decreases 10min.If button is kept depressed, time will change quickly.

Time will be shown on LCD. It can be adjusted within 24hours.

(4)Confirming your setting

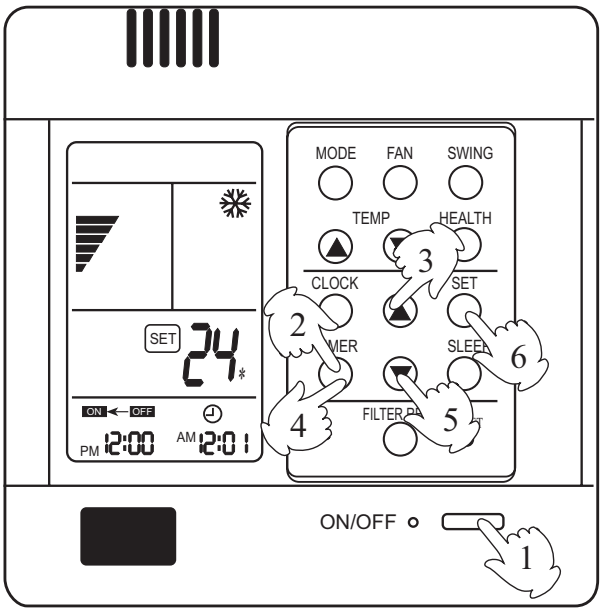
After setting correct time, press SET button to confirm "ON" or "OFF" stops flashing.
Time displayed: Unit starts or stops at x hour x min (ON or OFF). Timer mode indicator lights up.

To cancel TIMER

Just press TIMER button several times until TIMER mode disappears.

■ According to the seting timing open, close sequence, can realize first open then colse the unit or first close then open the unit.

Hints:
- Wire controller possesses memory function, when use TIMER mode next time, just press SET button after mode selecting if timer setting is the same as previous one.
- Wire remote controller or remote controller can memorize each working condition. Next time open the unit, only need to press the ON/OFF key, the AC can work according to last time working condition.(Timing, Sleeping and Swing mode not included.)
- From Timing close to timing open, can setting sleep mode.
- Please close health function first before setting Timer, then you can do the TIMER ON operation.Please do not use the health function when in TIMER ON state.



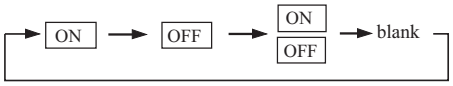
TIMER ON-OFF

(1)After unit start, select your desired operation mode

Operation mode will be displayed on LCD. Power indicator lights up.

(2) Press TIMER button to change TIMER mode

Every time the button is pressed, display changes as follows:



Select $\frac{\text{ON}}{\text{OFF}}$.

(3)Time setting for TIMER ON

Press TIME button.

▲ Every time the button is pressed, time increases 10min.If button is kept depressed, time will change quickly.

▼ Every time the button is pressed, time decreases 10min.If button is kept depressed, time will change quickly.Time will be shown on LCD.It can be adjusted within 24hours.

AM refers to morning and PM to afternoon.

(4) Time confirming for TIMER

After time setting, press TIMER button to confirm."ON" stops blinking, While "OFF" starts blinking.
Time displayed: Unit starts at Xhour X min.

(5)Time setting for TIMER OFF

Follow the same procedures in "Time setting for TIMER ON".

(6)Time confirming for TIMER OFF

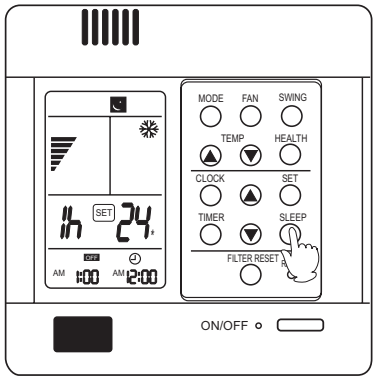
After time setting, press SET button to confirm"OFF" stops flashing.
Time displayed: Unit stops at X hour X min.

To cancel TIMER mode

■ Just press TIMER button several times until TIMER mode disappears.

■ According to the Time setting sequence of TIMER ON or TIMER OFF, either Start-Stop or Stop-Start can be achieved.

Note: Before using this function, must adjust the clock, or the sleep function will be disordered.



Comfortable Sleep

At night, before going to bed you can press down the SLEEP button on the controller and the air-conditioner will run by the comfortable sleeping mode to make you sleep more comfortable.

Press SLEEP button once to make the air conditioner have the pre-set sleep time (first power-on is "1h"), the sleep symbol will appear. Press time button▲/▼ , you can shoose the time in 1~8 hours. Each press of ▲/▼ , the time increases/reduces 1hour and "xh" appear in the humidity setting area, "OFF" appears in "TIMER OFF" display area and timer-off time; press SLEEP button again to cancel sleep function, the sleep symbol disappears.

In cooling, dehumidifying mode

One hour after sleeping operation start, the temp. is 1℃ higher than the setting one. After another hour the temp. rises 1℃ and then run continuously for another 6hrs' and then close. The actual temp. is higher than the setting one which is to prevent from being too cool to your sleep.

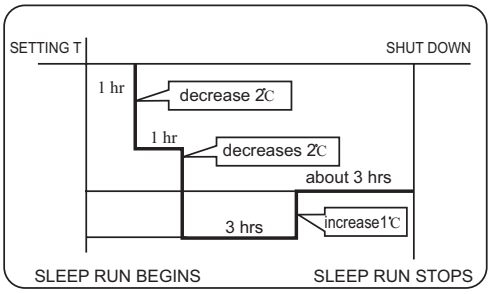
In heating mode

One hour after start up, the temp. decrease 2℃ lower than the setting one. After another hour decrease by more 2℃.

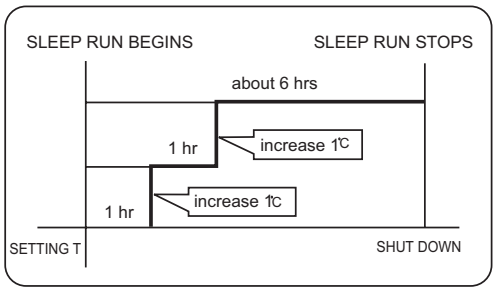
The temperature will automatically rise by 1℃ after another 3hrs' operation, and then automatically close after 3hrs' continuous operation. The actral temperature is lower than the setting one which is to prevent from being too hot to your sleep.

Note: In AUTO mode, unit will run in SLEEP function according to the operation mode.
After setting SLEEP function, it is forbidden to calibrate clock.
If the set sleep-time does not reach 8 hours, the unit will stop operation automatically after set time is complete.
Set "TIMER-OFF" function first, then set SLEEP, and the sleep-set is performance; set TIMER-ON function first, the sleep function can only be set before TIMER-ON; if set theSLEEP function first, the TIMER function can not be set.

- After setting sleep function, not allowed to adjust the clock. Can't use the remote controller operate the AC. If so, please cancel the sleep function first.
- After setting sleep function, can't set the timing function.



Heat mode



Cooling mode

Auto restart function (to be applied for a necessary situation) :
After the auto-restart function is set, if power failure suddenly occurs while the air conditioner is working, it will resume the previous working state when the power is supplied again.

Setting Method: When the remote controller is on (excluding timer mode and fan mode), press the "SLEEP" button on the remote controller 10 times within 5 seconds, and after the buzzer rings 4 times, the air conditioner will enter the state of auto-restart function.

Cancel Method: Press the "Sleeping" button on the remote controller 10 times within 5 seconds, and after the buzzer rings 2 timer, the power failure compensation mode will be cancelled.

Notes: When a power failure suddenly occurs during the air conditioner is working after the power failure compensation is set, if the air conditioner will not be used for a long time, please cut off the power supply to prevent its operation from being resumed after the power is supplied again, or press the "Switch On/Off" button after the power comes again.If the controller no sleep key ,use the "swing" key instead the "sleeping" on setting the auto restart function.

Concerning MRV Auto Restart function for H-MRV models

Haier Auto Restart function when the unit power drops down suddenly, the unit microprocessor will store the previous working condition and when the power is on again, the unit will run as this memory.

Auto Restart function is designed basically on the MRV whole system, but it is suitable for each indoor unit individually.

If some of indoor units power cut down, but the outdoor unit and the other indoor units still work, maybe problems will happen such as freezing at cooling mode and overload protection at heating mode on those indoor units without power.

Reason

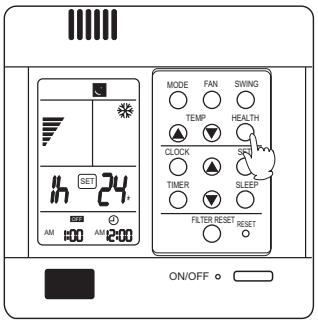
When one or some indoor units power drops down and the other indoor units are still work, the indoor units without the power, will keep the previous working condition before the power is off. And expansion valve keeps open at a kind of opening rate condition as the previous requirement, so there is refrigerant flowing in the exchanger, but the indoor fan stops working. If the units work at cooling mode, the indoor units without the power will maybe make freezing. If the unit works at heating mode, maybe the outdoor unit compressor will stop because of the pressure or temperature protection. This is our design basically on Auto Restart function currently.

Haier, Herewith, solemnly informs our customers, installers, distributors, etc. **when making installation, please make sure when the power is shut down whether artificially or accidentally, the whole system including outdoor unit and all the indoor units must be off. If you do not make the installation as our indication, Haier will not be responsible for any problem resulting from this.**

User Caution

About the remote cnotrol operation, above only take wired remote controller and remote controller as a example about the remote controller and remote receiver use method, it is the same remote controller , please use refer to above method.
No sleep function when use remote and remote receiver.

About health function

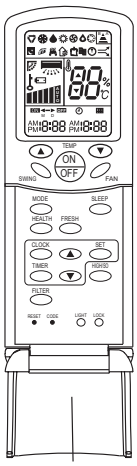


1.How to use the health function (only for units with this function)
After set the right function mode, press health button, remote controller or wire controller displays "🍃",oxygen pump or negative ion generator starts up to apply oxygen or negative ion to indoor unit. Press the button again,the sign "🍃" disappeared and negative ion generator stops working. After all health function of the indoor unit being fully canceled, oxygen pump stopped.

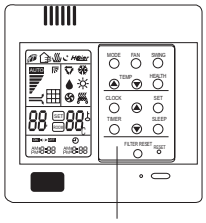
CAUTION:
When the temperature of the outdoor unit is lower than 4℃ , oxygen pump is automatically stopped, if press health button just then, oxygen pump could not start up. But if the air conditioner has the negative ion function simultaneous,when press the health button, negative ion function could still be operated. When the temperature of the outdoor unit is higher than 6℃ , oxygen pump could automatically resume to oxygen-make function.

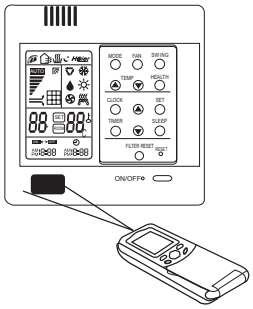
■ On the "Health" mode, if you want to setting timing open mode, should close the health first: On the timing open mode, please don't use health function.

For wired type indoor unit, the wired controller can be matched with the remote controller YR-H71 to realize the remote control function.



Left picture is a wired remote controller, which can be used on Series wired control units ,The remote controller can be purchased extrally.
Wired remote Controller using method:
1.Use one wired remote controller. See fig (1)
2.Also can buy a remote controller extrally, realize wired remote control + remote control dual control modes.
3.When the remote controller can be used on series wired remote controller units ,than please press the botton "CODE"to choose the program of code "A"

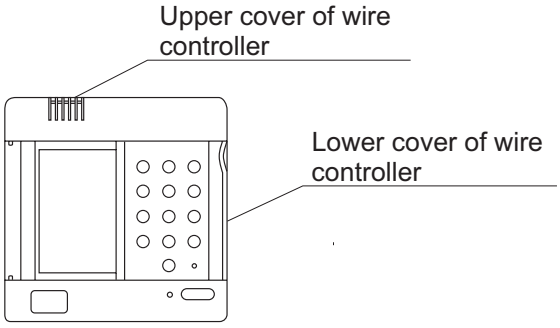




1. Remove upper cover of wire controller

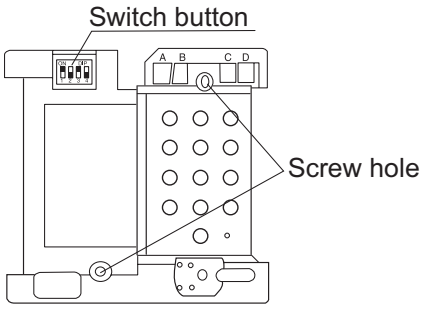
Remove upper part of wire controller by press.

PCB is mounted on lower part of wire controller, be careful not to damage it.



2. Install the wired remote controller

Please drill two holes on the wall according to the back cover screw hole position of the wire remote controller, then strike the wood block to the holes respectively, then align the 2 screw hole of the wire controller back cover to the wood block, fasten the wire reote controller to the wall use wood screws.



3. Switch setting

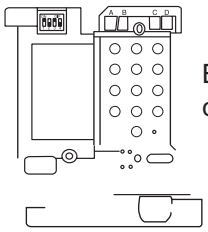
The switchs setting as follows:1.ON 2.OFF 3.ON 4.OFF

Note

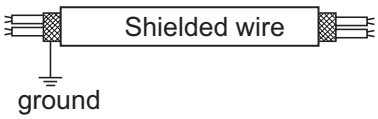
Try as far as possible a flat surface for installation.
Don't use excessive force when tightening screws, or lower part might got deformed.

4. Connecting method as the following chart

No	Symbol	colour	contents
1	A	White or Green	12V
2	B	Red	Gnd
3	C	Yellow	COM
4	D		



- Use shielede wires for telecommunication between wire controller and indoor unit; indoor unit and outdoor unit. Ground the shield on one side.
- Otherwise misoperation because of noise may occur.
- Signal wire is self-provided by user.



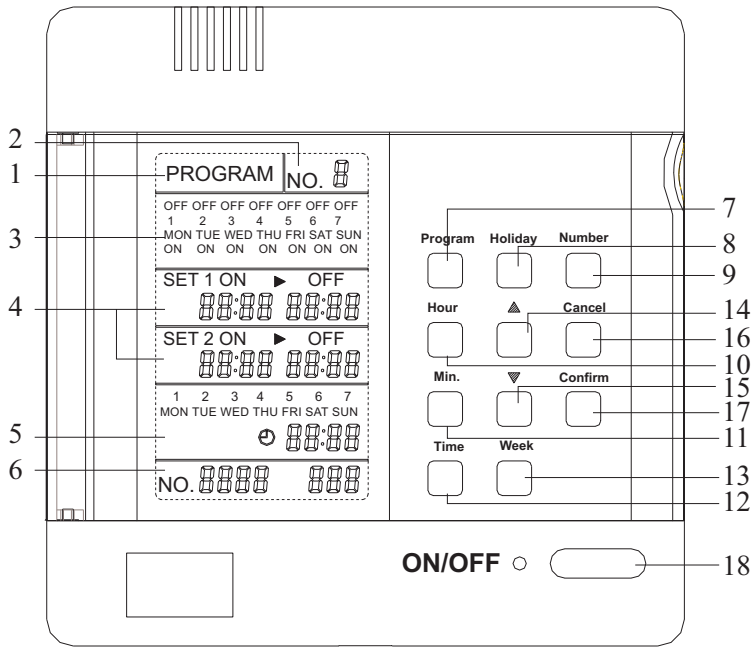
5. Replace the upper cover of wire controller

Be careful not to hold down the wiring.

Hint 1. Power supply switch and signal wire should be prepaired by the user.

2. Don't touch PCB with hand.

3. Weekly timer YCS-A001



Instruction:

1 - PROGRAM-the display shows the weekly timer timing setting state, and in setting state, the timing information can be adjusted.

2 - No:8-timing group number: when it is not set timing, there is no timing group number; after setting timing, it will automatically form a group number according to each kind of setting combination, so that in the sequent timing setting, it can execute instant setting by using timing group number.

3 - Setting state and holiday functional area-1 (MON), 2 (TUE), 3 (WED), 4 (THU), 5 (FRI), 6 (SAT), 7 (SUN) are used to indicate the 7 days in a week; the symbol of this part will display after powered on; after set the corresponding weekday's timing function, the ON symbol under the corresponding symbol will display, if not set timing, there will be no display; if not set Holiday function, the OFF symbol on the upside of the indicating symbol will not display, after set Holiday function, the OFF will display and at the same time temporarily the previous timing setting and turn off the air conditioner.

4 - No. 1 group and No.2 group timing setting display area-when entering timing setting state, the contents of timing will flash; choose Date, Hour and Minute to perform increase and decrease adjustment by the adjusting key.

5 - Time display area-including display the weekday, hour and minute; before setting timing function, please calibrate the current clock.

6 - Unit number trouble code display area-when the air conditioner in the control network has trouble, the corresponding unit number and the trouble code will display in this area.

7 - Program
Enter or exit the timing setting in normal condition,

8 - Holiday
Close the units and invalid for timing in no affect on the timing setting condition.

9 - Number
Group setting and timing setting (take one day as a standard unit)

10 - Hour
Timing setting condition and time setting condition ,select the adjustment

11 - Min.
Timing setting condition and time setting condition ,select the adjustment

12 - Time
Enter and exit the at present date and time condition in normal condition

13 - Week
Timing setting condition and time setting condition ,select the adjustment

14 -Timing setting condition and time setting condition , increase the setting parameters

15 -Timing setting condition and time setting condition , decrease the setting parameters

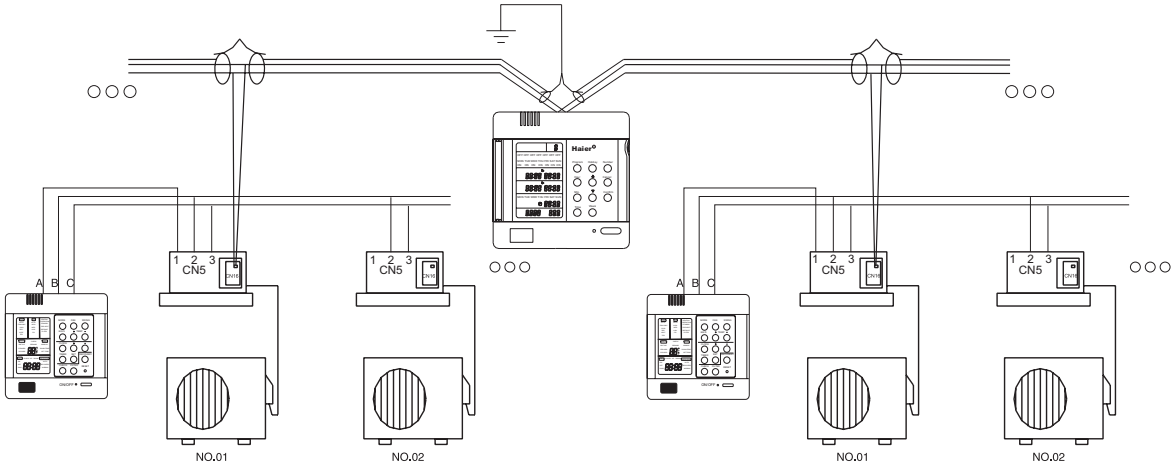
16 - Cancel
Cancel the present setting before confirm the parameter.

17 - Confirm Confirm the parameter.

18 - ON/OFF Open/close the unit.

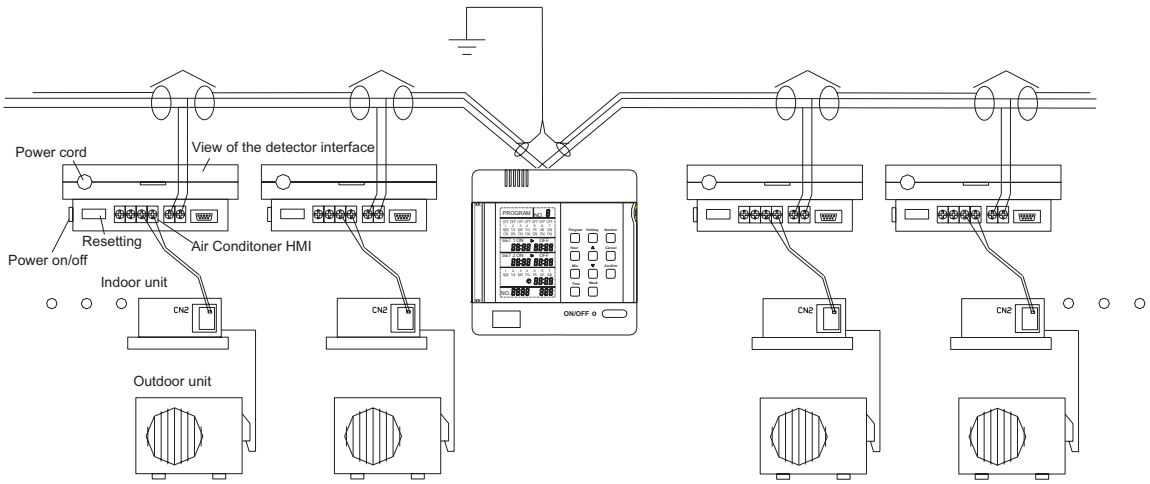
Connecting method

1. Use group controller and weekly timer to realize the group control function + weekly timing function, applicable for the units except for the unit which needs detector to realize the weekly timer function, such as cabinet type, console type.



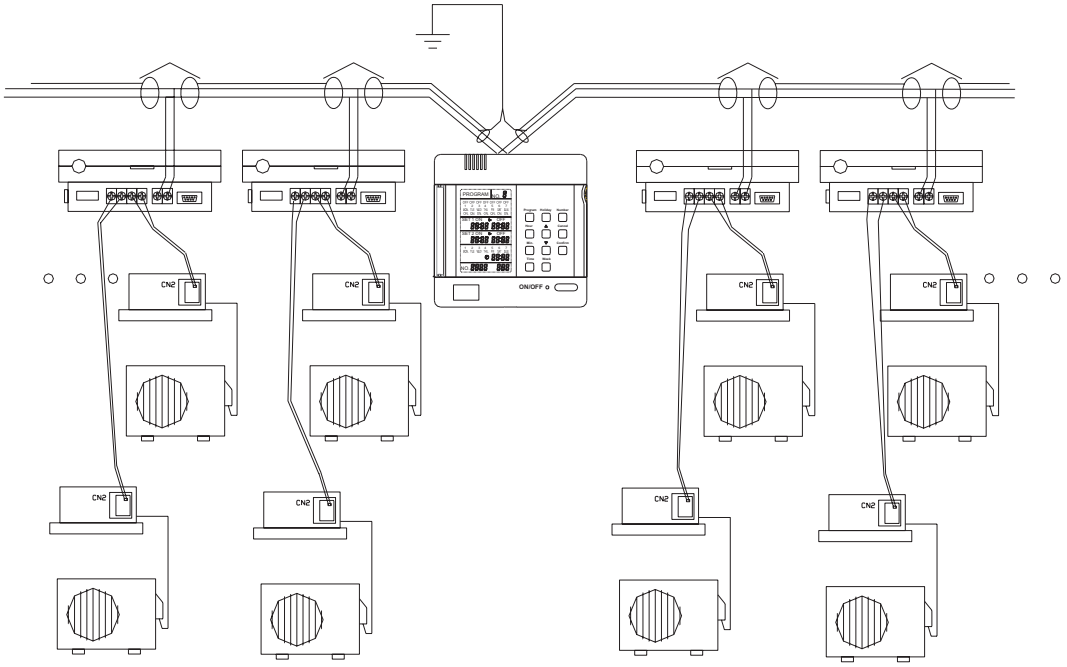
2. Use weekly timer to realize weekly timing function,applicable for the units which need detector to realize the weekly timer function, such as cabinet type, console type.

The detector is connected with one air conditioner by the 4-core screw fixed terminals A+ and A- of air conditioner interface, then accordingly set the dial-code switch of the detector in single unit working mode; the address number setting shall be performed according the planned program, for specific setting and corresponding address, please refer to the dial-code switch setting in detector's operation manual; use weekly timer to fulfill weekly timing function, the system needs to be connected with weekly timer; each detector and weekly timer is connected with shielded twisted pair communication bus by the 2-core screw fixed terminals (A and B) of its RS-485 interface; the communication bus must be shielded and grounded, and the resistors in its two ends shall be suited.

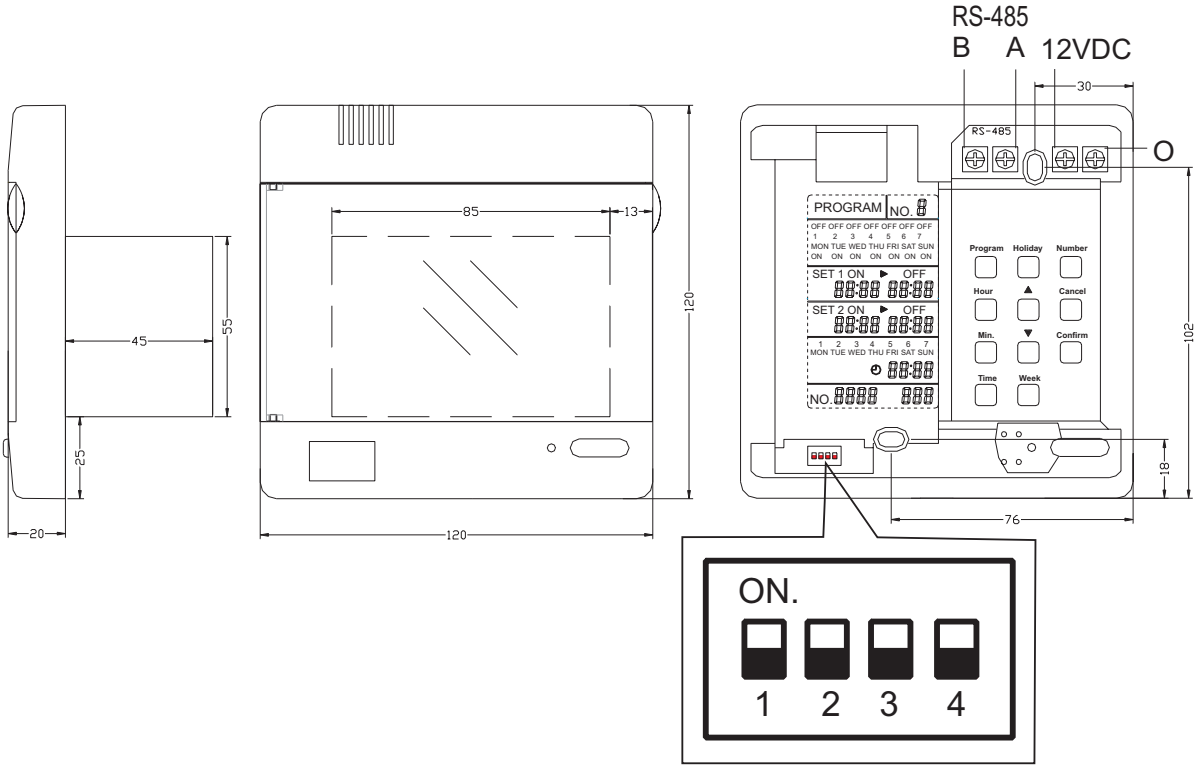


3. Use weekly timer to realize two units auto-changeover function,applicable for the units which need detector to realize the weekly timer function, such as cabinet type, console type.

The detector is connected with two same model air conditioners by the 4-core screw fixed terminals of air conditioner interface; then accordingly set the dial-code switch of the detector in double units working mode, and the double units switch time is default 24 hours; the address number setting shall be performed according the planned program, for specific setting and corresponding address, please refer to the dial-code switch setting in detector's operation manual; use weekly timer to fulfill double units switch weekly timing function, the system needs to be connected with weekly timer; each detector and weekly timer is connected with shielded twisted pair communication bus by the 2-core screw fixed terminals (A and B) of its RS-485 interface; the communication bus must be shielded and grounded, and the resistors in its two ends shall be suited.

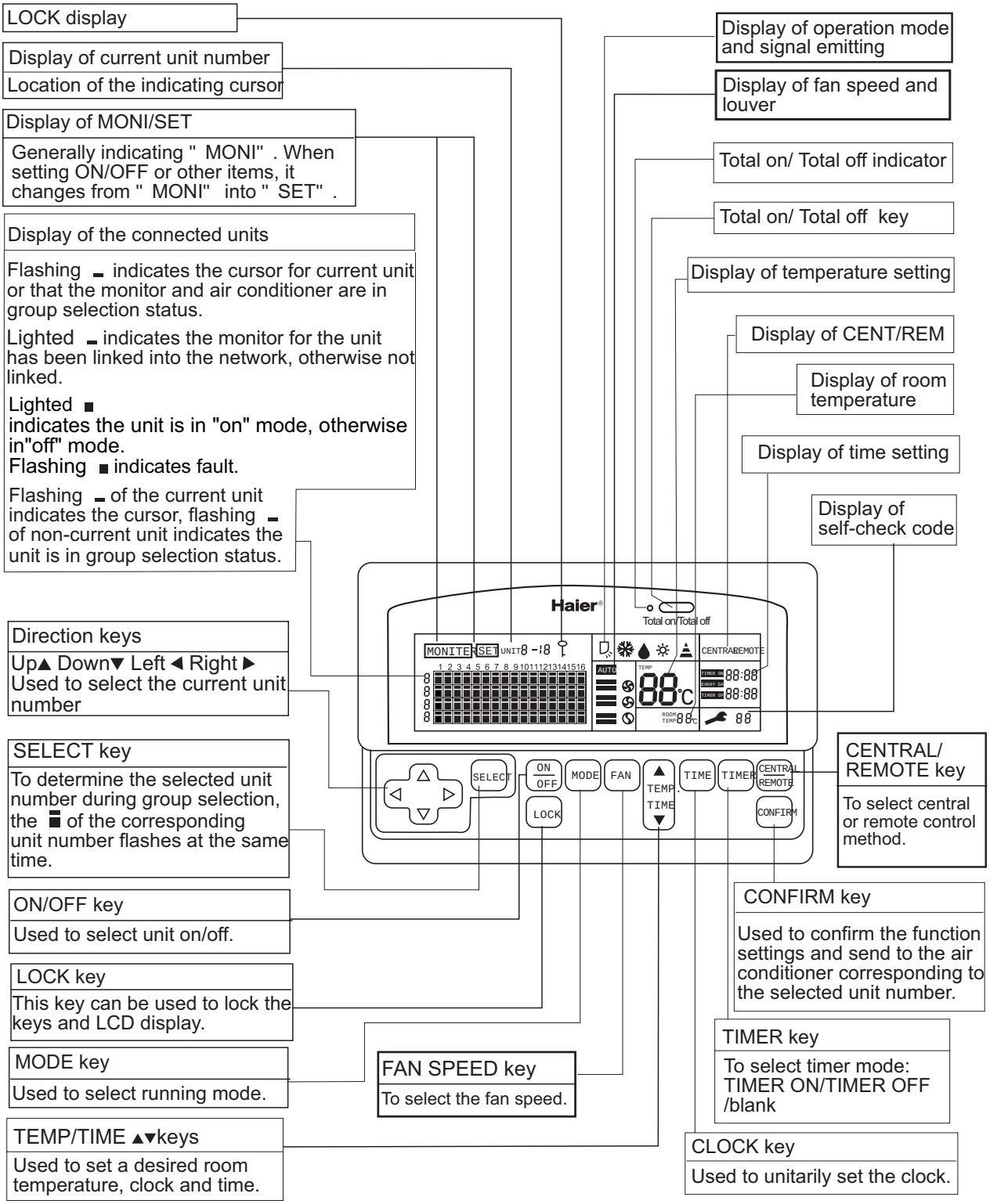


Installation dimensions



4. Central Controller YCZ-A001

Function description:



Note: In MONI mode, pressing SEL, MODE, FAN SPEED, TEMP TIME keys may change the MONI mode into SET mode. If SET key or other keys hasn' t been pressed within 10s, it will automatically return to MONI mode.

1. Communication function

Communicate with the indoor PCB in the group control network

To communicate with the indoor PCB through the R S-485 bus (A, B). The central controller sends commands to and receives response from indoor PCB; communication by address enables sending and receiving control information, work information and fault information between indoor PCB and the central controller.

2. LCD display function:

The LCD could display the fundamental status of air conditioning units (are the units existing? On/off? Fault? Are units group selected? Cursor and the current unit no.);

The LCD can display the working status of the air conditioning unit with the current number (mode, fan speed, temperature setting, room temperature,timer,error code, central/remote control status);

The working status of the central controller (monitor/set status, panel locking status, signaling status).

3. Key input function:

The keys for moving the current unit number cursor and for group selection: ▲,▼,▶,◀, SELECT;

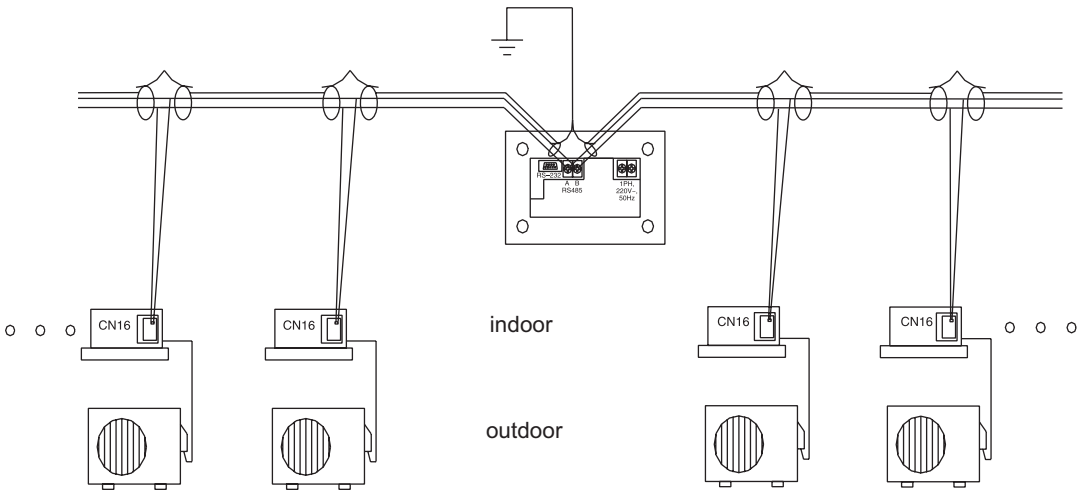
The keys for setting working status of the air conditioning unit and control conditions: ON/OFF, MODE, FAN SPEED, TEMP, TIME▲/▼, CLOCK,TIMER, CENT/REM, SET;

The key for locking key function of the central controller: LOCK.

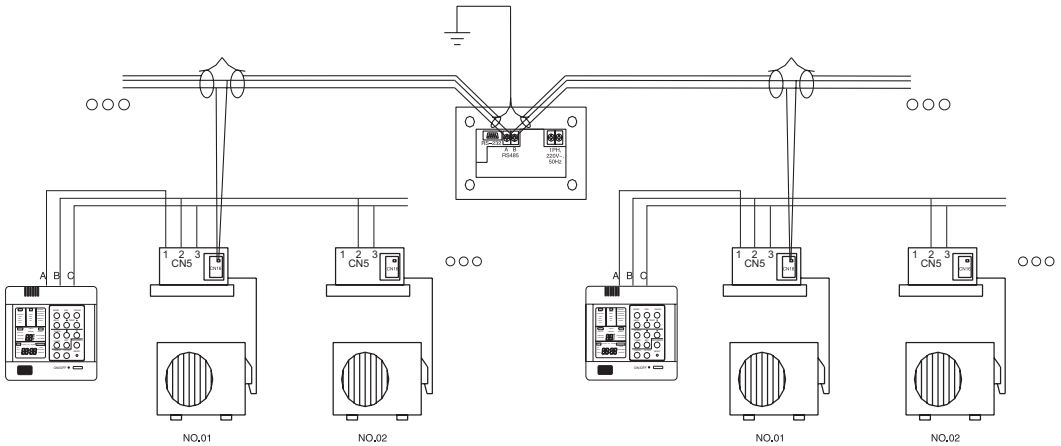
4. Unit number setting function:

To enrich the control functions of Haier commercial air conditioner remote monitoring system, multiple controllers could be set to work together for a combination of multiple functions. For this, the central controller is provided with a two-digital switch for setting controller address.

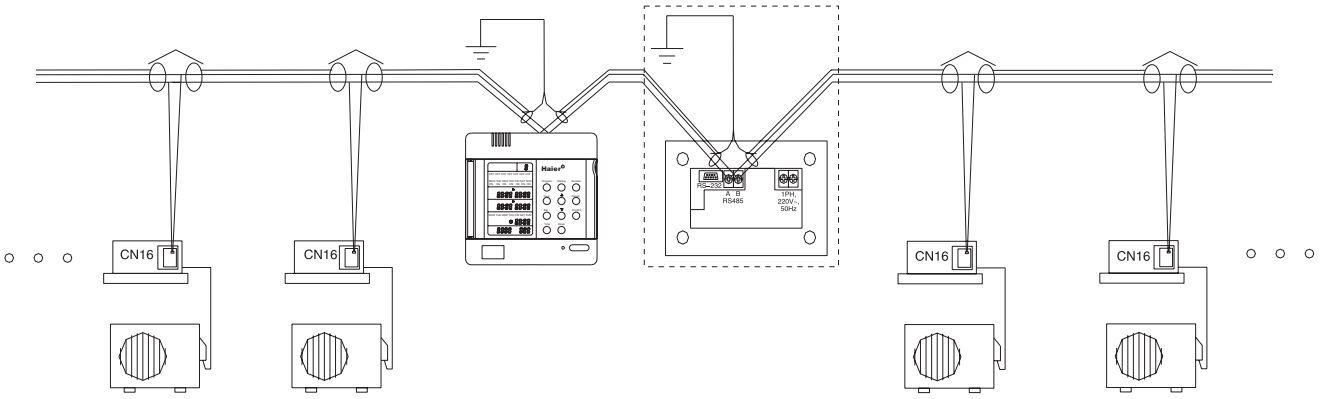
5. Realizing central control function with the central controller(max.128 indoor units can be connected) this type is applicable for the unitary free indoor units except for cabinet type.



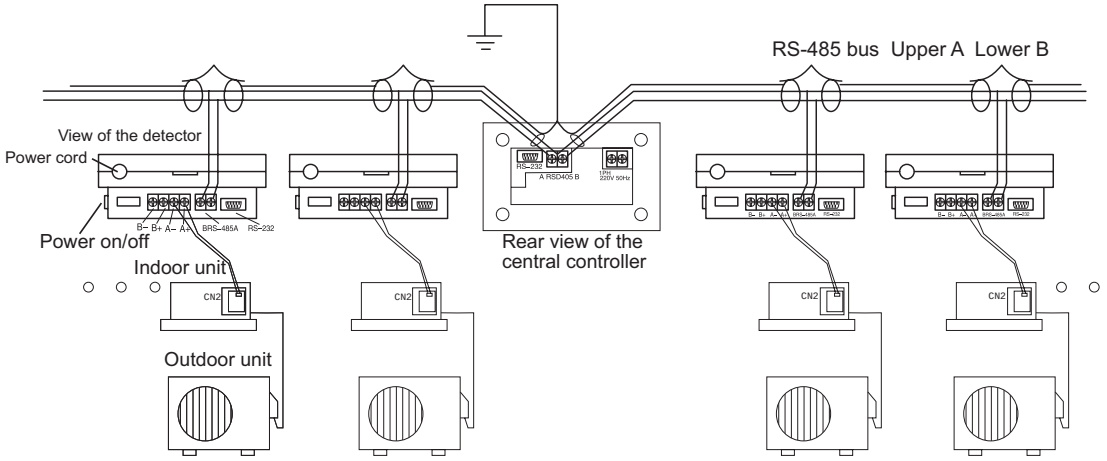
6. Central control system + Group control system(max.128 x16 indoor units can be connected),this type is applicable for the unitary free indoor units except for cabinet type.



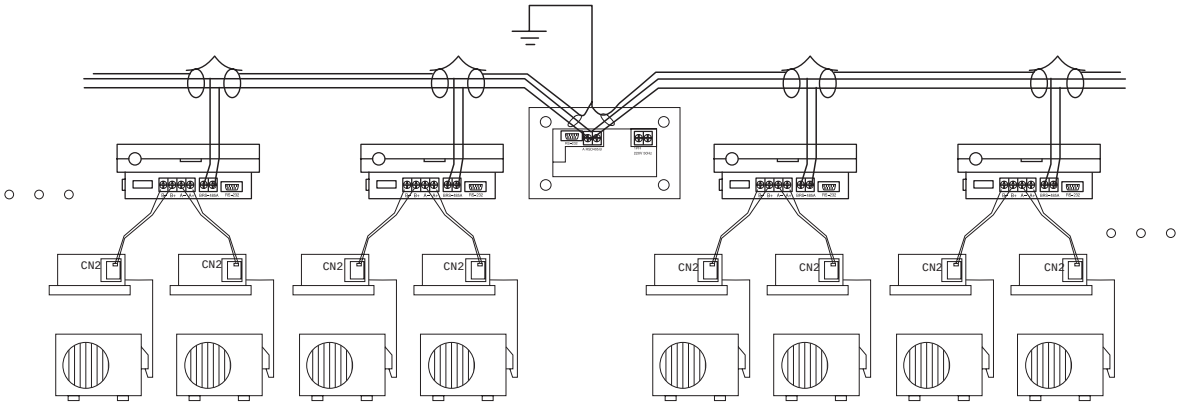
7. Use central controller + weekly timer to realize the group control function + weekly timing function, this type is applicable for the unitary free indoor units except for cabinet type.



8. Realizing group control function with the central controller, for the unit which needs the detector, such as cosole unit, cabinet units.

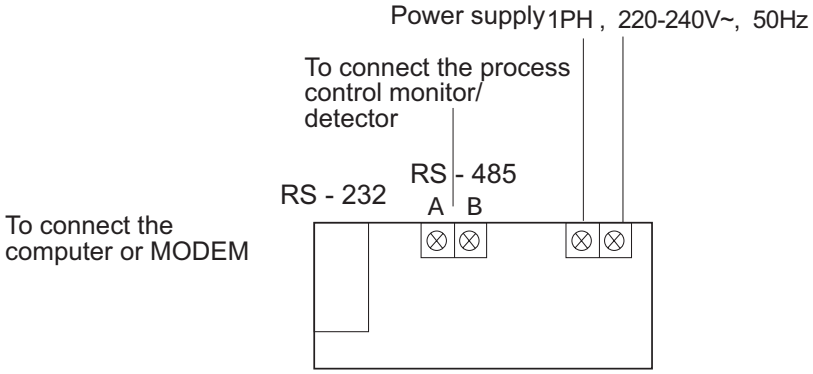


9.Realizing double unit switch-over group control function with the centralcontroller, for the unit which needs the detector, such as cosole unit, cabinet units.



Installation procedure

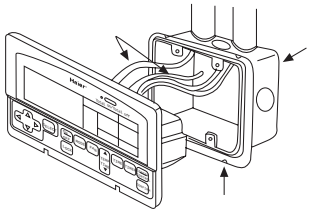
1. Wire connecting

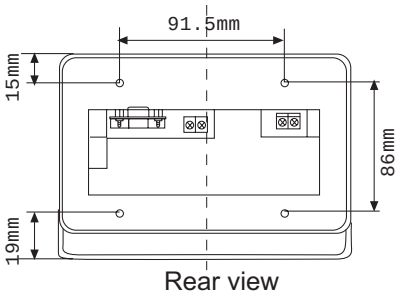


2. Installation method

A wiring box cover must be used.

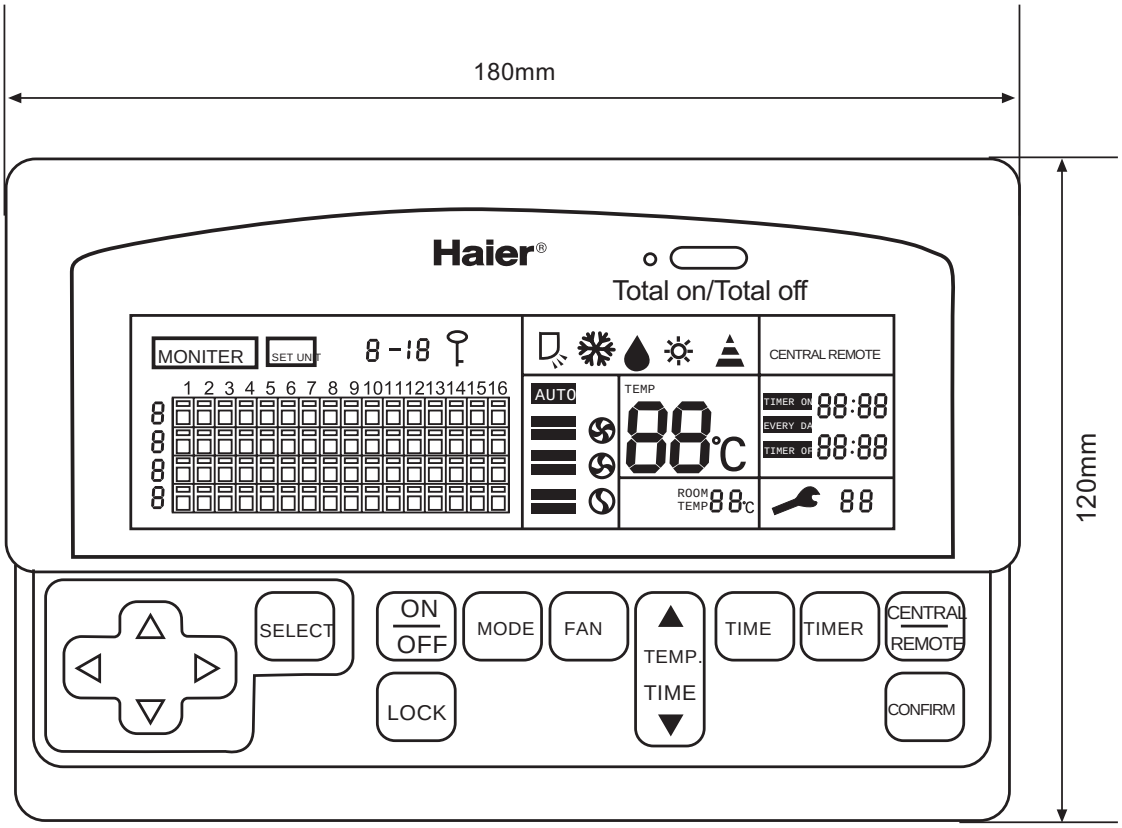
The central controller shall be installed into the installation box built in the wall fastening with 4 screws (as shown).



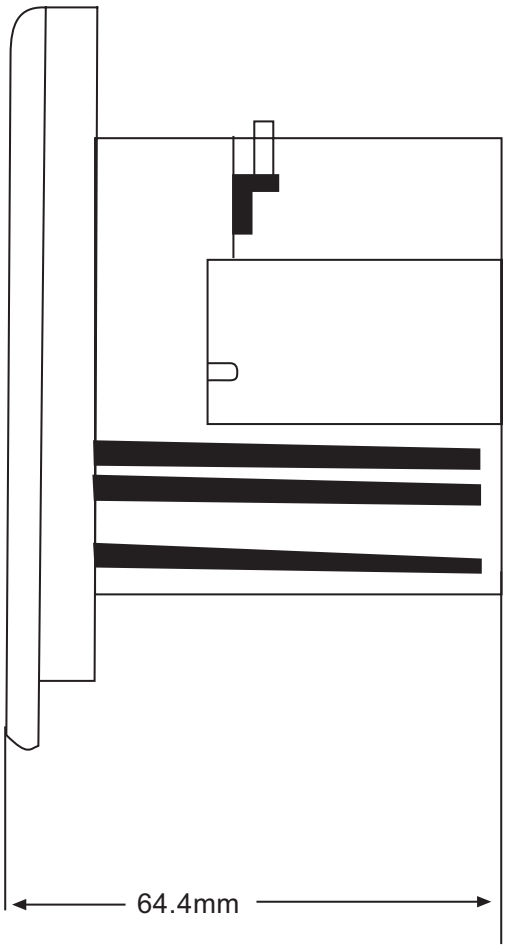


Note: Please confirm the supply voltage of AC220-240V and correct wiring. In application environment with intense electromagnetic interference, the central controller should be shielded, while the connecting wire between the monitor and the central controller should be shielded twin twisted wire.

Exterior dimension



(Fig.1)



As illustrated:
(Figure 1 is the front view and Figure 2 is the side view) The central controller is 180mm long, 120mm wide and 64.4 mm thick.

(Fig.2)

Appendix - Control data

Series	Type	Model	PCB code		controllor code
			indoor	outdoor	
R22 Single split	4-Way Cassette	HBU-18CF03	0010452475	none	YR-H71
		HBU-18HF03	0010452475	none	YR-H71
		HBU-28CF03	0010452475	none	YR-H71
		HBU-28HF03	0010450363	none	YR-H71
		HBU-28CH03	0010452036	none	YR-H71
		HBU-28HH03	0010450363	none	YR-H71
		HBU-42CF03	0010452036	none	YR-H71
		HBU-42HF03	0010452035	none	YR-H71
		HBU-42CH03	0010452567	0010451429	YR-H71
		HBU-42CI03	0010452567	0010451429	YR-H71
		HBU-42HI03	0010452567	0010452441	YR-H71
	Floor Ceiling	HCFU-18CF03	0010400020	none	YR-H71
		HCFU-18HF03	0010400019	none	YR-H71
		HCFU-28CF03	0010451167E	none	YR-H71
		HCFU-28HF03	0010451167E	none	YR-H71
		HCFU-42CF03	0010451167E	none	YR-H50
		HCFU-42HF03	0010451167E	none	YR-H50
		HCFU-42CH03	0010451167E	0010451429	YR-H50
		HCFU-42HK03	0010451167E	0010452441	YR-H50
	Duct	HDU-18CF03	0010400662	none	YR-E06
		HDU-18HF03	0010450010	none	YR-E06
		HDU-28CF03	0010400136	none	YR-E06
		HDU-28HF03	0010450364	none	YR-E06
		HDU-42CF03/H	0010400136	none	YR-E06
		HDU-42HF03/H	0010450364	none	YR-E06
		HDU-42CH03/H	0010452032	0010451429	YR-E06
		HDU-42CI03/H	0010452032	0010451429	YR-E06
		HDU-42HK03/H	0010452032	0010452441	YR-E06
		HDU-50HT03/H	0010400132	0010452441	YR-E06
		AD96NAHAEA	0010400132	none	YR-E06
	Outdoor	AU96NATAEA	/	0010452326E	/
	Cabinet	HPU-42CF03	0010452620	none	YR-H71
		HPU-42HF03	0010451289	none	YR-H71
		HPU-42CV03	0010452322	0010451429	YR-H49
		HPU-42HV03	0010452322	0010452441	YR-H49
		HPU-48HV03	0010452322	0010452441	YR-H49
		HPU-42CH03	0010451432	0010451429	YR-H71
		HPU-42HI03	0010451432	0010452441	YR-H71
		AP96NACAEA	0010452039	none	YR-H71