R410A 50Hz Universal Outdoor Series

(RS485 Communication)

Technical Manual

LCAC/3.0/201408

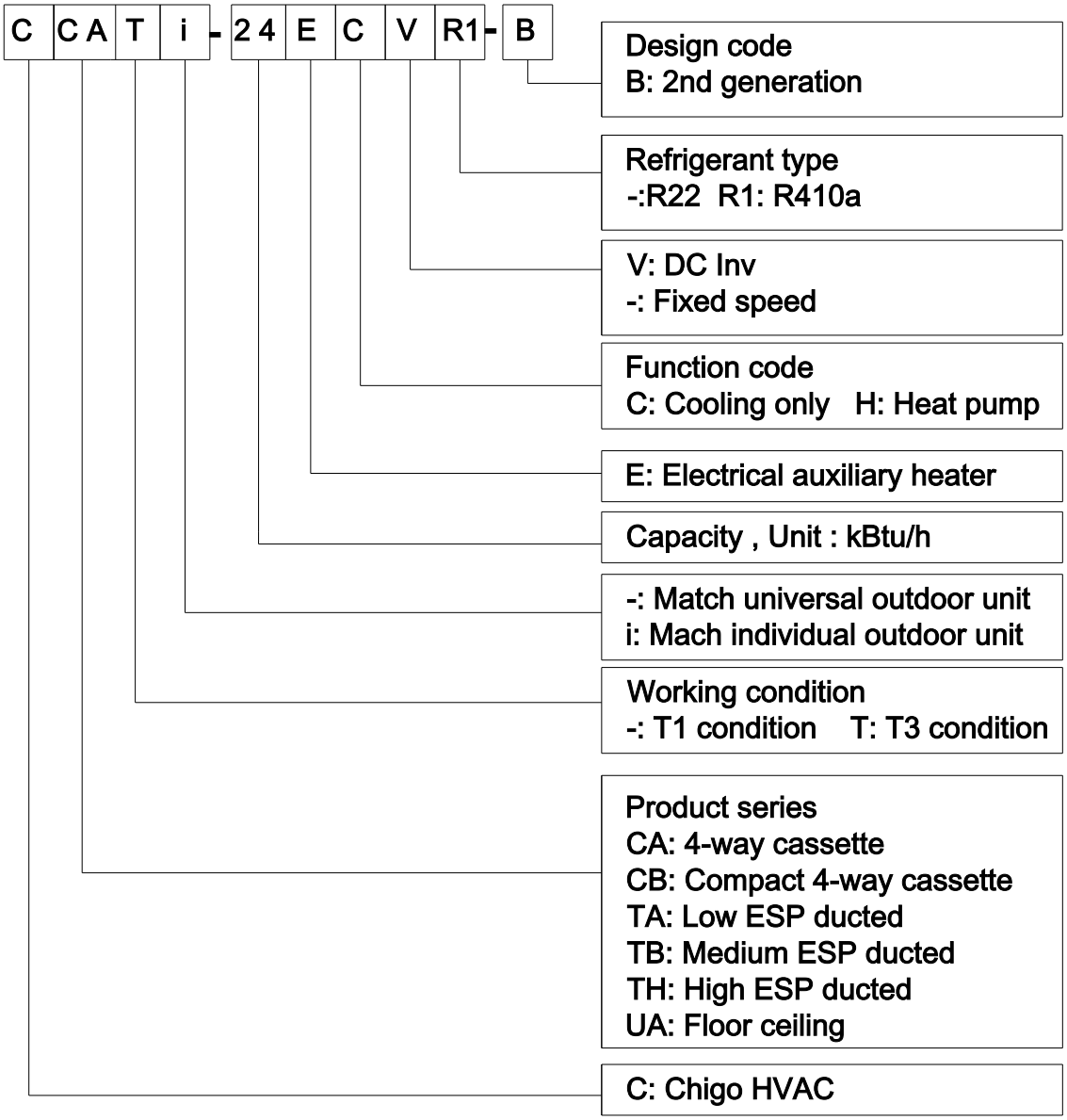
Content

R410A 50Hz Universal Outdoor series

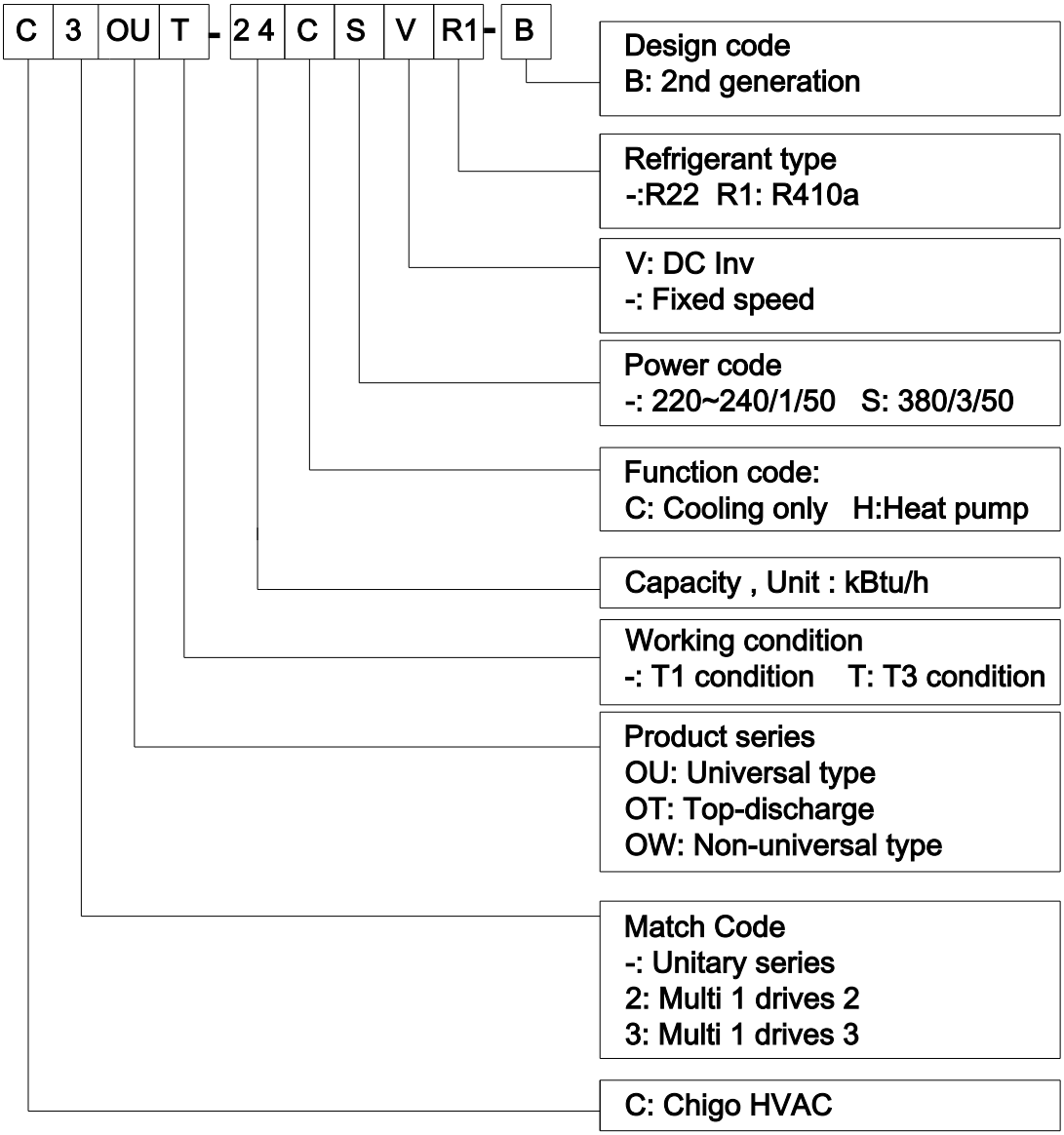
PART 1.General Information

1.Nomenclature

1.1. Indoor unit



1.2. Outdoor unit



2.Model Names of Indoor/Outdoor Units

2.1. Indoor Units

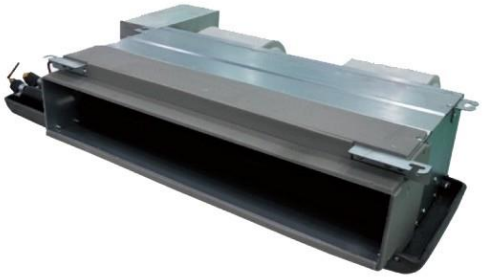
Model name	Dimension (W×H×D) (mm)	Net/Gross weight(kg)	Power supply
CCB-12HR1	580×275×580	25/27	220~240V-1Ph-50Hz
CCB-18HR1	580×275×580	25/27	220~240V-1Ph-50Hz
CCA-18HR1	840×230×840	24/29	220~240V-1Ph-50Hz
CCA-24HR1	840×230×840	24/29	220~240V-1Ph-50Hz
CCA-36HR1	840×285×840	28/33.5	220~240V-1Ph-50Hz
CCA-48HR1	840×285×840	28/33.5	220~240V-1Ph-50Hz
CCA-60HR1	840×285×840	30.5/36	220~240V-1Ph-50Hz
CTA-18HR1	1204×181×510	20/24	220~240V-1Ph-50Hz
CTA-24HR1	1532×181×510	24/27.5	220~240V-1Ph-50Hz
CTB-18HR1	1189×260×643	33/36	220~240V-1Ph-50Hz
CTB-24HR1	1189×260×643	33/37	220~240V-1Ph-50Hz
CTB-36HR1	1425×260×643	44/48	220~240V-1Ph-50Hz
CTB-48HR1	1425×260×643	44/48	220~240V-1Ph-50Hz
CTB-60HR1	1425×260×663	44/48	220~240V-1Ph-50Hz
CTH-48HR1	1175×370×625	45/49	220~240V-1Ph-50Hz
CTH-60HR1	1175×370×625	45/49	220~240V-1Ph-50Hz
CUA-18HR1	880×635×203	30/35	220~240V-1Ph-50Hz
CUA-24HR1	1245×680×247	35/41	220~240V-1Ph-50Hz
CUA-36HR1	1245×680×247	37/43	220~240V-1Ph-50Hz
CUA-48HR1	1670×680×247	47/54	220~240V-1Ph-50Hz
CUA-60HR1	1670×680×247	47/54	220~240V-1Ph-50Hz

2.2. Outdoor Units

Model name	Dimension (W×H×D) (mm)	Net/Gross weight(kg)	Power supply
COU-12HR1	866×535×304	3638	220~240V-1Ph-50Hz
COU-18HR1	866×535×304	41/43	220~240V-1Ph-50Hz
COU-24HR1	930×700×370	52/56	220~240V-1Ph-50Hz
COU-36HR1	1070×995×400	92/100	220~240V-1Ph-50Hz
COU-36HSR1	1070×995×400	92/100	380~415V-3Ph-50Hz
COU-48HSR1	911×1335×400	99/110	380~415V-3Ph-50Hz
COU-60HSR1	911×1335×400	99/110	380~415V-3Ph-50Hz

3.External Appearance

3.1. Indoor unit

4-way cassette (Compact type) 	4-way Cassette 
Low ESP Duct 	Middle ESP Duct 
High ESP Duct 	Floor & Ceiling (18k Btu/h) 
Floor & Ceiling (24k-36k Btu/h) 	Floor & Ceiling (48k-60k Btu/h) 

3.2.Outdoor unit

COU-12HR1、COU-18HR1

COU-24HR1

COU-36HR1、COU-36HSR1

COU-48HSR1、COU-60HSR1

4.Features

4.1 RS485 communication wired connection, universal type, no need to special training for installation workers.
4.2 Low temperature module optional, can cooling under circumstance temperature -10°C.
4.3 High quality coils
The coil is constructed of advanced inner grooved copper tube and aluminum fins.
4.4 Low operation sound level: Well-known stable and quiet running fan motor.
4.5 Well-known compressor, Panasonic & Hitachi.
4.6 Compact design: Smaller dimension and larger stuffing capacity.
4.7 Universal outdoor unit design.
4.8 R410A environment friendly refrigerant.
4.9 CE certification, ROHS certification.

Part 2 Indoor Unit

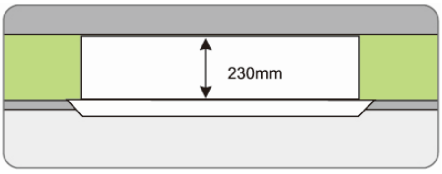
4-Way Cassette Type

1. Features

Four-Way Cassette (Compact Type)

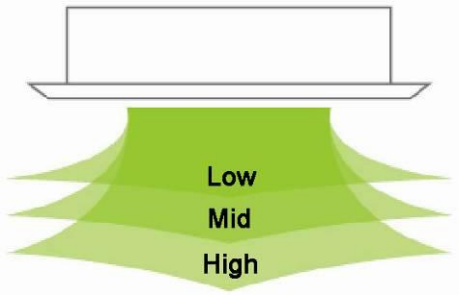
(1) Brand-new panel. Indoor unit use uniform panel, simple and convenient. For standard cassette, digital display is optional .

(2) Ultra-thin body design, the min. height is only 275mm for compact and 230mm for standard cassette , save installation space.



(3) 4-way air flow, cold air can reach each corner of the room, providing a stable and comfortable environment.

(4) 3 fan speed，meet for different requirement.

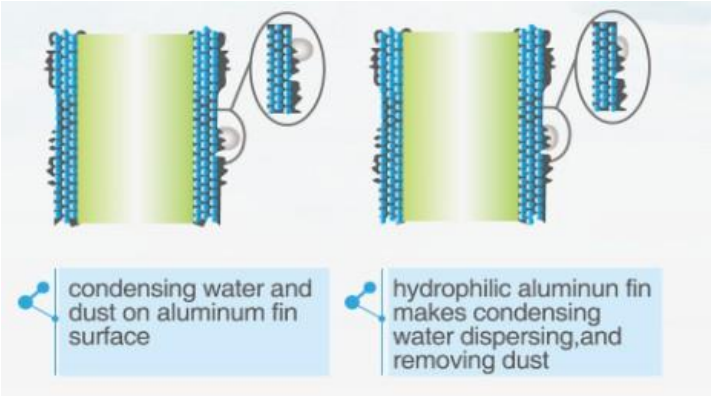


(5) New streamlined fan design.

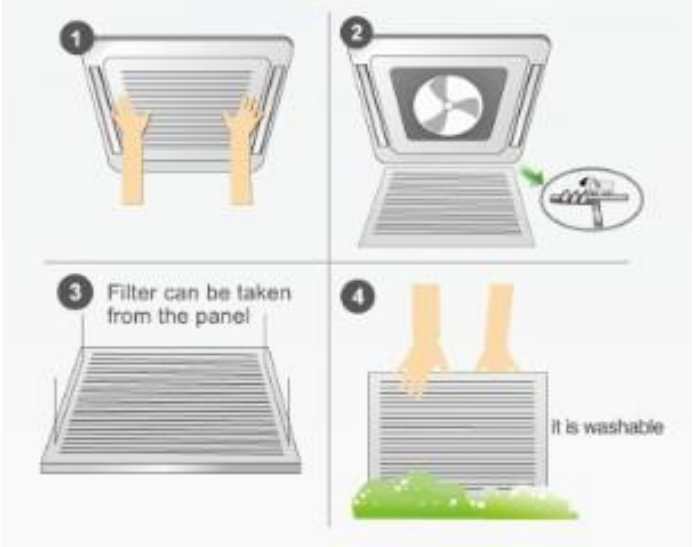
Compact Cassette

Standard Cassette

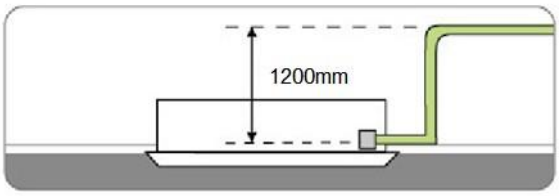
(6) Energy saving and healthy, adopting hydrophilic aluminum fins increasing heat-exchange efficiency.



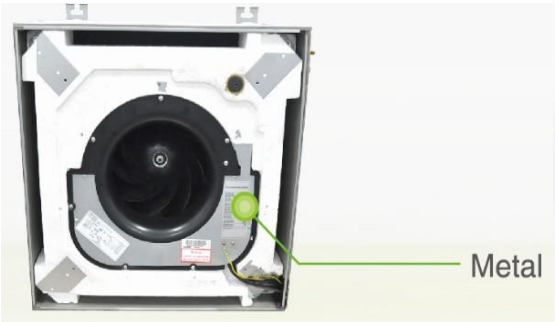
(7) Easy and convenient installation and maintenance, washable filter design.



(8) Built-in water pump, water head up to 700mm for compact and 1200mm for standard .



(9) Fire resistance design, the E-box with galvanized steel built-in body easy for maintenance.



(10) Add 4 interfaces in body, can be connected with duct to another room. Fresh air makes air quality more healthy and comfortable. This function is available for standard cassette.

(11) Multi protection and auto-restart function.

(12) Standard for wireless controller; option for wired controller.

Standard

optional

2. Specification

Model			CCB-12HR1	CCB-18HR1	CCA-18HR1
Indoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50
Cooling	Capacity	Btu/h	12000	18000	18000
		KW	3.5	5.3	5.3
	Input	W	75	75	65
	Rated current	A	0.4	0.4	0.4
	EER	W/W	2.66	2.68	2.70
Heating	Capacity	Btu/h	13200	20000	20000
		KW	3.9	5.9	5.9
	Input	W	75	75	65
	Rated current	A	0.4	0.4	0.4
	COP	W/W	2.88	3.34	3.31
Indoor fan motor	Model		YDK-35T-4	YDK-35T-4 1	YDK-45Q-6P3
	Input	W	75	75	65
	Capacitor	μF	2.5	2.5	3
	Speed(Hi/Me/Lo)	r/min	950/850/700	1050/950/830	480/430/380
Indoor coil	Number of rows		2	2	2
	Tube pitch(a) x row pitch(b)	mm	21×12.7	21×12.7	21×13.37
	Fin spacing	mm	1.55	1.55	1.45
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7	Φ7	Φ7
			inner grooved	inner grooved	inner grooved
	Coil length x height x width	mm	1137×210×25.4	1791×168×25.4	2000×168×26.74
	Number of circuits		5	5	8
Indoor air flow(High speed)		m^3/h	566	700	810
Indoor noise level		dB(A)	40～45	43～48	44～48
Indoor unit	Dimension(W*H*D)	Body(mm)	580×275×580	580×275×580	840×230×840
		Panel(mm)	650×30×650	650×30×650	950×50×950
	Packing(W*H*D)	Body(mm)	745×375×675	745×375×675	920×265×920
		Panel(mm)	750×95×750	750×95×750	1030×105×1030
	Net/Gross weight	Body(Kg)	25/27	25/27	24/29
		Panel(Kg)	2.7/4.0	2.7/4.0	5.4/8.0
Max pressure		MPa	4.0	4.0	4.0
Refrigerant type			R410A	R410A	R410A
Refrigerant piping	Liquid side/Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7
Drainage pipe		mm	DN25	DN25	DN25
Standard controller			Standard for remote controller(wired controller for option)		

Operation temp		°C	16～32	16～32	16～32
Ambient temp	cooling	°C	18-43	18-43	18-43
	heating	°C	-7～24	-7～24	-7～24
Application area		m^2	15~25	20-35	20-35
Stuffing Quantity(20'/40'/40'HQ)		set	120/240/270	120/240/270	75/155/170

Notes:
1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. Piping: m(horizontal)
2. Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. Piping: m(horizontal)
3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

Model			CCA-24HR1	CCA-36HR1	CCA-48HR1	CCA-60HR1
Indoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50
Cooling	Capacity	Btu/h	24000	36000	48000	60000
		KW	7.1	10.5	14	16
	Input	W	150	160	180	180
	Rated current	A	0.7	0.8	0.8	0.8
	EER	W/W	2.78	2.65	2.7	2.72
Heating	Capacity	Btu/h	26000	39000	52000	60000
		KW	7.7	11.5	15.2	16.0
	Input	W	150	160	180	180
	Rated current	A	0.7	0.8	0.8	0.8
	COP	W/W	3.42	3.06	2.88	2.68
Indoor fan motor	Model		YDK-45Q-6P3	YDK-75T-6	YDK-75Q-6P3-1	YDK-75Q-6P3-1
	Input	W	150	160	180	180
	Capacitor	μF	3	4	5	5
	Speed(Hi/Me/Lo)	r/min	850/790/600	760/680/580	850/750/650	850/750/650
Indoor coil	Number of rows		2	2	2	3
	Tube pitch(a) x row pitch(b)	mm	21×13.37	21×13.37	21×13.37	21×13.37
	Fin spacing	mm	1.45	1.45	1.45	1.6
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic	Hydrophilic Aluminum
	Tube outside dia. and type	mm	Φ7	Φ7	Φ7	Φ7
			inner grooved	inner grooved	inner grooved	Inner grooved
	Coil length x height x width	mm	2000×168×26.7	2000×252×26.7	2000×252×26.7	2000×252×40.1
	Number of circuits		8	12	12	6
Indoor air flow(High speed)		m^3/h	1200	1700	1900	1900
Indoor noise level		dB(A)	44～48	44～48	45～52	45～52

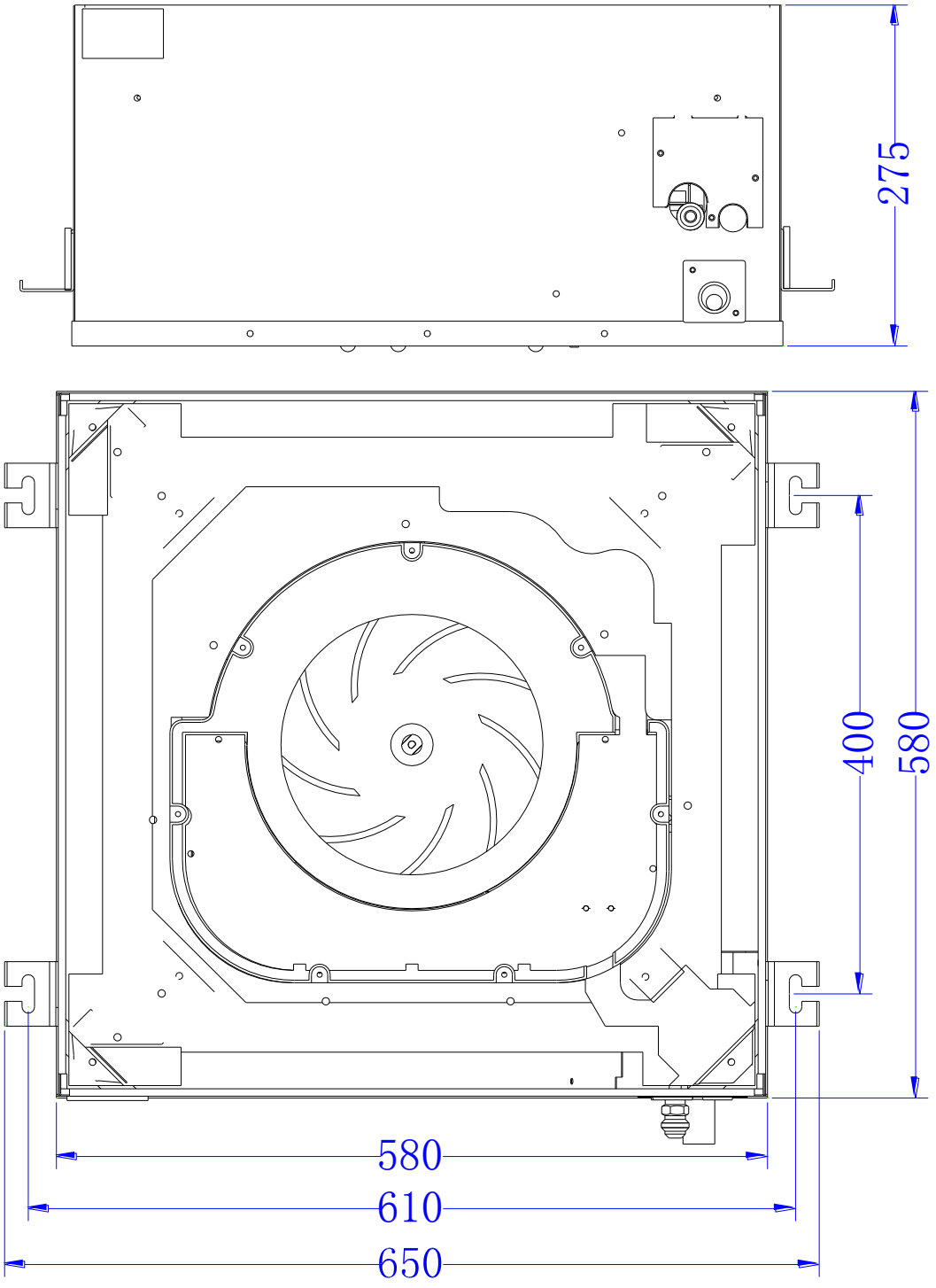
Indoor unit	Dimension(W*H*D)	Body(mm)	840×230×840	840×285×840	840×285×840	840×285×840
		Panel(mm)	950×50×950	950×50×950	950×50×950	950×50×950
	Packing(W*H*D)	Body(mm)	920×265×920	920×310×920	920×310×920	920×310×920
		Panel(mm)	1030×105×1030	1030×105×1030	1030×105×1030	1030×105×1030
	Net/Gross weight	Body(Kg)	24/29	28/33.5	28/33.5	30.5/36
		Panel(Kg)	5.4/8.0	5.4/8.0	5.4/8.0	5.4/8.0
Max pressure		MPa	4.0	4.0	4.5	4.5
Refrigerant type			R410A	R410A	R410A	R410A
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ15.88	Φ9.52/Φ19.05	Φ9.52/Φ19.05	Φ9.52/Φ19.05
Drainage pipe		mm	DN25	DN25	DN25	DN25
Standard controller						
Operation temp		°C	16～32	16～32	16～32	16～32
Ambient temp	cooling	°C	18-43	18-43	18-43	18-43
	heating	°C	-7～24	-7～24	-7～24	-7～24
Application area		m^2	28-50	40-70	55~95	60~105
Stuffing Quantity(20'/40'/40'HQ)		set	75/155/170	65/130/150	65/130/150	65/130/150

Notes:

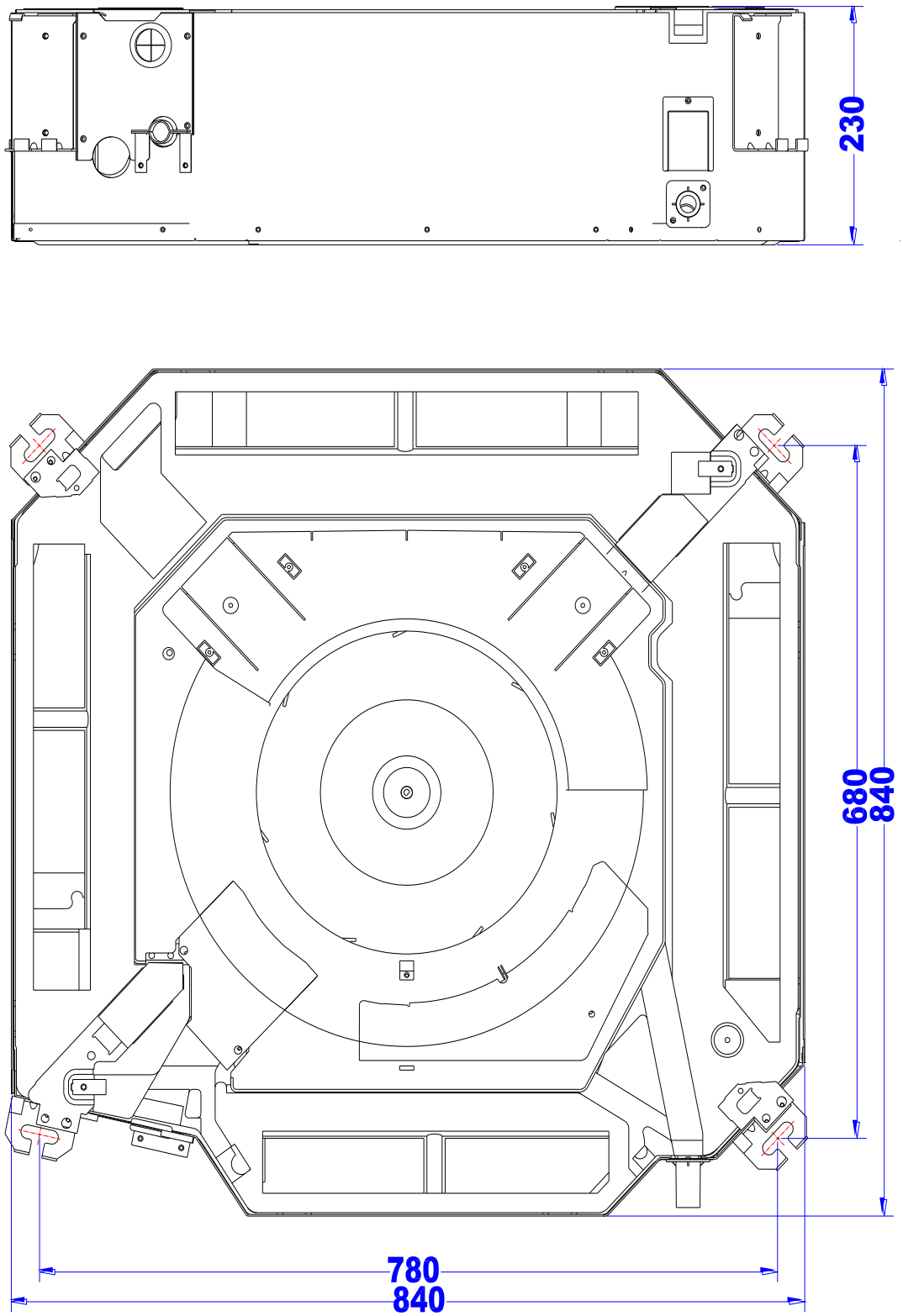
1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. Piping: 5m(horizontal)
2.Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. Piping: 5m(horizontal)
3.Actual noise level may differ, depending on the room structure, etc. since these noise values are from an anechoic room.

3.Dimension

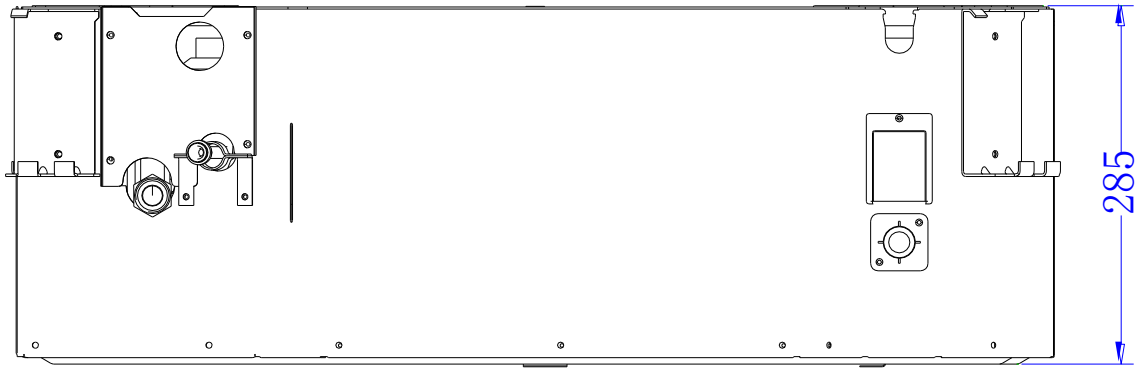
3.1 CCB-12HR1, CCB-18HR1

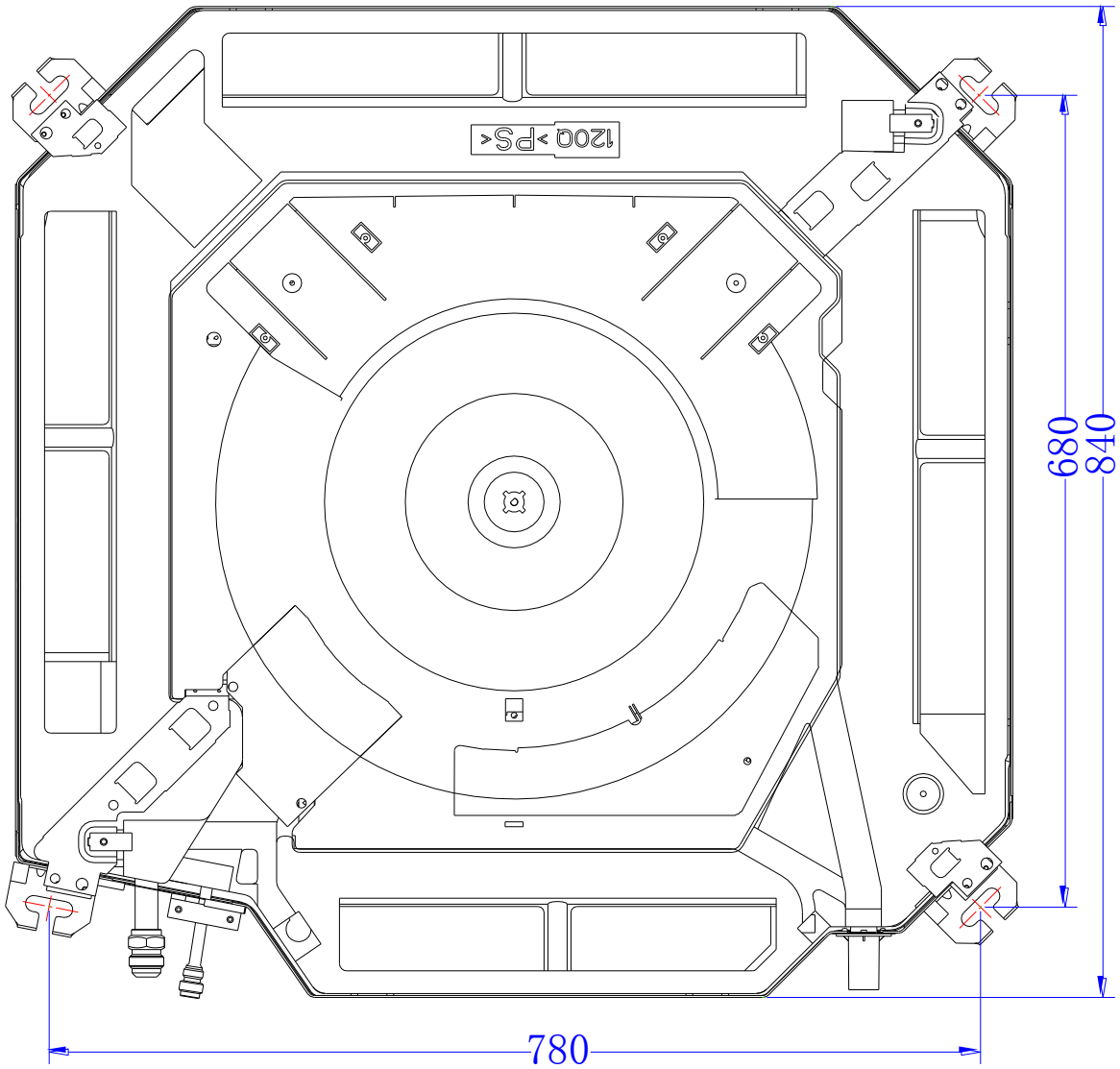


3.2 CCA-18HR1,CCA-24HR1



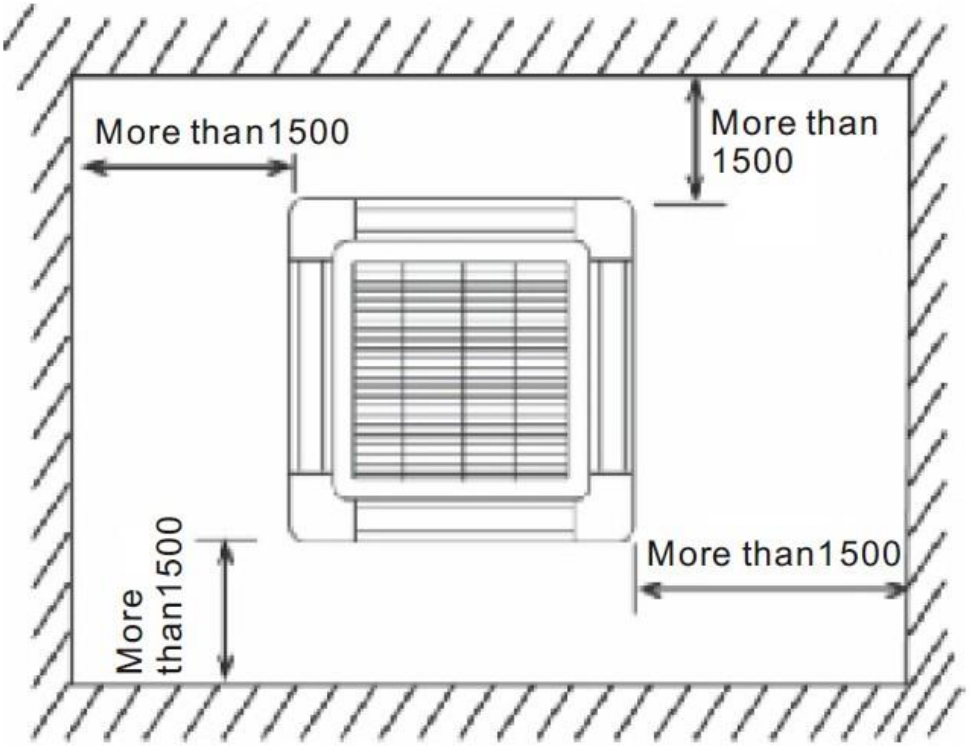
3.3 CCA-36HR1,CCA-48HR1,CCA-60HR1





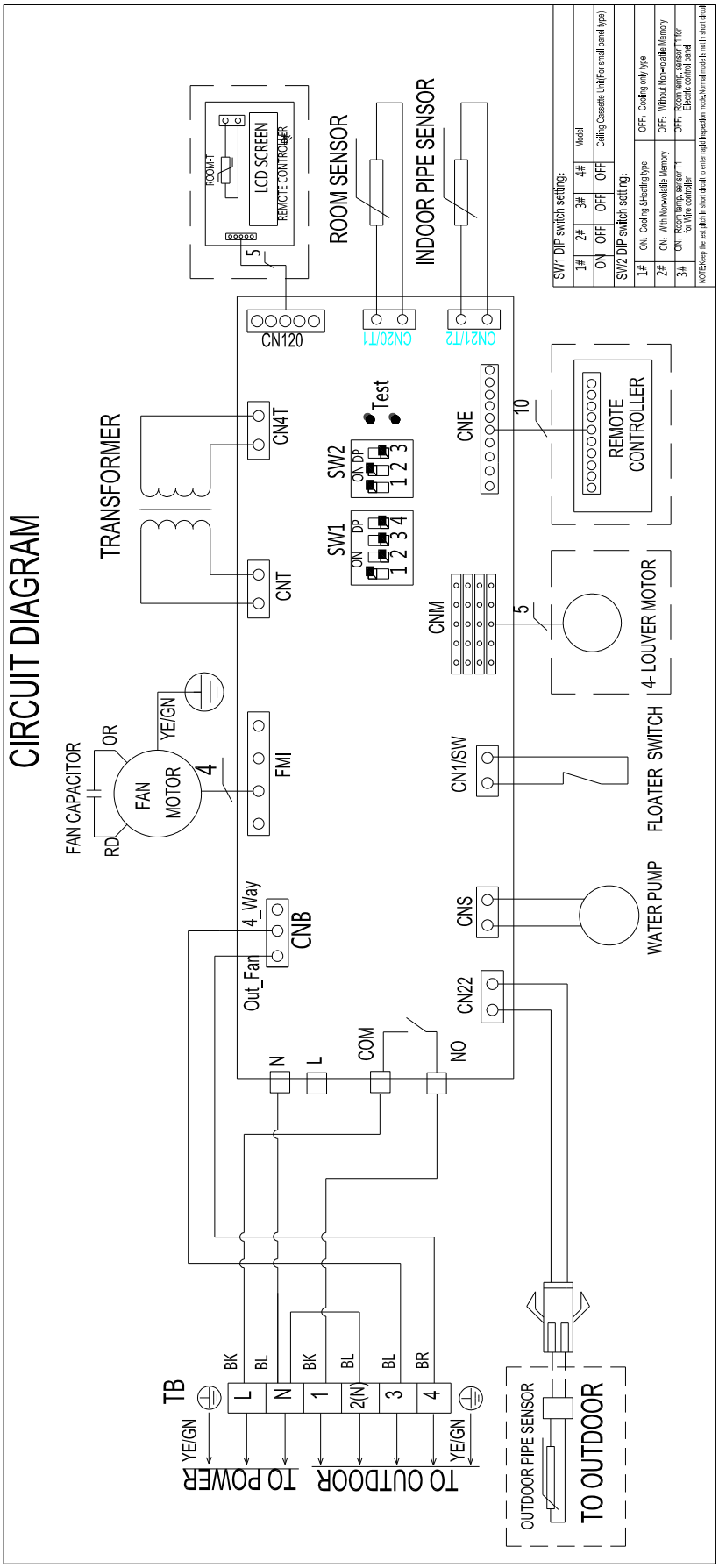
4. Service Space

The indoor unit should be installed in a location that meets the following requirements:
4.1 There is enough interspace for installation and maintenance.
4.2 The ceiling is horizontal, and its structure can endure the weight of the indoor unit.
4.3 The outlet and the inlet are not impeded, and the influence of external air is the least.
4.4 The air flow can reach throughout the room.
4.5 The connecting pipe and drainpipe could be extracted out easily.
4.6 There is no direct radiation from heaters.

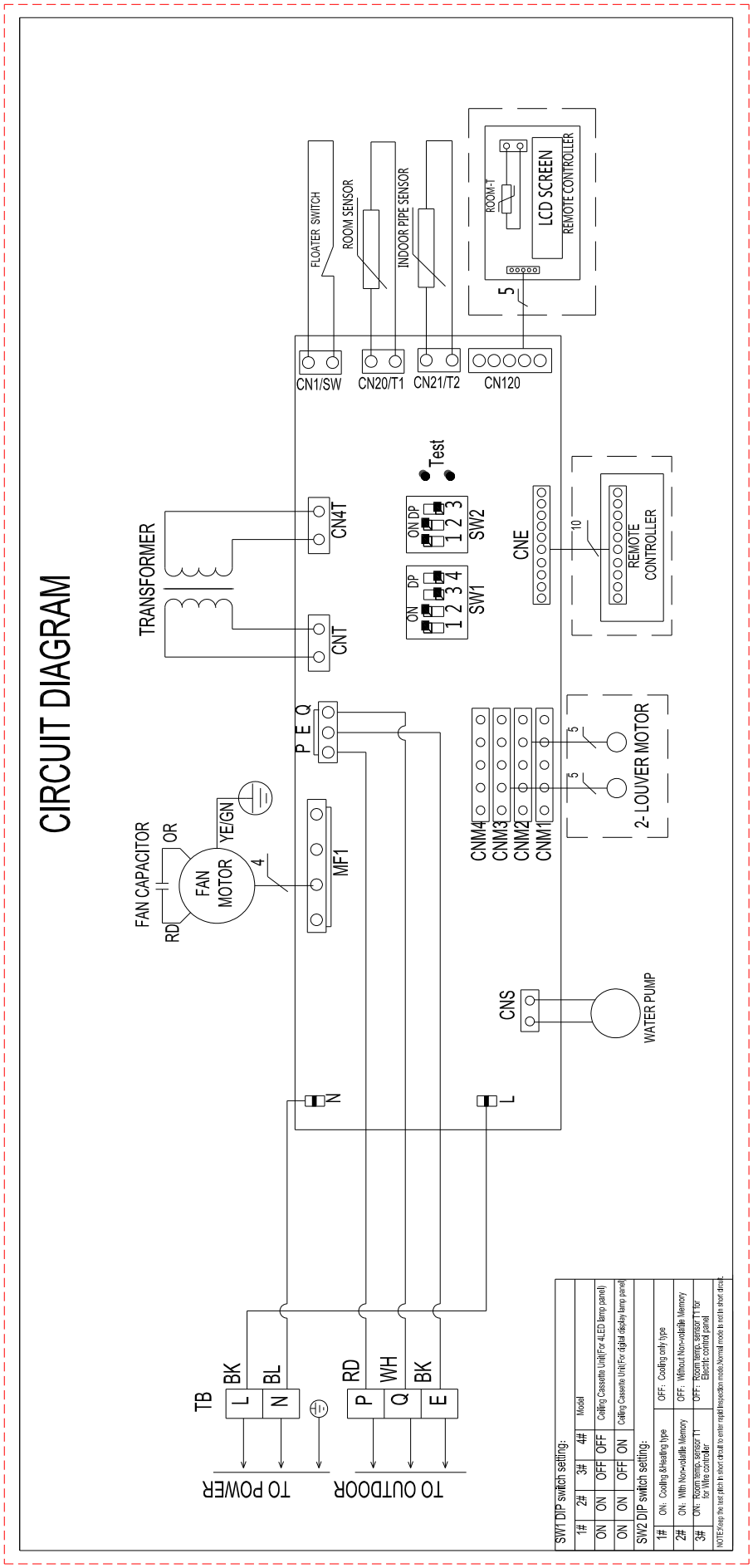


5. Wiring Diagrams

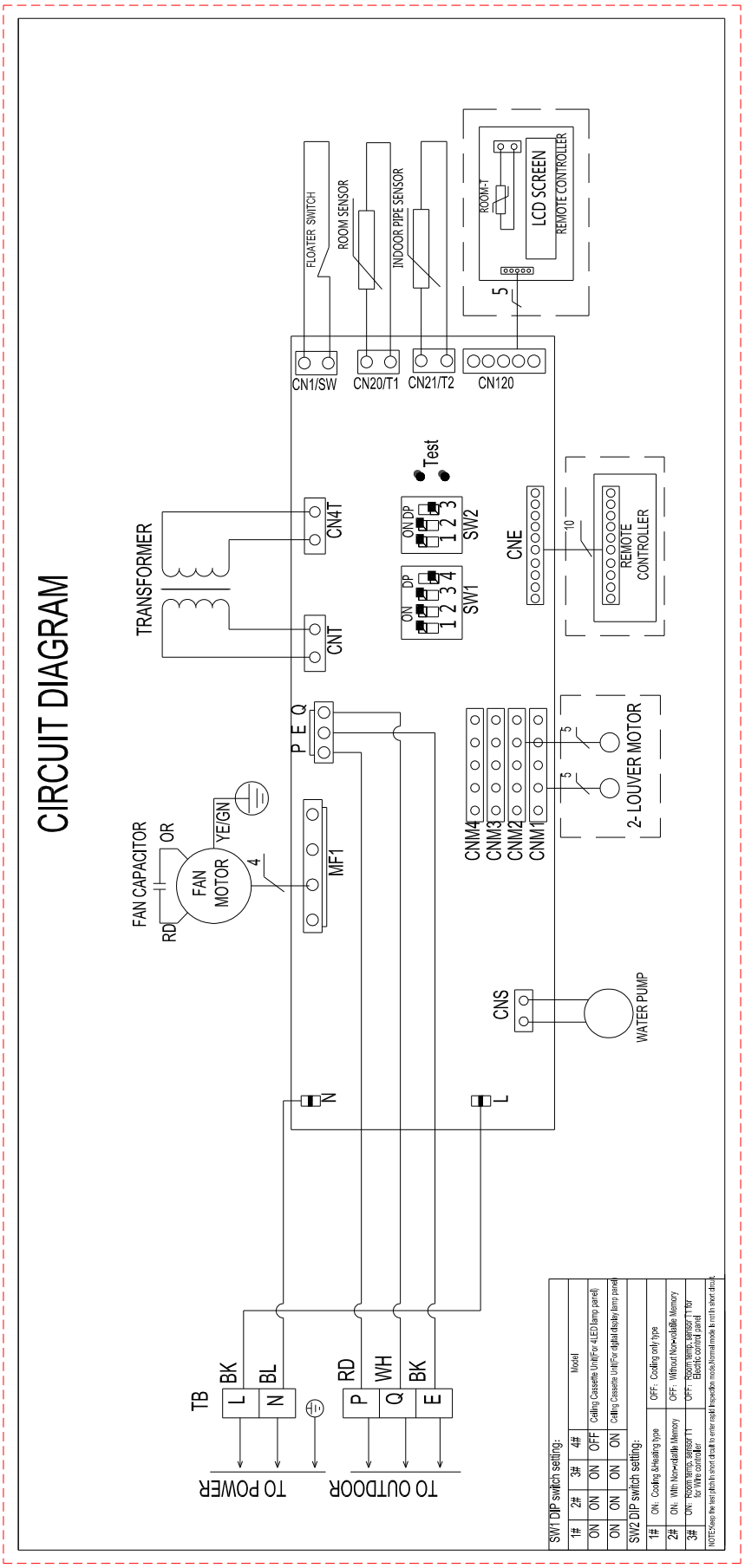
5.1 CCB-12HR1, CCB-18HR1，CCA-18HR1



5.2 CCA-24HR1, CCA-36HR1



5.3 CCA-48HR1, CCA-60HR1



6. Capacity Table

Cooling

6.1 CCB-12HR1

MODEL		CCB-12HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	3.29	3.25	3.22	3.17	2.85	2.42
	Input kW.	1.16	1.19	1.21	1.25	1.33	1.38
24ºC D 17ºC W	Total capacity kW	3.45	3.42	3.38	3.33	2.99	2.54
	Input kW.	1.19	1.21	1.24	1.27	1.35	1.41
27ºC D 19ºC W	Total capacity kW	3.62	3.59	3.55	3.50	3.14	2.67
	Input kW.	1.21	1.24	1.26	1.30	1.38	1.44
29ºC D 19ºC W	Total capacity kW	3.77	3.73	3.69	3.64	3.27	2.78
	Input kW.	1.24	1.26	1.29	1.33	1.41	1.46
32ºC D 23ºC W	Total capacity kW	3.92	3.88	3.84	3.78	3.40	2.89
	Input kW.	1.26	1.29	1.31	1.35	1.44	1.49

6.2 CCB-18HR1

MODEL		CCB-18HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	4.98	4.93	4.88	4.81	4.32	3.67
	Input kW.	1.79	1.83	1.86	1.92	2.04	2.12
24ºC D 17ºC W	Total capacity kW	5.23	5.18	5.12	5.05	4.53	3.85
	Input kW.	1.83	1.86	1.90	1.96	2.08	2.17
27ºC D 19ºC W	Total capacity kW	5.49	5.43	5.38	5.30	4.76	4.04
	Input kW.	1.86	1.90	1.94	2.00	2.12	2.21
29ºC D 19ºC W	Total capacity kW	5.71	5.65	5.60	5.51	4.95	4.21
	Input kW.	1.90	1.94	1.98	2.04	2.17	2.25
32ºC D 23ºC W	Total capacity kW	5.94	5.88	5.82	5.73	5.14	4.37
	Input kW.	1.94	1.98	2.02	2.08	2.21	2.30

6.3 CCA-18HR1

MODEL		CCA-18HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	4.98	4.93	4.88	4.81	4.32	3.67
	Input kW.	1.78	1.82	1.86	1.91	2.03	2.11
24ºC D 17ºC W	Total capacity kW	5.23	5.18	5.12	5.05	4.53	3.85
	Input kW.	1.82	1.86	1.89	1.95	2.07	2.16
27ºC D 19ºC W	Total capacity kW	5.49	5.43	5.38	5.30	4.76	4.04
	Input kW.	1.86	1.89	1.93	1.99	2.11	2.20
29ºC D 19ºC W	Total capacity kW	5.71	5.65	5.60	5.51	4.95	4.21
	Input kW.	1.89	1.93	1.97	2.03	2.16	2.24
32ºC D 23ºC W	Total capacity kW	5.94	5.88	5.82	5.73	5.14	4.37
	Input kW.	1.93	1.97	2.01	2.07	2.20	2.29

6.4 CCA-24HR1

MODEL		CCA-24HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	6.67	6.60	6.54	6.44	5.78	4.91
	Input kW.	2.28	2.33	2.38	2.45	2.60	2.71
24ºC D 17ºC W	Total capacity kW	7.00	6.93	6.86	6.76	6.07	5.16
	Input kW.	2.33	2.38	2.43	2.50	2.65	2.76
27ºC D 19ºC W	Total capacity kW	7.35	7.28	7.21	7.10	6.37	5.42
	Input kW.	2.38	2.43	2.48	2.55	2.71	2.82
29ºC D 19ºC W	Total capacity kW	7.65	7.57	7.50	7.38	6.63	5.63
	Input kW.	2.43	2.48	2.53	2.60	2.76	2.87
32ºC D 23ºC W	Total capacity kW	7.95	7.87	7.79	7.68	6.89	5.86
	Input kW.	2.48	2.53	2.57	2.65	2.82	2.93

6.5 CCA-36HR1

MODEL		CCA-36HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	9.86	9.77	9.67	9.53	8.55	7.27
	Input kW.	3.55	3.62	3.69	3.81	4.04	4.20
24ºC D 17ºC W	Total capacity kW	10.36	10.25	10.15	10.00	8.98	7.63
	Input kW.	3.62	3.69	3.77	3.88	4.12	4.29
27ºC D 19ºC W	Total capacity kW	10.88	10.76	10.66	10.50	9.43	8.01
	Input kW.	3.69	3.77	3.85	3.96	4.20	4.37
29ºC D 19ºC W	Total capacity kW	11.31	11.20	11.09	10.92	9.80	8.33
	Input kW.	3.77	3.85	3.92	4.04	4.29	4.46
32ºC D 23ºC W	Total capacity kW	11.76	11.64	11.53	11.36	10.19	8.66
	Input kW.	3.85	3.92	4.00	4.12	4.37	4.55

6.6 CCA-48HR1

MODEL		CCA-48HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	13.15	13.02	12.89	12.70	11.40	9.69
	Input kW.	4.64	4.74	4.83	4.98	5.28	5.50
24ºC D 17ºC W	Total capacity kW	13.81	13.67	13.53	13.33	11.97	10.17
	Input kW.	4.74	4.83	4.93	5.08	5.39	5.61
27ºC D 19ºC W	Total capacity kW	14.50	14.35	14.21	14.00	12.57	10.68
	Input kW.	4.83	4.93	5.03	5.18	5.50	5.72
29ºC D 19ºC W	Total capacity kW	15.08	14.93	14.78	14.56	13.07	11.11
	Input kW.	4.93	5.03	5.13	5.28	5.61	5.83
32ºC D 23ºC W	Total capacity kW	15.68	15.52	15.37	15.14	13.59	11.55
	Input kW.	5.03	5.13	5.23	5.39	5.72	5.95

6.7 CCA-60HR1

MODEL		CCA-60HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	15.03	14.88	14.73	14.51	13.03	11.07
	Input kW.	5.27	5.38	5.48	5.65	5.99	6.24
24ºC D 17ºC W	Total capacity kW	15.78	15.62	15.46	15.23	13.68	11.62
	Input kW.	5.38	5.48	5.60	5.77	6.12	6.37
27ºC D 19ºC W	Total capacity kW	16.57	16.40	16.24	16.00	14.37	12.21
	Input kW.	5.48	5.60	5.71	5.88	6.24	6.49
29ºC D 19ºC W	Total capacity kW	17.23	17.06	16.89	16.64	14.94	12.70
	Input kW.	5.60	5.71	5.82	5.99	6.37	6.62
32ºC D 23ºC W	Total capacity kW	17.92	17.74	17.57	17.30	15.53	13.20
	Input kW.	5.71	5.82	5.94	6.12	6.49	6.75

Heating

6.8 CCB-12HR1

MODEL		CCB-12HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC DB 18ºCWB	12ºC DB 11ºCWB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºCWB	-5ºC DB -6ºCWB	-7ºC DB -8ºCWB
15ºC	Capacity kW	4.34	4.25	4.19	3.99	3.85	3.55	3.36
	Input kW.	1.23	1.25	1.28	1.29	1.30	1.31	1.32
18ºC	Capacity kW	4.13	4.05	3.99	3.80	3.67	3.38	3.20
	Input kW.	1.25	1.28	1.30	1.32	1.32	1.34	1.34
20ºC	Capacity kW	3.94	3.86	3.80	3.62	3.50	3.22	3.05
	Input kW.	1.38	1.31	1.33	1.34	1.35	1.36	1.37
22ºC	Capacity kW	3.75	3.67	3.62	3.45	3.33	3.06	2.90
	Input kW.	1.30	1.33	1.36	1.37	1.38	1.39	1.40
27ºC	Capacity kW	3.57	3.50	3.45	3.28	3.17	2.92	2.77
	Input kW.	1.33	1.36	1.38	1.40	1.41	1.42	1.43

6.9 CCB-18HR1

MODEL		CCB-18HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	6.69	6.56	6.46	6.15	5.94	5.47	5.18
	Input kW.	1.68	1.72	1.75	1.77	1.78	1.79	1.80
18ºC	Capacity kW	6.37	6.25	6.15	5.86	5.66	5.21	4.93
	Input kW.	1.71	1.75	1.79	1.80	1.81	1.83	1.84
20ºC	Capacity kW	6.07	5.95	5.86	5.58	5.39	4.96	4.70
	Input kW.	1.88	1.79	1.82	1.84	1.85	1.86	1.88
22ºC	Capacity kW	5.78	5.66	5.58	5.31	5.13	4.72	4.48
	Input kW.	1.78	1.82	1.86	1.88	1.89	1.90	1.91
27 ℃	Capacity kW	5.51	5.39	5.32	5.06	4.89	4.50	4.26
	Input kW.	1.82	1.86	1.89	1.91	1.92	1.94	1.95

6.10 CCA-18HR1

MODEL		CCA-18HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	6.69	6.56	6.46	6.15	5.94	5.47	5.18
	Input kW.	1.59	1.62	1.65	1.67	1.68	1.69	1.70
18ºC	Capacity kW	6.37	6.25	6.15	5.86	5.66	5.21	4.93
	Input kW.	1.62	1.65	1.69	1.70	1.71	1.73	1.74
20ºC	Capacity kW	6.07	5.95	5.86	5.58	5.39	4.96	4.70
	Input kW.	1.78	1.69	1.72	1.74	1.75	1.76	1.77
22ºC	Capacity kW	5.78	5.66	5.58	5.31	5.13	4.72	4.48
	Input kW.	1.68	1.72	1.76	1.77	1.78	1.80	1.81
27ºC	Capacity kW	5.51	5.39	5.32	5.06	4.89	4.50	4.26
	Input kW.	1.72	1.76	1.79	1.81	1.82	1.83	1.84

6.11 CCA-24HR1

MODEL		CCA-48HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	8.68	8.51	8.38	7.98	7.71	7.09	6.72
	Input kW.	2.08	2.12	2.16	2.19	2.19	2.22	2.23
18ºC	Capacity kW	8.27	8.10	7.98	7.60	7.34	6.76	6.40
	Input kW.	2.11	2.16	2.21	2.23	2.24	2.26	2.27
20ºC	Capacity kW	7.87	7.72	7.60	7.24	6.99	6.43	6.10
	Input kW.	2.33	2.21	2.25	2.27	2.28	2.31	2.32
22ºC	Capacity kW	7.50	7.35	7.24	6.89	6.66	6.13	5.81
	Input kW.	2.20	2.25	2.30	2.32	2.33	2.35	2.37
27ºC	Capacity kW	7.14	7.00	6.90	6.56	6.34	5.84	5.53
	Input kW.	2.25	2.30	2.34	2.37	2.38	2.40	2.41

6.12 CCA-36HR1

MODEL		CCA-36HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	13.01	12.76	12.57	11.96	11.56	10.64	10.08
	Input kW.	3.47	3.55	3.61	3.65	3.67	3.70	3.72
18ºC	Capacity kW	12.40	12.15	11.97	11.39	11.01	10.13	9.60
	Input kW.	3.53	3.62	3.69	3.72	3.74	3.78	3.80
20ºC	Capacity kW	11.81	11.57	11.40	10.85	10.49	9.65	9.14
	Input kW.	3.89	3.70	3.76	3.80	3.82	3.85	3.87
22ºC	Capacity kW	11.24	11.02	10.86	10.34	9.98	9.19	8.71
	Input kW.	3.67	3.77	3.84	3.87	3.90	3.93	3.95
27ºC	Capacity kW	10.71	10.49	10.34	9.84	9.51	8.75	8.30
	Input kW.	3.75	3.85	3.91	3.95	3.97	4.01	4.03

6.13 CCA-48HR1

MODEL		CCA-48HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	17.35	17.01	16.76	15.95	15.41	14.18	13.44
	Input kW.	4.87	4.98	5.07	5.13	5.15	5.2	5.23
18ºC	Capacity kW	16.53	16.2	15.96	15.19	14.68	13.51	12.8
	Input kW.	4.96	5.08	5.18	5.23	5.25	5.31	5.33
20ºC	Capacity kW	15.74	15.43	15.2	14.47	13.98	12.86	12.19
	Input kW.	5.46	5.19	5.28	5.33	5.36	5.41	5.44
22ºC	Capacity kW	14.99	14.69	14.48	13.78	13.31	12.25	11.61
	Input kW.	5.16	5.29	5.39	5.44	5.47	5.52	5.55
27ºC	Capacity kW	14.28	13.99	13.79	13.12	12.68	11.67	11.06
	Input kW.	5.27	5.4	5.49	5.55	5.58	5.63	5.66

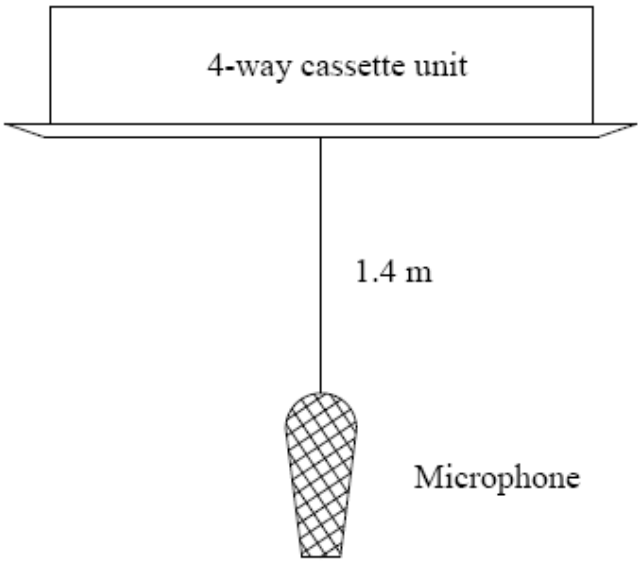
6.14 CCA-60HR1

MODEL		CCA-60HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	19.83	19.44	19.15	18.23	17.61	16.21	15.36
	Input kW.	5.52	5.64	5.74	5.81	5.83	5.89	5.92
18ºC	Capacity kW	18.89	18.51	18.24	17.36	16.78	15.44	14.63
	Input kW.	5.62	5.75	5.87	5.92	5.95	6.01	6.04
20ºC	Capacity kW	17.99	17.63	17.37	16.54	15.98	14.70	13.93
	Input kW.	6.18	5.88	5.98	6.04	6.07	6.13	6.16
22ºC	Capacity kW	17.13	16.79	16.55	15.75	15.21	14.00	13.27
	Input kW.	5.84	5.99	6.10	6.16	6.20	6.25	6.29
27ºC	Capacity kW	16.32	15.99	15.76	14.99	14.49	13.34	12.64
	Input kW.	5.97	6.12	6.22	6.29	6.32	6.38	6.41

7. Electric Characteristics

Model	Indoor Units				Indoor Fan Motor
	Hz	Voltage	Min.	Max.	kW
CCB-12HR1	50	220-240V	198V	254V	0.075
CCB-18HR1	50	220-240V	198V	254V	0.075
CCA-18HR1	50	220-240V	198V	254V	0.065
CCA-24HR1	50	220-240V	198V	254V	0.15
CCA-36HR1	50	220-240V	198V	254V	0.16
CCA-48HR1	50	220-240V	198V	254V	0.18
CCA-60HR1	50	220-240V	198V	254V	0.18

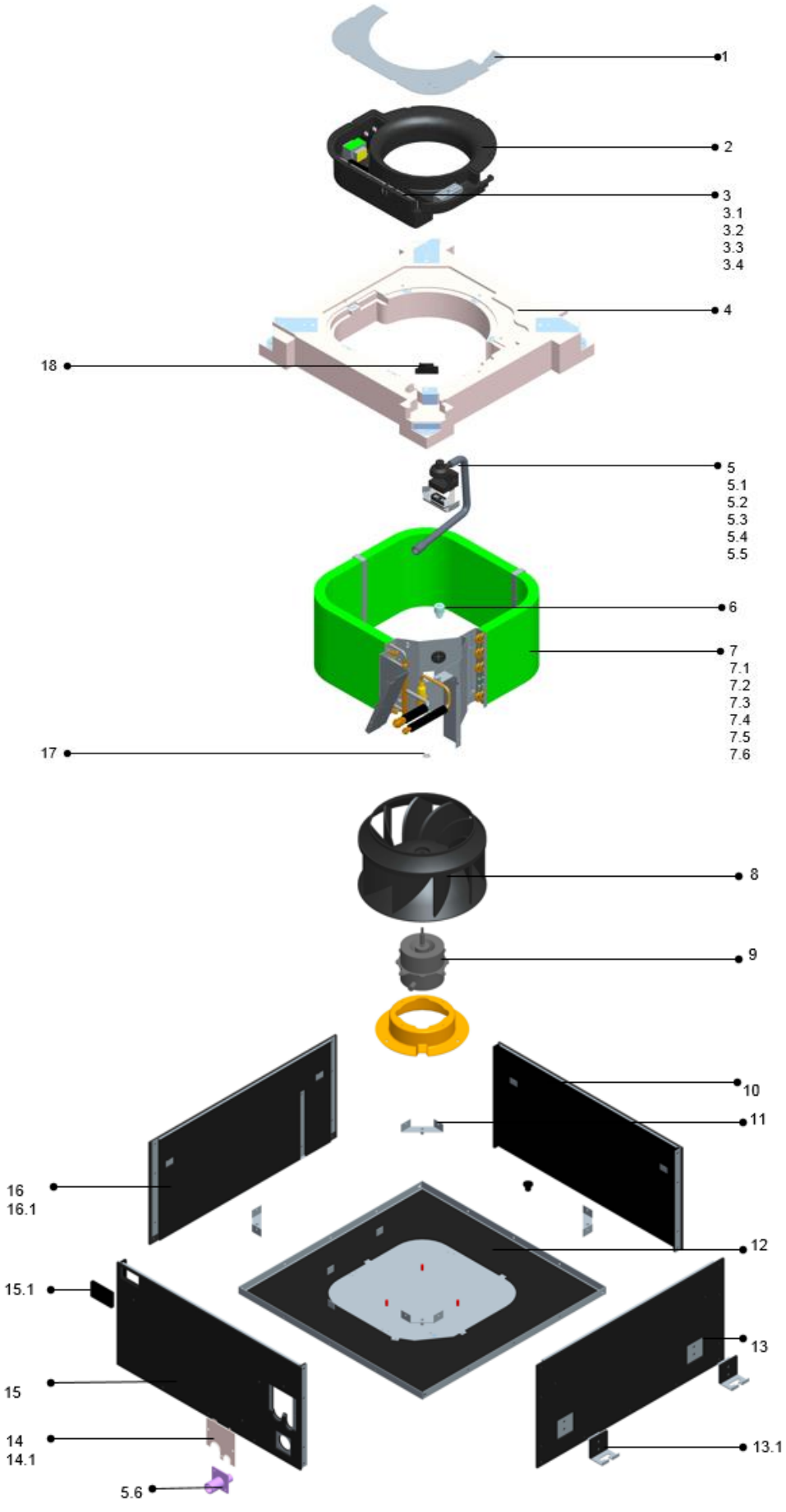
8.Sound Levels



Model		CCB-12HR1	CCB-18HR1	CCA-18HR1	CCA-24HR1
Noise Level	dB (A)	40～45	43～48	38～45	44～48
Model		CCA-36HR1	CCA-48HR1	CCA-60HR1	/
Noise Level	dB (A)	44～48	45～52	45～52	/

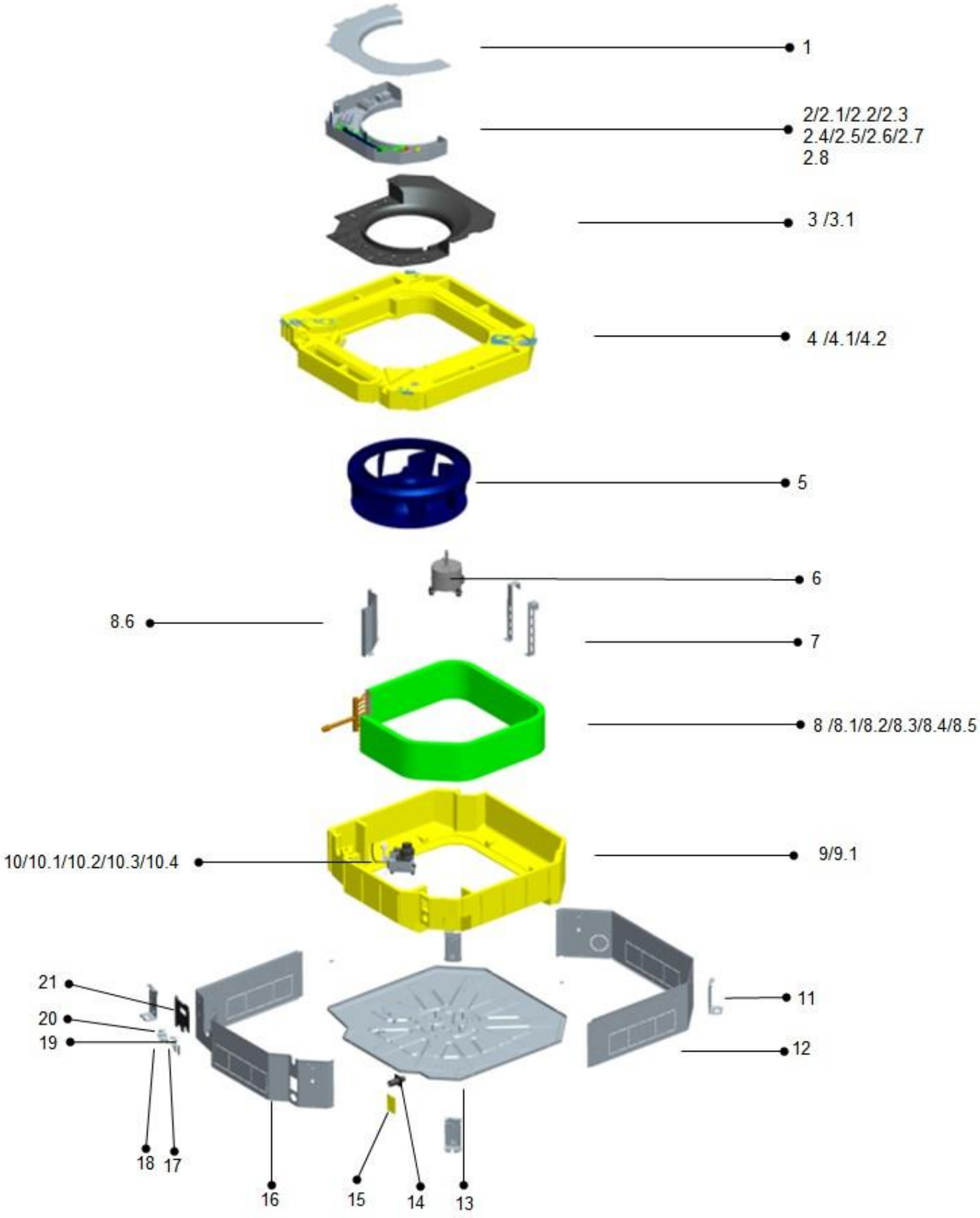
9. Exploded View

9.1 CCB-12HR1，CCB-18HR1



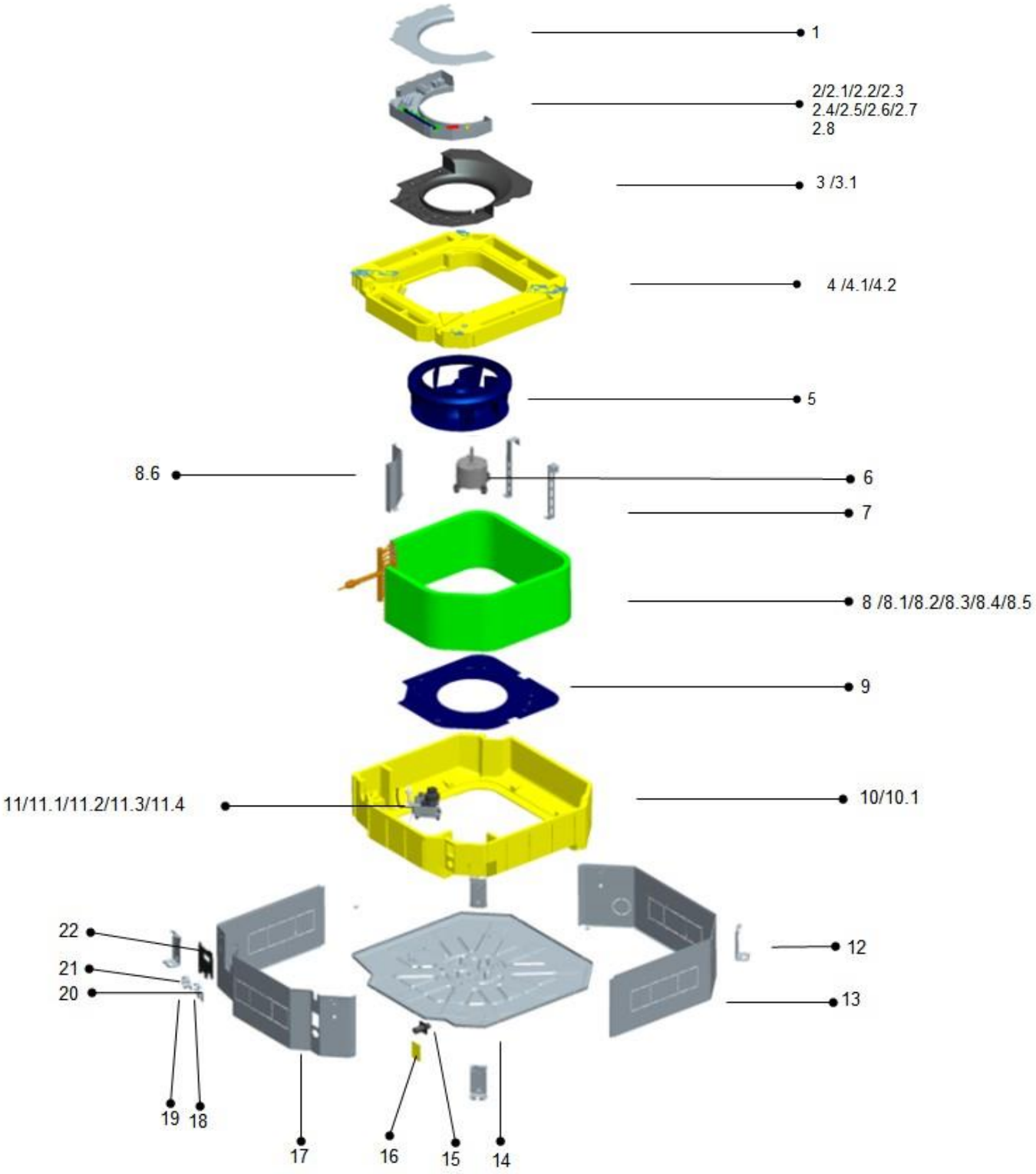
No.	Part Name	Quantity	No.	Part Name	Quantity
1	E-parts box cover assy	1	7.3	Inclined end-plate assy	1
2	E-parts box	1	7.4	Evaporator compacting bar assy	2
3	E-parts assy	1	7.5	Evaporator subassembly	1
3.1	Temperature sensor	1	8	Centrifugal fan	1
3.2	Temperature sensor	1	9	Indoor fan motor	1
3.3	PTC transformer	1	10	Brattice IV components	1
3.4	Terminal	1	11	Brattice fixing bar components	4
3.5	Electric control board assy	1	12	Chassis components	1
4	Foam water pan assy(ROHS)	1	12.1	Chassis welding components	1
5	Water pump components	1	13	Brattice I components	1
5.1	Water pump fixing plate assy	1	13.1	Shackle	2
5.2	Water outlet pipe	1	14	Copper tube support panel components	1
5.3	Water pump	1	14.1	Copper tube support panel	1
5.4	Water pump gasket 2	1	15	Brattice Ⅱ components	1
5.5	Water pump gasket 1 components(ROHS)	1	15.1	Protection rubber	1
5.6	Discharge joint pipe assy(ROHS)	1	16	BratticeⅢcomponents	1
6	Water level switch	1	16.1	Shackle	2
7	Evaporator components	1	17	Fan gasket	1
7.1	End-plate II fixing plate assy	1	18	Groove clamp assy	1
7.2	End-plate I fixing plate assy	1			

9.2 CCA-18HR1，CCA-24HR1



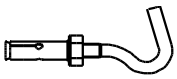
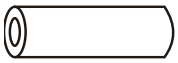
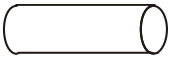
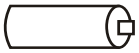
No.	Part Name	Quantity	No.	Part Name	Quantity
1	E-box cover	1	8.4.1	Installation tube for probe	1
2	Electric control components for indoor unit	1	8.4.2	Evaporator	1
2.1	Transformer	1	8.4.3	Collecting assy for evaporator	1
2.2	Fan motor capacitor	1	8.4.4	Shunt capillary assy	1
2.3	Terminal	1	8.5	Main fixing board	1
2.4	Terminal	1	9	Upper foam components	1
2.5	Electric control board for indoor unit	1	9.1	Upper foam	1
2.6	Temperature sensor	1	10	Pre-assembling assy for water pump	1
2.7	Temperature sensor	1	10.1	water pump support	1
2.8	Welded chassis for E-box	1	10.2	Water pump	1
3	Wind inlet guide assy	1	10.3	Liquid-level sensor	1
3.1	Wind inlet guide	1	10.4	Underlay for water pump support	3
4	Water pan components	1	11	Hanger	4
4.1	Water pan	1	12	Rear brattice	1
4.2	Water pan foam	2	13	Chassis assy	1
5	Centrifugal fan	1	14	Discharge pipe joint	1
6	Fan motor for indoor unit(YDK-75Q-6P3-1)	1	15	Side maintenance board for water pump	1
7	Auxiliary fixing board for evaporator	2	16	Front brattice	1
8	Evaporator components	1	17	Lower tube clamp	1
8.1	Insulating pipe	1	18	φ35 Lower tube clamp	1
8.2	Insulating pipe	1	19	Upper tube clamp	1
8.3	Evaporator attached cotton	1	20	φ35 Upper tube clamp	1
8.4	Evaporator welding assy	1	21	Valve plate	1

9.3 CCA-36HR1,CCA-48HR1,CCA-60HR1



No.	Part Name	Quantity	No.	Part Name	Quantity
1	E-box cover	1	8.4.1	Installation tube for probe	1
2	Electric control components for indoor unit	1	8.4.2	Evaporator	1
2.1	Transformer	1	8.4.3	Collecting assy for evaporator	1
2.2	Fan motor capacitor	1	8.4.4	Shunt capillary assy	1
2.3	Terminal	1	8.5	Main fixing board	1
2.4	Terminal	1	9	Chassis plate	1
2.5	Electric control board for indoor unit	1	10	Upper foam components	1
2.6	Temperature sensor	1	10.1	Upper foam	1
2.7	Temperature sensor	1	11	Pre-assembling assy for water pump	1
2.8	Welded chassis for E-box	1	11.1	water pump support	1
3	Wind inlet guide assy	1	11.2	Water pump	1
3.1	Wind inlet guide	1	11.3	Liquid-level sensor	1
4	Water pan components	1	11.4	Underlay for water pump support	3
4.1	Water pan	1	12	Hanger	4
4.2	Water pan foam	2	13	Rear brattice	1
5	Centrifugal fan	1	14	Chassis assy	1
6	Fan motor for indoor unit(YDK-75Q-6P3-1)	1	15	Discharge pipe joint	1
7	Auxiliary fixing board for evaporator	2	16	Side maintenance board for water pump	1
8	Evaporator components	1	17	Front brattice	1
8.1	Insulating pipe	1	18	Lower tube clamp	1
8.2	Insulating pipe	1	19	φ35 Lower tube clamp	1
8.3	Evaporator attached cotton	1	20	Upper tube clamp	1
8.4	Evaporator welding assy	1	21	φ35 Upper tube clamp	1
			22	Valve plate	1

10.Accessories

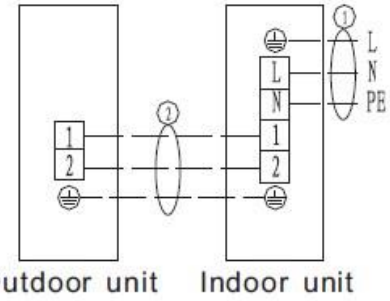
	Name	Shape	Quantity
Installation Fittings	Expansible hook		4
	Installation hook		4
	Installation paper board		1
	Bolt M5		4
Tubing & Fittings (optional)	Connecting pipe group		1
	Binding tape		1
	Soundproof/insulation sheath		2
Drainpipe Fittings	Out-let pipe sheath		1
	Tightening band		5
Protect Pipe Fittings (optional)	Wall conduit		1
	Wall conduit cover		1
Remote controller	Remote controller		1
	Mounting screw(ST2.9×10-C-H)		2
	Alkaline dry batteries (AM4)		2
Others	Operation & installation instruction manual		1

11. The Specification of Wiring

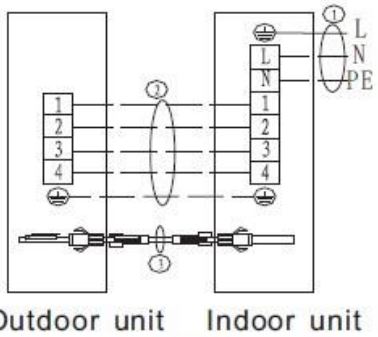
Model			12kBtu/h	18kBtu/h	24kBtu/h	36kBtu/h
Indoor power supply		V/Ph/Hz	220~240/1/50			
Outdoor power supply		V/Ph/Hz	220~240/1/50			
Connection wiring	Outdoor Power Supply		From indoor unit	From indoor unit	Power supply individually for indoor and outdoor	
	Power wiring	mm^2	3×1.5	3×2.5	3×2.5/3×1.0	3×4.0/3×1.0
	Signal wiring	mm^2	5×1.5	5×1.5	RS485 twisted shielded wire pair 2×0.5	

Model			36kBtu/h	48kBtu/h	60kBtu/h
Indoor power supply		V/Ph/Hz	220~240/1/50		
Outdoor power supply		V/Ph/Hz	380~415/3/50		
Connection wiring	Outdoor Power Supply		Power supply individually for indoor and outdoor		
	Power wiring	mm^2	5×1.5/3×1.0	5×1.5/3×1.0	5×2.5/3×1.0
	Signal wiring	mm^2	RS485 twisted shielded wire pair 2×0.5		

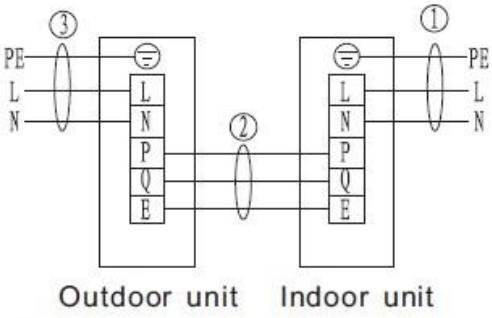
12.Field Wiring



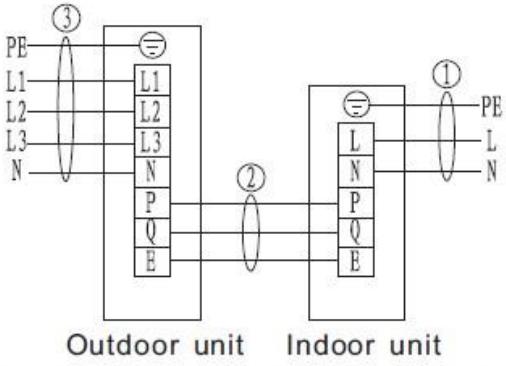
Applicable for 18K cooling only type



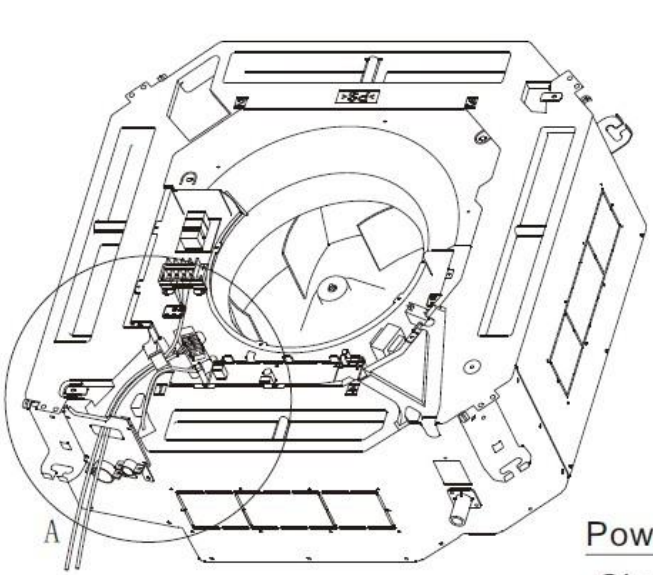
Applicable for 18K heatpump type

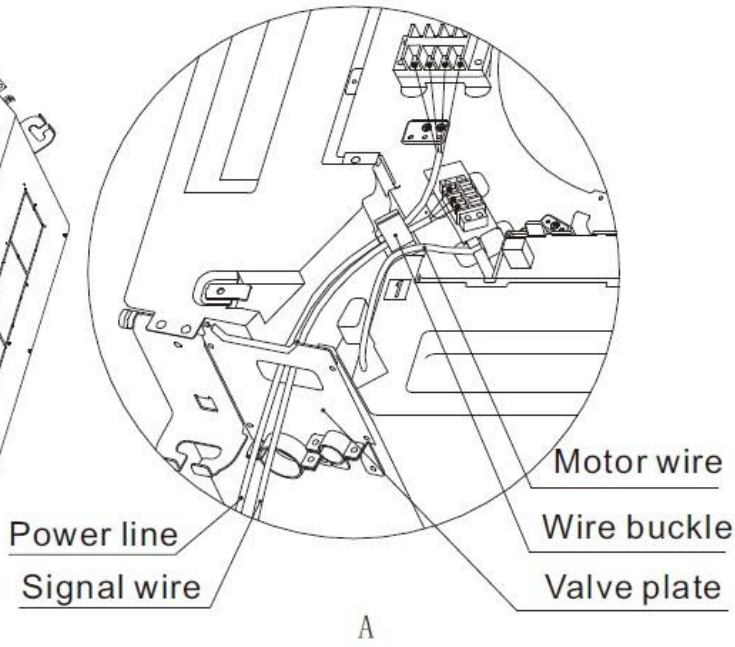


Applicable for 24K, 36K single-phase cooling and heatpump type



Applicable for 24K, 36K, 48K, 60K three-phase cooling and heatpump type





Note: The arrangement diagram is only for signal wire and power line. For wiring, please refer to power wring diagram.

13.Troubleshooting

Fault codes table

4LED Faults	Digital display	Failure description
Timer light flashing	E2	Ambient temperature sensor (T1) failure
Running light flashing	E3	Evaporator pipe temperature sensor (T2) failure
Defrost light flashing	E5	Condenser pipe temperature sensor (T3) failure
Warning light flashing	F5	Water full filled protection
Running light, defrost light flashing	E1	Indoor unit and wire controller communication failure
Running light, timer light flashing	P6	Indoor unit EEPROM failure
Defrost light, timer light flashing	F0	Indoor fan stall protection
Defrost light, warning light flashing	F2	Outdoor protection
	F7	Outdoor unit over-current protection
Timer light, warning light flashing	E0	Indoor unit and outdoor unit communication failure
Running light, defrost light, timer light flashing	F3	High pressure protection
Defrost light , timer light, warning light flashing	F4	Low pressure protection
Running light, timer light, warning light flashing	F8	Outdoor unit exhaust temperature over-high protection
Running light, defrost light, timer light, warning light flashing	F9	Three-phase electricity phase sequence failure
Note: the flashing frequency for all above indication lights is 1HZ.		

Duct Type

1. Features

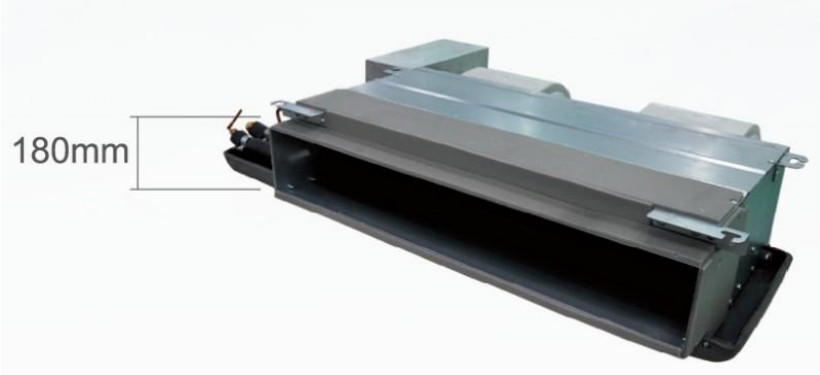
Low Static Pressure Duct

Medium Static Pressure Duct

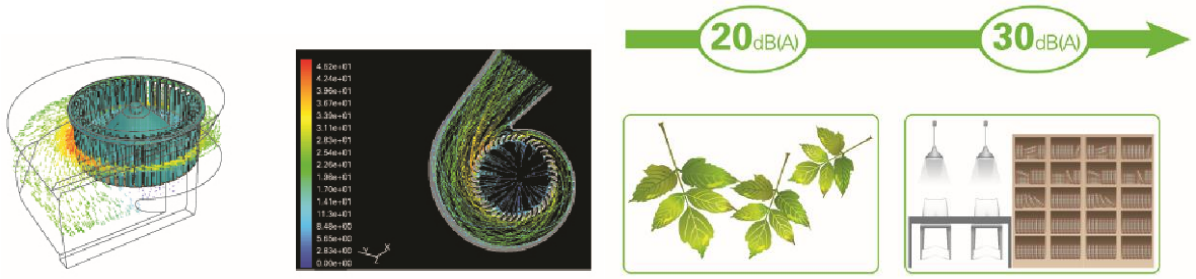
High Static Pressure Duct

1.1 Low ESP Ducted Unit

1. Ultra-thin body design.



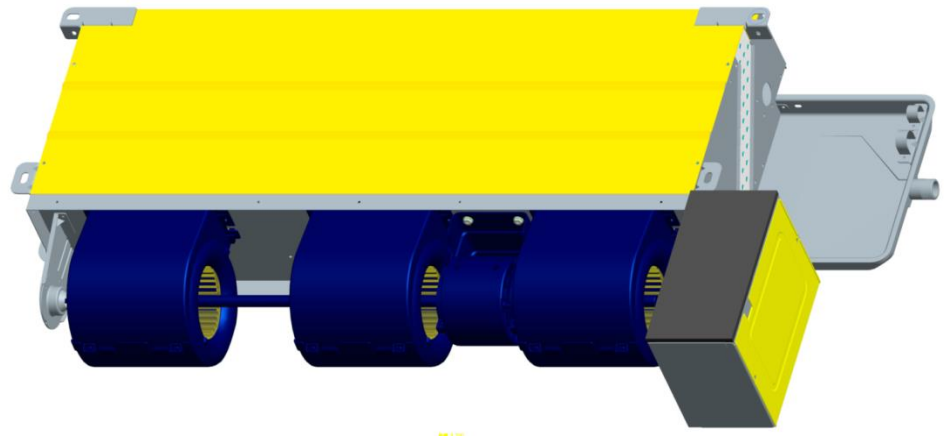
2. Adopting aviation centrifugal fans, and CFD technology design, increasing air-volume and decreasing noise level, noise level only **29**dB(A).



3. Three fan speed, meet different requirement.

4. Filter can be taken out easily for clear. Easy maintenance.

5. E-box is body-side design, convenient installation and maintenance.



6. Multi protection and auto-restart function.

7. Standard for wired controller, wireless controller for option.

Standard Optional

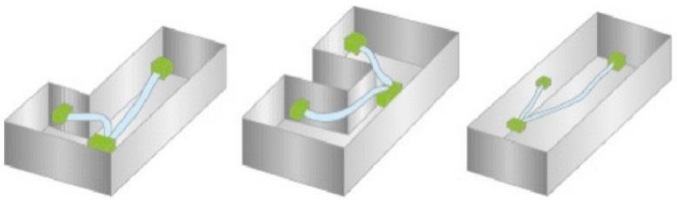
1.2 Medium ESP Ducted Unit

1. Ultra-thin body design.

2. Adopting aviation centrifugal fans, and CFD technology design, increasing air-volume and decreasing noise level.

3. Three fan speed, meet different requirement.

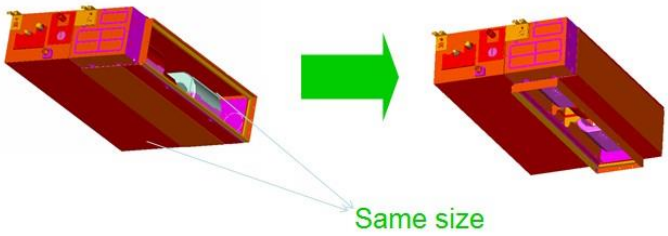
4. 30Pa ESP design for the medium static pressure duct type, duct connected installation meet for different room structure. 70pa is optional.



5. Filter can be taken out easily for clear. Easy maintenance.

6. E-box is body-side design, convenient installation and maintenance.

7. Two air return type option: air inlet from back is standard and from bottom is optional



8. Multi protection and auto-restart function.

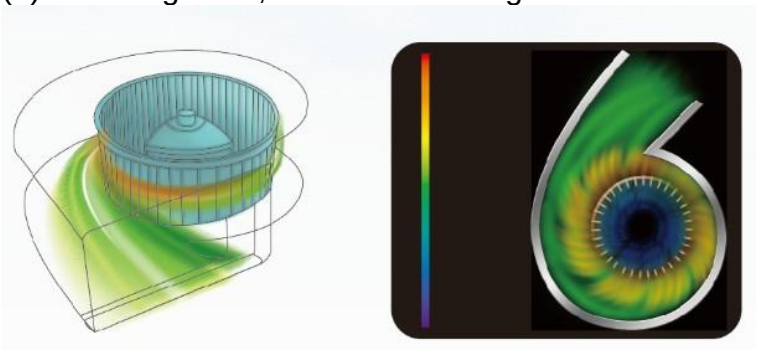
9. Standard for wired controller, wireless controller for option.

Standard

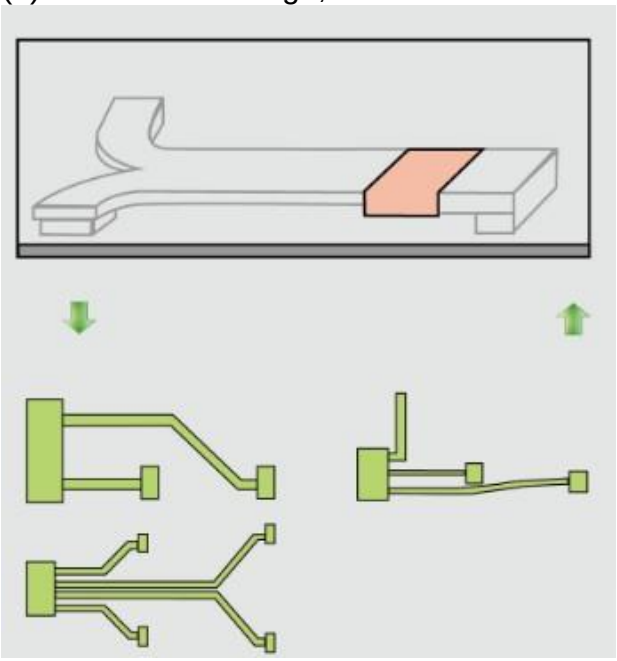
Optional

1.3 High ESP Ducted Unit

(1) Centrifugal fan, low noise and big airflow.



(2) 120Pa ESP design, flexible air duct installation.



(3) Filter can be taken out easily for clear. Easy maintenance.

(4) Multi protection and auto-restart function.

(5) Standard for wired controller, wireless controller for option.

Standard

Optional

2.Specification

Model			CTA-18HR1	CTB-18HR1	CTA-24HR1
Indoor power supply		V/Ph/Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz
Cooling	Capacity	Btu/h	18000	18000	24000
		KW	5.3	5.3	7.1
	Input	W	70	250	150
	Rated current	A	0.4	1.1	0.7
	EER	W/W	2.69	2.47	2.78
Heating	Capacity	Btu/h	20000	19800	26000
		KW	5.9	5.9	7.7
	Input	W	70	250	150
	Rated current	A	0.4	1.1	0.7
	COP	W/W	3.35	3.04	3.42
Indoor fan motor	Model		YSK110-35P-4P3H95-1	YSK110-90F-4P3H105	YSK-110-50P-4P3H95-1
	Input	W	70	250	150
	Capacitor	μF	1.8	5	3
	Speed(Hi/Me/Lo)	r/min	1320/1220/1020/850	1100/940/850/800	1170/970/810/710
Indoor coil	Number of rows		3	2	3
	Fin spacing	mm	1.6	1.7	1.6
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Number of circuits		4	6	5
Indoor air flow(High speed)		m^3/h	730	900	1150
Static Pressure		Pa	0-20	30-70	0-20
Indoor noise level		dB(A)	37～46	40～48	38～48
Indoor unit	Dimension(W*H*D)	Body(mm)	1204×181×560	1189×260×643	1532×181×510
	Packing(W*H*D)	Body(mm)	1310×250×645	1255×325×720	1625×250×645
	Net/Gross weight	Body(Kg)	20/24	32/36	24/27.5
Max pressure		MPa	4.0	4.0	4.0
Refrigerant type			R410A	R410A	R410A
Refrigerant piping	Liquid side/Gas side	mm	Φ6.35/Φ12.7	Φ9.52/Φ15.88	Φ9.52/Φ15.88
Drainage pipe		mm	DN25	DN25	DN25
Controller			Standard for wired controller(remote controller for option)		
Operation temp		°C	16～32	16～32	16～32
Ambient temp		°C	-7～43	-7～43	-7～43
Application area		m^2	20-35	20-35	28~50
Stuffing Quantity(20'/40'/40'HQ)		set	115/250/320	75/165/189	90/190/255

Notes:

1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. Piping: 5m(horizontal)
2.Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. Piping: 5m(horizontal)
3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

Model			CTB-24HR1	CTB-36HR1	CTB-48HR1
Indoor power supply		V/Ph/Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz
Cooling	Capacity	Btu/h	24000	36000	48000
		KW	7.1	10.5	14
	Input	W	250	300	340
	Rated current	A	1.1	1.4	1.6
	EER	W/W	2.68	2.56	2.62
Heating	Capacity	Btu/h	26000	39000	52000
		KW	7.7	11.5	15.2
	Input	W	250	300	340
	Rated current	A	1.1	1.4	1.6
	COP	W/W	3.28	2.95	2.79
Indoor fan motor	Model		YSK110-90F-4P3H105	YDK110-75F-4P3H105L-1 +YSK120-150F-4P3H105-1	YDK110-75F-4P3H105L +YSK120-150F-4P3H105
	Input	W	250	300	340
	Capacitor	μF	5	3+5	3+5
	Speed(Hi/Me/Lo)	r/min	1100/940/850/800	1310/1170/1090/1040 +1300/1200/1110/1060	1340/1270/1200/1130 +1340/1240/1140/1040
Indoor coil	Number of rows		3	3	3
	Fin spacing	mm	1.7	1.7	1.8
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Number of circuits		6	6	5
Indoor air flow(High speed)		m^3/h	1200	1900	2000
Static Pressure		Pa	30-70	30-70	30-70
Indoor noise level		dB(A)	40～48	40～50	40～50
Indoor unit	Dimension (W*H*D)	Body(mm)	1189×260×643	1425×260×643	1425×260×643
	Packing (W*H*D)	Body(mm)	1255×325×720	1490×325×720	1490×325×720
	Net/Gross weight	Body(Kg)	33/37	44/48	44/48
Max pressure		MPa	4.0	4.0	4.5
Refrigerant type			R410A	R410A	R410A
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ15.88	Φ9.52/Φ19.05	Φ9.52/Φ19.05
Drainage pipe		mm	DN25	DN25	DN25
Controller			Standard for wired controller(remote controller for option)		

Operation temp	°C	16～32	16～32	16～32
Ambient temp	°C	-7～43	-7～43	-7～43
Application area	m^2	28-50	40-70	55~95
Stuffing Quantity(20'/40'/40'HQ)	set	75/165/189	75/165/168	75/165/168

Notes:
1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. Piping: 5m(horizontal)
2.Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. Piping: 5m(horizontal)
3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

Model			CTB-60HR1	CTH-48HR1	CTH-60HR1
Indoor power supply		V/Ph/Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz
Cooling	Capacity	Btu/h	60000	48000	60000
		KW	16.0	14	16
	Input	W	340	500	500
	Rated current	A	1.6	2.3	2.3
	EER	W/W	2.65	2.55	2.58
Heating	Capacity	Btu/h	60000	52500	60000
		KW	16.0	15.2	16.0
	Input	W	340	500	500
	Rated current	A	1.6	2.3	2.3
	COP	W/W	2.61	2.71	2.54
Indoor fan motor	Model		YDK110-75F-4P3H105L +YSK120-150F-4P3H105	YSK139-300F-4P3H95	YSK139-300F-4P3H95
	Input	W	340	500	500
	Capacitor	μF	3+5	15	15
	Speed(Hi/Me/Lo)	r/min	1340/1270/1200/1130 +1340/1240/1140/1040	1050/830/720	1050/830/720
Indoor coil	Number of rows		3	3	3
	Fin spacing	mm	1.8	1.6	1.6
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Number of circuits		5	6	6
Indoor air flow(High speed)		m^3/h	2000	2300	2300
Static Pressure		Pa	30-70	120	120
Indoor noise level		dB(A)	40～50	44～52	44～52
Indoor unit	Dimension (W*H*D)	Body(mm)	1425×643×260	1175×610×370	1175×610×370
	Packing (W*H*D)	Body(mm)	1490×720×325	1245×655×445	1245×655×445
	Net/Gross weight	Body(Kg)	44/48	45/49	45/49

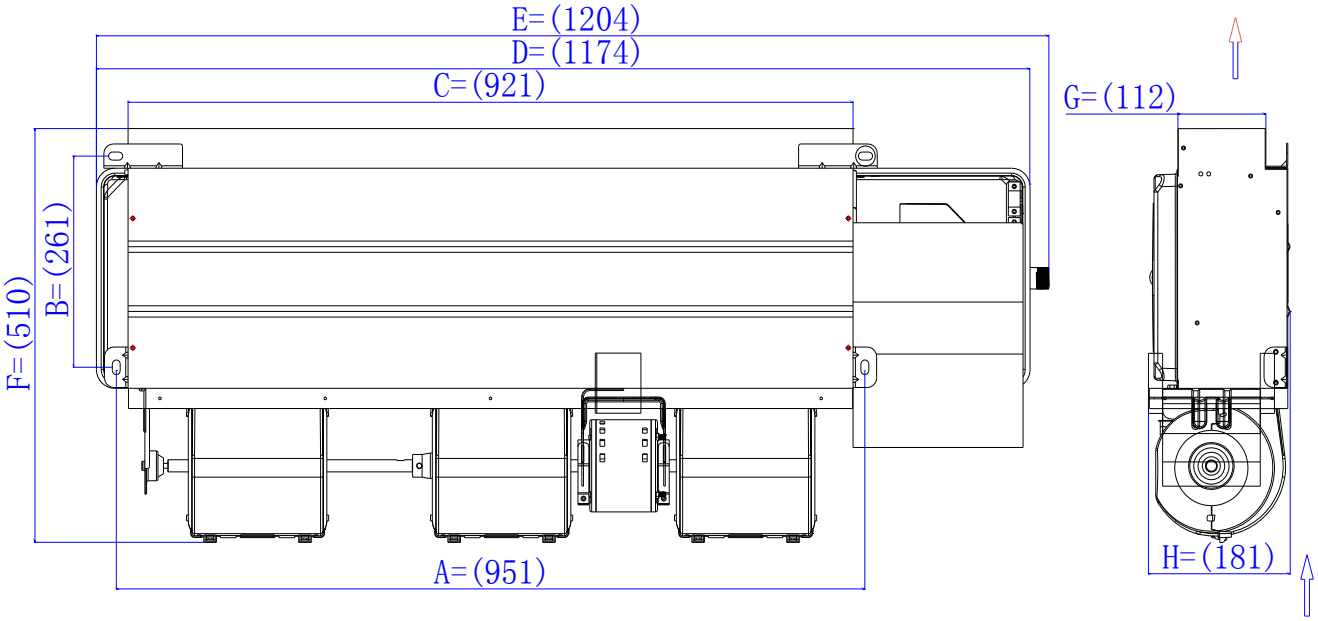
Max pressure		MPa	4.5	4.0	4.0
Refrigerant type			R410A	R410A	R410A
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ19.05	Φ9.52/Φ19.05	Φ9.52/Φ19.05
Drainage pipe		mm	25	25	25
Controller			Standard for wired controller(remote controller for option)		
Operation temp		°C	16～32	16～32	16～32
Ambient temp		°C	-7～43	-7～43	-7～43
Application area		m^2	60~105	55~95	60~105
Stuffing Quantity(20'/40'/40'HQ)		set	75/165/168	75/165/168	75/165/168

Notes:

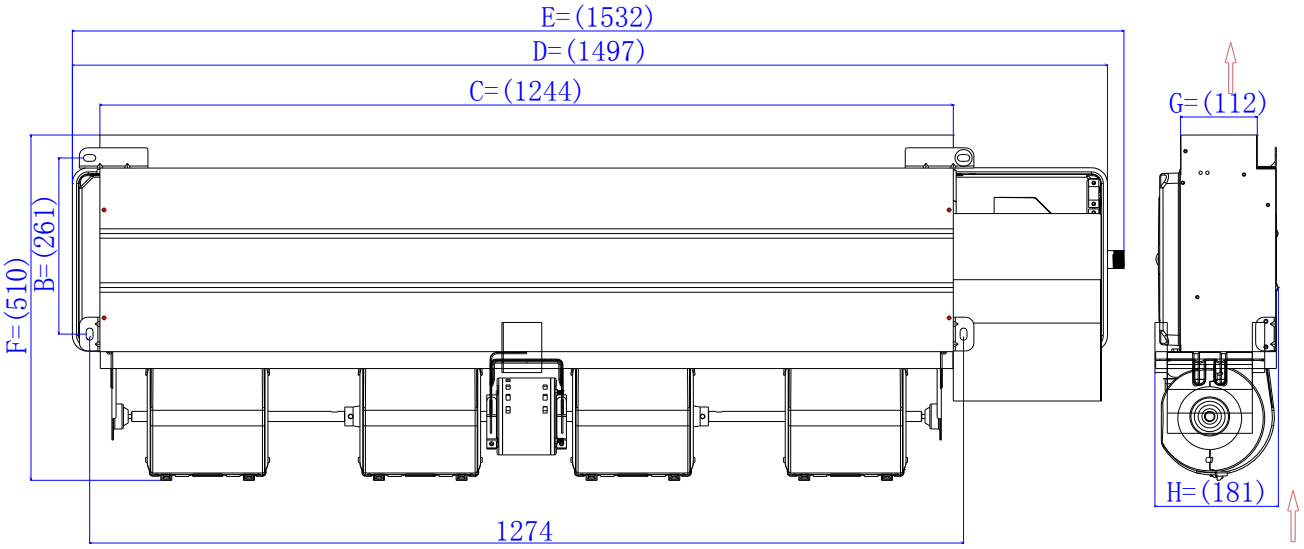
1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. Piping: 5m(horizontal)
2.Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. Piping: 5m(horizontal)
3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

3.Dimensions

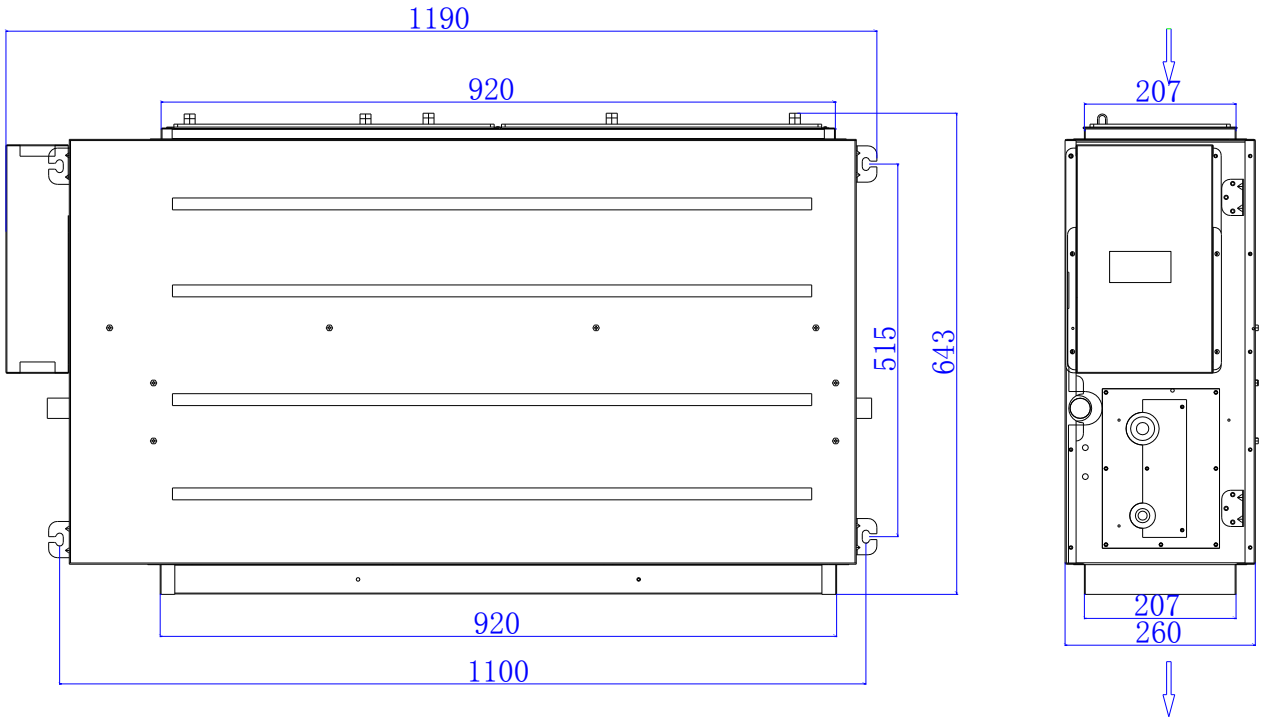
3.1 CTA-18HR1



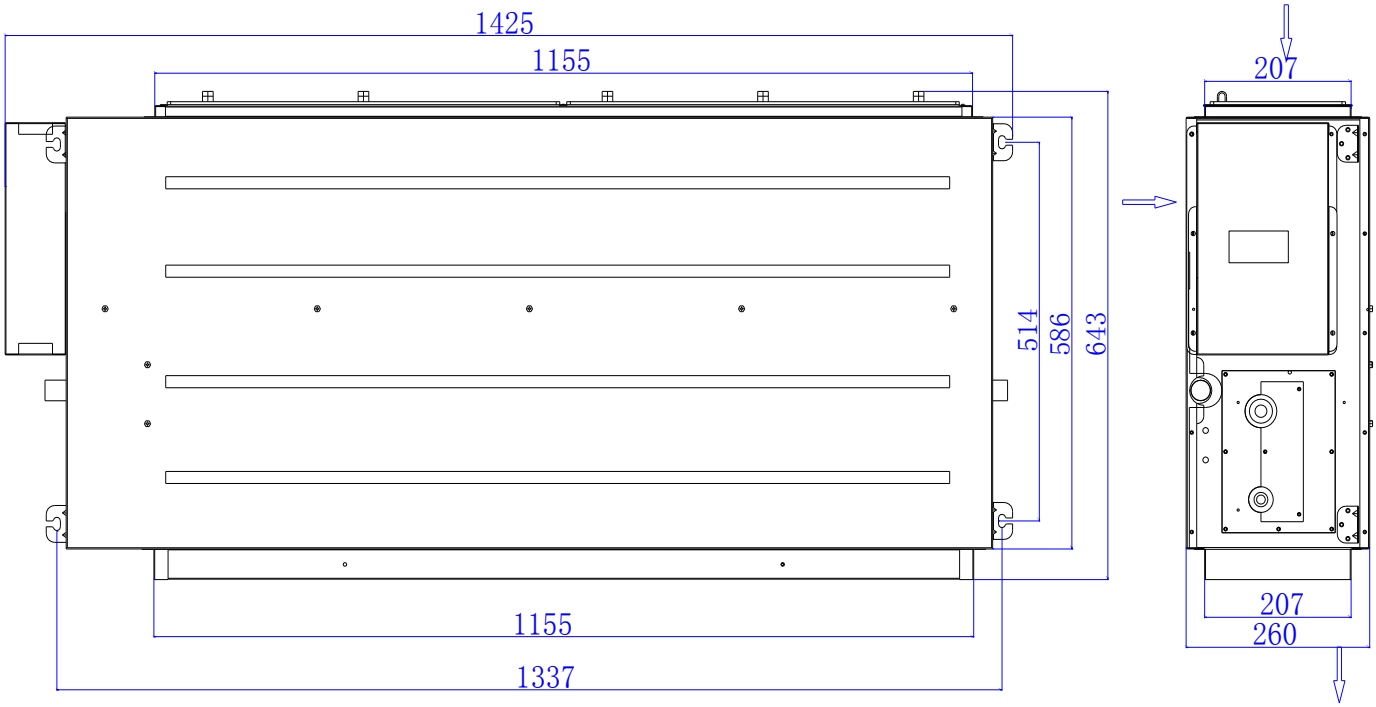
3.2 CTA-24HR1



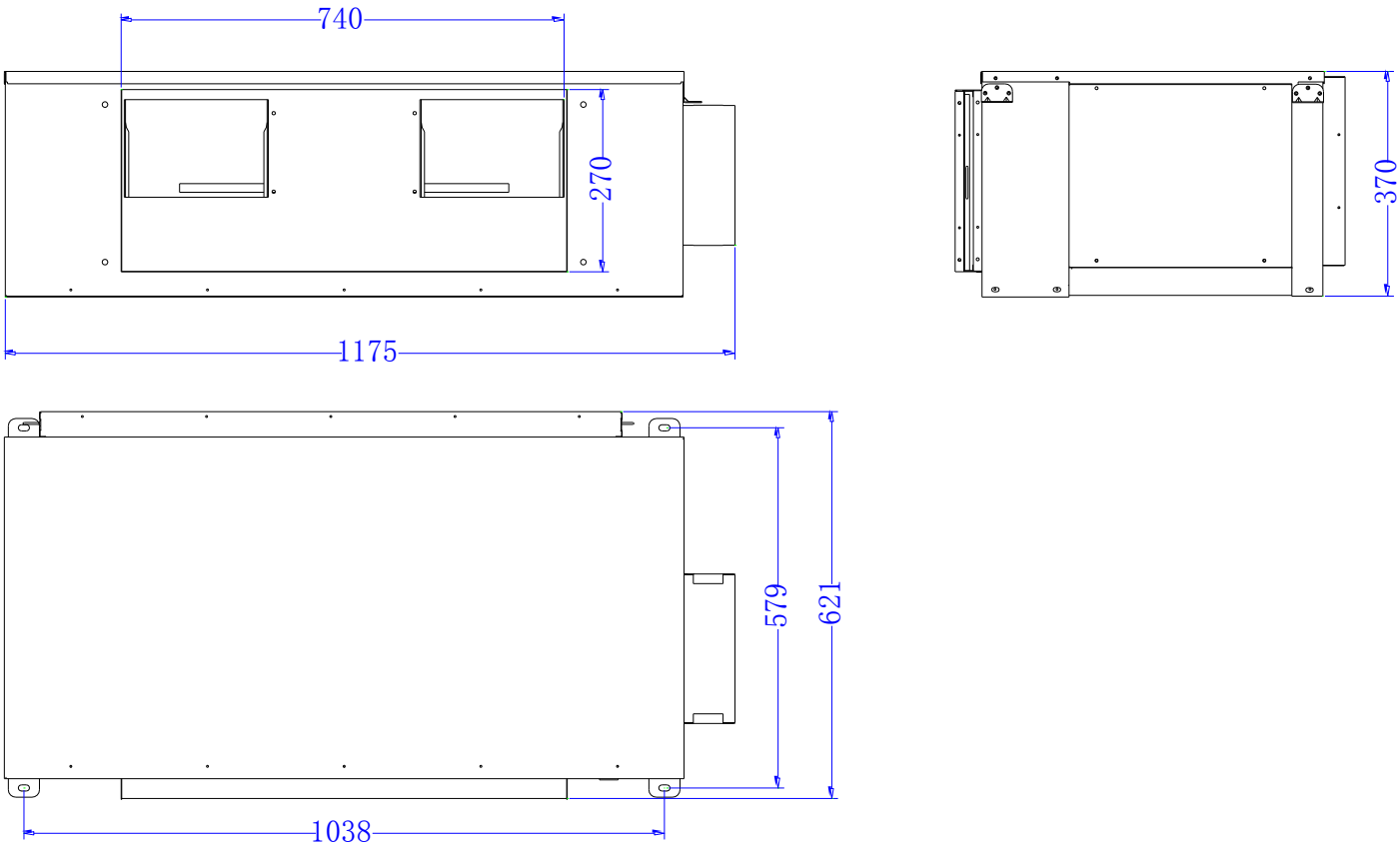
3.3 CTB-18HR1, CTB-24HR1



3.4 CTB-36HR1, CTB-48HR1, CTB-60HR1



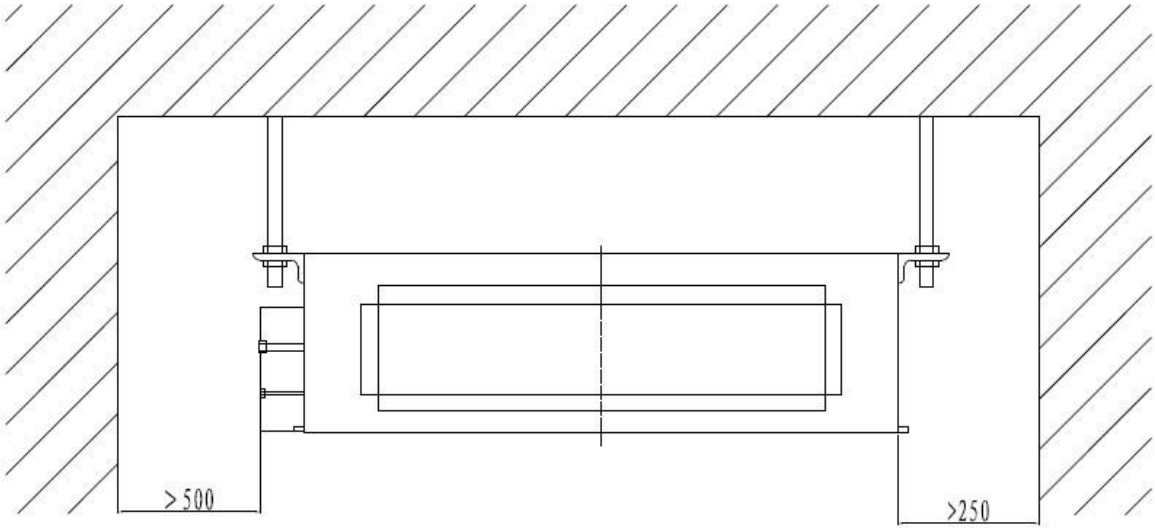
3.5 CTH-48HR1, CTH-60HR1



Wymiary wlotu powietrza: 920 x 295
Wymiary wylotu powietrza: 735 x 270

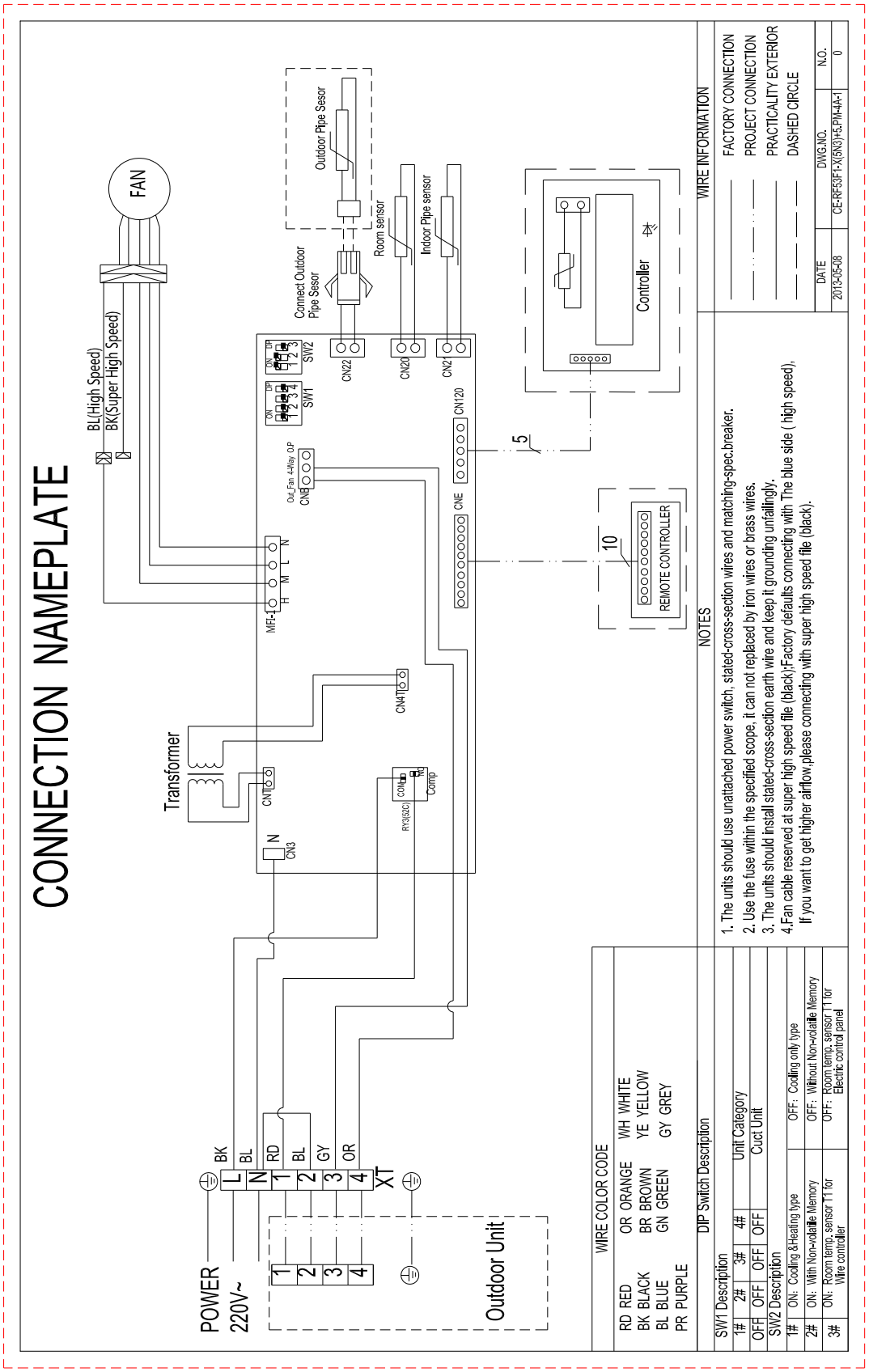
4. Service Space

Ensure enough space required for installation and maintenance.

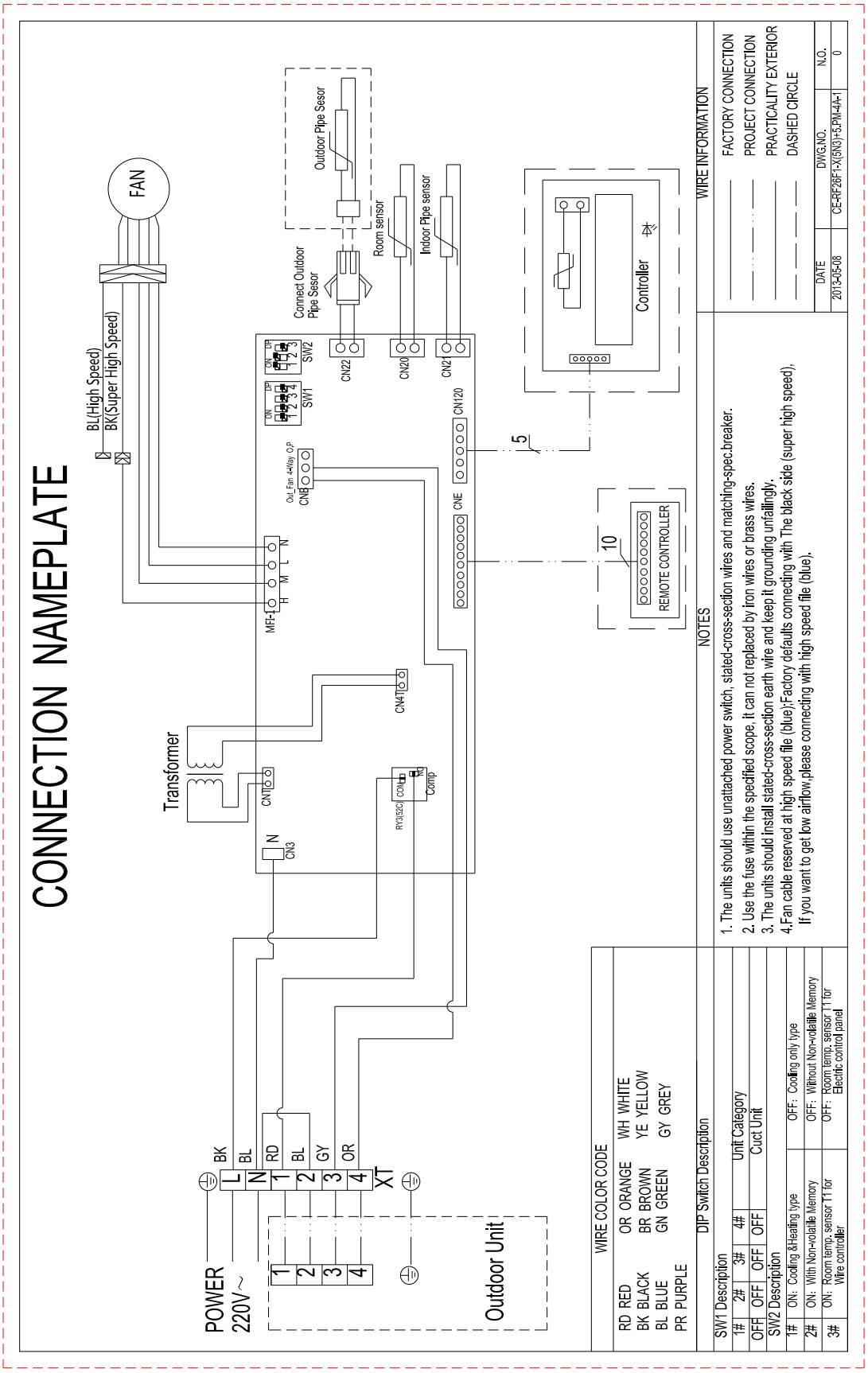


5.Wiring Diagrams

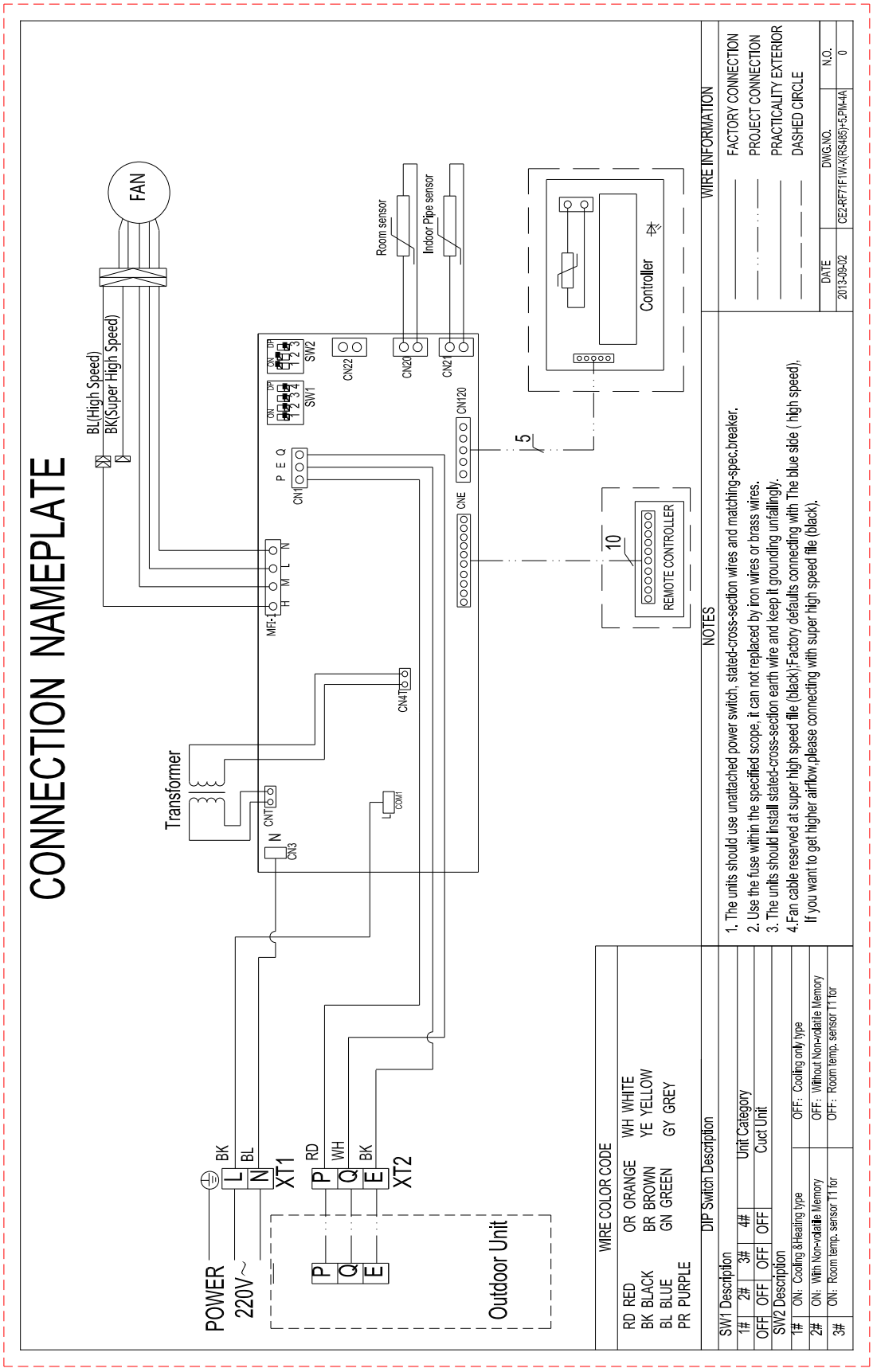
5.1 CTA-18HR1



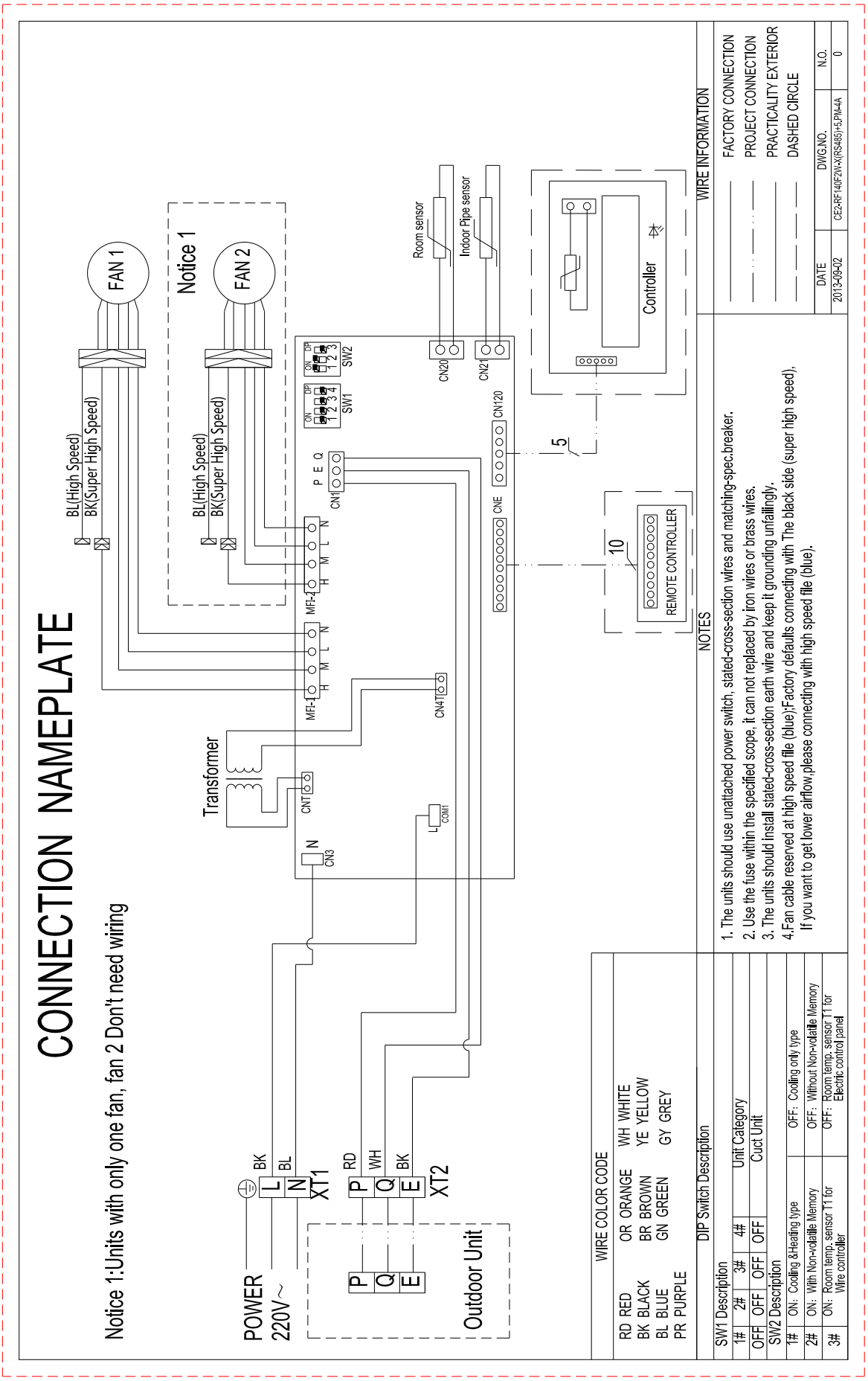
5.2 CTB-18HR1


CONNECTION NAMEPLATE
FAN
BL(High Speed)
BK(Super High Speed)
Outdoor Pipe Sesor
Room sensor
Indoor Pipe sensor
Connect Outdoor Pipe Sesor
CN22
CN20
CN21
SW2
SW1
CN120
CNE
Out Fan 4-Way O.P
CN4
MFI-1
H M L N
Controller
REMOTE CONTROLLER
5
10
Transformer
CN4T
CNT
CN3
RY(3)52C
COM
NO
Comp
POWER
220V ~
L
N
BK
BL
RD
BL
GY
OR
XT
1
2
3
4
Outdoor Unit
WIRE COLOR CODE
RD RED
BK BLACK
BL BLUE
PR PURPLE
OR ORANGE
BR BROWN
GN GREEN
WH WHITE
YE YELLOW
GY GREY
DIP Switch Description
SW1 Description
1# 2# 3# 4# Unit Category
OFF OFF OFF OFF Cuct Unit
SW2 Description
1# ON: Cooling &Heating type OFF: Cooling only type
2# ON: With Non-volatile Memory OFF: Without Non-volatile Memory
3# ON: Room temp. sensor T1 for Wire controller OFF: Room temp. sensor T1 for Electric control panel
NOTES
1. The units should use unattached power switch, stated-cross-section wires and matching-spec.breaker.
2. Use the fuse within the specified scope, it can not replaced by iron wires or brass wires.
3. The units should install stated-cross-section earth wire and keep it grounding unfailingly.
4.Fan cable reserved at high speed file (blue);Factory defaults connecting with The black side (super high speed), If you want to get low airflow,please connecting with high speed file (blue).
WIRE INFORMATION
FACTORY CONNECTION
PROJECT CONNECTION
PRACTICALITY EXTERIOR
DASHED CIRCLE
DATE
2013-05-08
DWG.NO.
CE-RF26F1-X(5N3)+5.PM-4A-1
N.O.
0

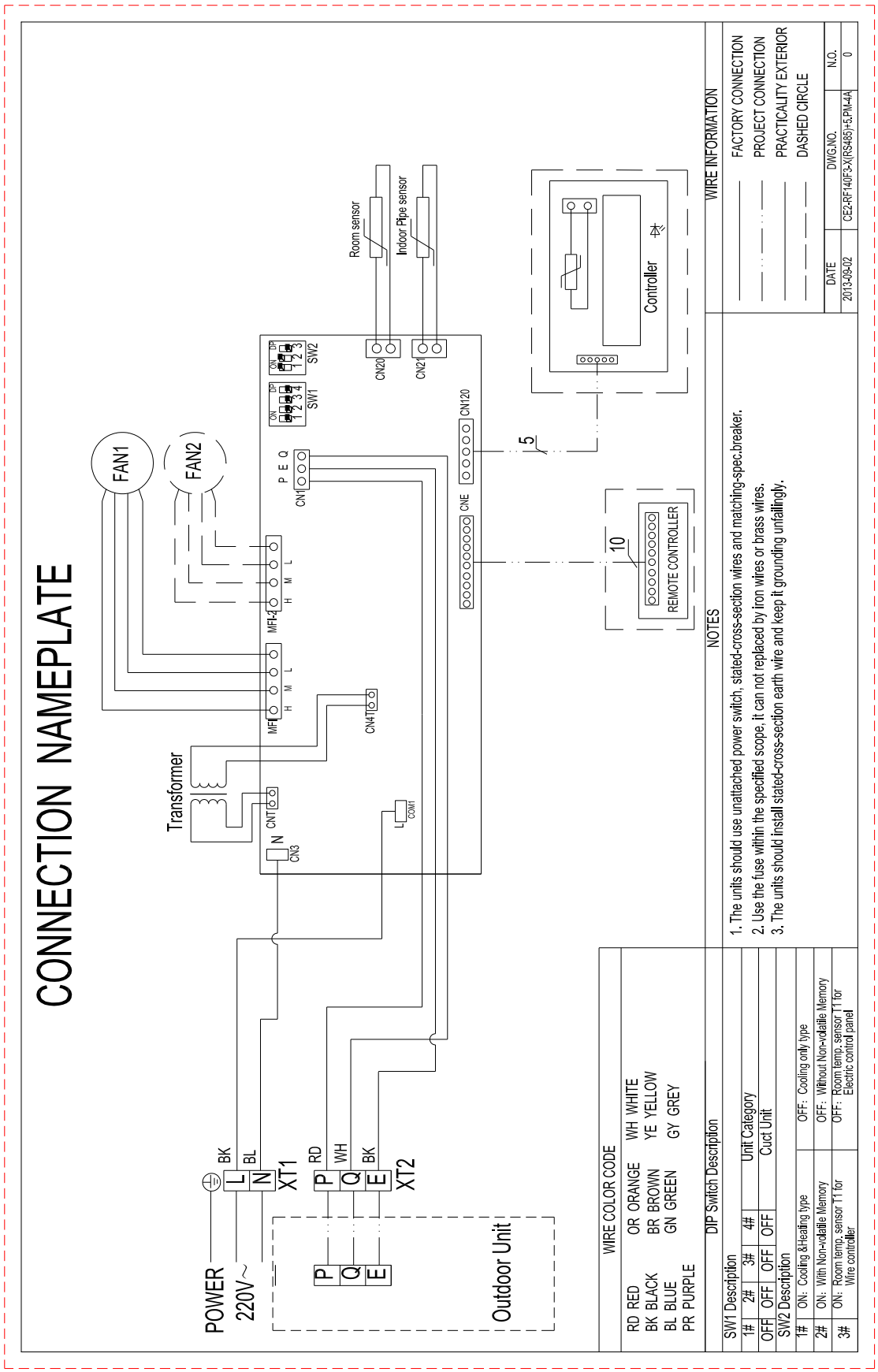
5.3 CTA-24HR1


CONNECTION NAMEPLATE
FAN
BL(High Speed)
BK(Super High Speed)
Room sensor
Indoor Pipe sensor
Controller
Transformer
REMOTE CONTROLLER
POWER
220V~
Outdoor Unit
XT1
XT2
WIRE COLOR CODE
RD RED
BK BLACK
BL BLUE
PR PURPLE
OR ORANGE
BR BROWN
GN GREEN
WH WHITE
YE YELLOW
GY GREY
DIP Switch Description
NOTES
1. The units should use unattached power switch, stated-cross-section wires and matching-spec.breaker.
2. Use the fuse within the specified scope, it can not replaced by iron wires or brass wires.
3. The units should install stated-cross-section earth wire and keep it grounding unfailingly.
4.Fan cable reserved at super high speed file (black);Factory defaults connecting with The blue side (high speed),
If you want to get higher airflow,please connecting with super high speed file (black).
WIRE INFORMATION
FACTORY CONNECTION
PROJECT CONNECTION
PRACTICALITY EXTERIOR
DASHED CIRCLE
DATE
2013-09-02
DWG.NO.
CE2-RF71F1W-X(RS485)+5.PM-4A
N.O.
0

5.4 CTB-24HR1, CTB-36HR1, CTB-48HR1, CTB-60HR1



5.5 CTH-48HR1, CTH-60HR1



6.Capacity Tables

Cooling

6.1 CTA-18HR1

MODEL		CTA-18HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	5.50	5.45	5.39	5.31	4.77	4.05
	Input kW.	1.53	1.57	1.65	1.65	1.75	1.82
24ºC D 17ºC W	Total capacity kW	5.78	5.72	5.67	5.58	5.01	4.26
	Input kW.	1.57	1.60	1.63	1.68	1.78	1.85
27ºC D 19ºC W	Total capacity kW	6.07	6.01	5.95	5.86	5.26	4.47
	Input kW.	1.60	1.63	1.66	1.71	1.82	1.89
29ºC D 19ºC W	Total capacity kW	6.31	6.07	6.01	5.92	5.31	4.51
	Input kW.	1.63	1.56	1.59	1.64	1.74	1.81
32ºC D 23ºC W	Total capacity kW	6.56	6.50	6.44	6.34	5.69	4.83
	Input kW.	1.66	1.70	1.73	1.78	1.89	1.97

6.2 CTA-24HR1

MODEL		CTA-24HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	6.67	6.60	6.54	6.44	5.78	4.91
	Input kW.	2.28	2.33	2.45	2.45	2.60	2.71
24ºC D 17ºC W	Total capacity kW	7.00	6.93	6.86	6.76	6.07	5.16
	Input kW.	2.33	2.38	2.43	2.50	2.65	2.76
27ºC D 19ºC W	Total capacity kW	7.35	7.28	7.21	7.10	6.37	5.41
	Input kW.	2.38	2.43	2.47	2.55	2.71	2.82
29ºC D 19ºC W	Total capacity kW	7.65	7.57	7.49	7.38	6.64	5.63
	Input kW.	2.43	2.47	2.52	2.60	2.76	2.87
32ºC D 23ºC W	Total capacity kW	7.95	7.87	7.80	7.68	6.90	5.86
	Input kW.	2.47	2.52	2.58	2.65	2.82	2.93

6.3 CTB-18HR1

MODEL		CTB-18HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	4.98	4.93	4.88	4.81	4.32	3.67
	Input kW.	1.79	1.83	1.92	1.92	2.04	2.12
24ºC D 17ºC W	Total capacity kW	5.23	5.17	5.12	5.05	4.53	3.85
	Input kW.	1.83	1.86	1.90	1.96	2.08	2.16
27ºC D 19ºC W	Total capacity kW	5.49	5.43	5.38	5.30	4.76	4.04
	Input kW.	1.86	1.90	1.94	2.00	2.12	2.21
29ºC D 19ºC W	Total capacity kW	5.71	5.65	5.59	5.51	4.96	4.20
	Input kW.	1.90	1.94	1.98	2.04	2.16	2.25
32ºC D 23ºC W	Total capacity kW	5.94	5.88	5.82	5.73	5.15	4.37
	Input kW.	1.94	1.98	2.02	2.08	2.21	2.30

6.4 CTB-24HR1

MODEL		CTB-24HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	6.67	6.60	6.54	6.44	5.78	4.91
	Input kW.	2.37	2.42	2.55	2.55	2.70	2.81
24ºC D 17ºC W	Total capacity kW	7.00	6.93	6.86	6.76	6.07	5.16
	Input kW.	2.42	2.47	2.52	2.60	2.76	2.87
27ºC D 19ºC W	Total capacity kW	7.35	7.28	7.21	7.10	6.37	5.41
	Input kW.	2.47	2.52	2.57	2.65	2.81	2.93
29ºC D 19ºC W	Total capacity kW	7.65	7.57	7.49	7.38	6.64	5.63
	Input kW.	2.52	2.57	2.62	2.70	2.87	2.98
32ºC D 23ºC W	Total capacity kW	7.95	7.87	7.80	7.68	6.90	5.86
	Input kW.	2.57	2.62	2.68	2.76	2.93	3.04

6.5 CTB-36HR1

MODEL		CTB-36HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	9.86	9.77	9.67	9.52	8.55	7.26
	Input kW.	3.67	3.75	3.94	3.94	4.18	4.35
24ºC D 17ºC W	Total capacity kW	10.36	10.25	10.15	10.00	8.98	7.63
	Input kW.	3.75	3.82	3.90	4.02	4.26	4.44
27ºC D 19ºC W	Total capacity kW	10.87	10.76	10.66	10.50	9.42	8.01
	Input kW.	3.82	3.90	3.98	4.10	4.35	4.53
29ºC D 19ºC W	Total capacity kW	11.31	11.20	11.08	10.92	9.82	8.33
	Input kW.	3.90	3.98	4.06	4.18	4.44	4.62
32ºC D 23ºC W	Total capacity kW	11.76	11.64	11.53	11.36	10.20	8.66
	Input kW.	3.98	4.06	4.14	4.26	4.53	4.71

6.6 CTB-48HR1

MODEL		CTB-48HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	13.15	13.02	12.89	12.70	11.40	9.69
	Input kW.	4.78	4.88	5.14	5.14	5.45	5.67
24ºC D 17ºC W	Total capacity kW	13.81	13.67	13.54	13.34	11.97	10.17
	Input kW.	4.88	4.98	5.08	5.23	5.55	5.78
27ºC D 19ºC W	Total capacity kW	14.50	14.35	14.21	14.00	12.57	10.68
	Input kW.	4.98	5.08	5.18	5.34	5.67	5.90
29ºC D 19ºC W	Total capacity kW	15.08	14.93	14.78	14.56	13.09	11.10
	Input kW.	5.08	5.18	5.29	5.45	5.78	6.01
32ºC D 23ºC W	Total capacity kW	15.68	15.52	15.37	15.15	13.60	11.55
	Input kW.	5.18	5.29	5.39	5.55	5.90	6.14

6.7 CTB-60HR1

MODEL		CTB-60HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	15.03	14.88	14.73	14.51	13.03	11.07
	Input kW.	5.41	5..52	5.81	5.81	6.16	6.41
24ºC D 17ºC W	Total capacity kW	15.78	15.62	15.47	15.24	13.68	11.62
	Input kW.	5.52	5.63	5.75	5.92	6.28	6.54
27ºC D 19ºC W	Total capacity kW	16.57	16.40	16.24	16.00	14.36	12.20
	Input kW.	5.63	5.75	5.86	6.04	6.41	6.67
29ºC D 19ºC W	Total capacity kW	17.23	17.06	16.89	16.64	14.96	12.69
	Input kW.	5.75	5.86	5.98	6.16	6.54	6.80
32ºC D 23ºC W	Total capacity kW	17.92	17.74	17.57	17.31	15.54	13.20
	Input kW.	5.86	5.98	6.10	6.28	6.67	6.94

6.8 CTH-48HR1

MODEL		CTH-48HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	13.15	13.02	12.89	12.70	11.40	9.69
	Input kW.	4.93	5.03	5.29	5.29	5.61	5.84
24ºC D 17ºC W	Total capacity kW	13.81	13.67	13.54	13.34	11.97	10.17
	Input kW.	5.03	5.13	5.24	5.39	5.72	5.96
27ºC D 19ºC W	Total capacity kW	14.50	14.35	14.21	14.00	12.57	10.68
	Input kW.	5.13	5.24	5.34	5.50	5.84	6.07
29ºC D 19ºC W	Total capacity kW	15.08	14.93	14.78	14.56	13.09	11.10
	Input kW.	5.24	5.34	5.45	5.61	5.96	6.19
32ºC D 23ºC W	Total capacity kW	15.68	15.52	15.37	15.15	13.60	11.55
	Input kW.	5.34	5.45	5.55	5.72	6.07	6.32

6.9 CTH-60HR1

MODEL		CTH-60HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	15.03	14.88	14.73	14.51	13.03	11.07
	Input kW.	5.55	5.67	5.96	5.96	6.32	6.58
24ºC D 17ºC W	Total capacity kW	15.78	15.62	15.47	15.24	13.68	11.62
	Input kW.	5.67	5.78	5.90	6.08	6.45	6.71
27ºC D 19ºC W	Total capacity kW	16.57	16.40	16.24	16.00	14.36	12.20
	Input kW.	5.78	5.90	6.02	6.20	6.58	6.85
29ºC D 19ºC W	Total capacity kW	17.23	17.06	16.89	16.64	14.96	12.69
	Input kW.	5.90	6.02	6.14	6.32	6.71	6.98
32ºC D 23ºC W	Total capacity kW	17.92	17.74	17.57	17.31	15.54	13.20
	Input kW.	6.02	6.14	6.26	6.45	6.85	7.12

Heating

6.10 CTA-18HR1

MODEL		CTA-18HR1						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	6.69	6.56	6.46	6.15	5.94	5.47	5.18
	Input kW.	1.58	1.62	1.64	1.66	1.67	1.68	1.69
18ºC	Capacity kW	6.37	6.24	6.15	5.86	5.66	5.21	4.94
	Input kW.	1.61	1.65	1.68	1.69	1.70	1.72	1.73
20ºC	Capacity kW	6.07	5.95	5.86	5.58	5.39	4.96	4.70
	Input kW.	1.64	1.68	1.71	1.73	1.74	1.75	1.76
22ºC	Capacity kW	5.78	5.67	5.58	5.31	5.13	4.72	4.48
	Input kW.	1.67	1.71	1.74	1.76	1.77	1.79	1.80
27ºC	Capacity kW	5.50	5.39	5.31	5.06	4.89	4.50	4.26
	Input kW.	1.71	1.75	1.78	1.80	1.80	1.82	1.83

6.11 CTA-24HR1

MODEL		CTA-24HR1						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	8.79	8.62	8.49	8.08	7.81	7.19	6.81
	Input kW.	2.35	2.41	2.45	2.48	2.49	2.51	2.53
18ºC	Capacity kW	8.37	8.21	8.09	7.70	7.44	6.84	6.49
	Input kW.	2.40	2.45	2.50	2.53	2.54	2.56	2.57
20ºC	Capacity kW	7.97	7.82	7.70	7.33	7.08	6.52	6.17
	Input kW.	2.45	2.50	2.55	2.57	2.59	2.62	2.63
22ºC	Capacity kW	7.59	7.44	7.33	6.98	6.74	6.20	5.88
	Input kW.	2.50	2.55	2.60	2.63	2.64	2.67	2.68
27ºC	Capacity kW	7.23	7.09	6.98	6.65	6.42	5.91	5.60
	Input kW.	2.55	2.60	2.65	2.68	2.69	2.72	2.73

6.12 CTB-18HR1

MODEL		CTB-18HR1						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	6.62	6.49	6.39	6.09	5.88	5.41	5.13
	Input kW.	1.65	1.69	1.72	1.74	1.75	1.76	1.77
18ºC	Capacity kW	6.31	6.18	6.09	5.80	5.60	5.15	4.89
	Input kW.	1.68	1.72	1.76	1.77	1.78	1.80	1.81
20ºC	Capacity kW	6.01	5.89	5.80	5.52	5.33	4.91	4.65
	Input kW.	1.72	1.76	1.79	1.81	1.82	1.84	1.85
22ºC	Capacity kW	5.72	5.61	5.52	5.26	5.08	4.67	4.43
	Input kW.	1.75	1.79	1.82	1.85	1.85	1.87	1.88
27ºC	Capacity kW	5.45	5.34	5.26	5.01	4.84	4.45	4.22
	Input kW.	1.79	1.83	1.86	1.88	1.89	1.91	1.92

6.13 CTB-24HR1

MODEL		CTB-24HR1						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	8.79	8.62	8.49	8.08	7.81	7.19	6.81
	Input kW.	2.17	2.22	2.26	2.28	2.29	2.32	2.33
18ºC	Capacity kW	8.37	8.21	8.09	7.70	7.44	6.84	6.49
	Input kW.	2.21	2.26	2.30	2.33	2.34	2.36	2.37
20ºC	Capacity kW	7.97	7.82	7.70	7.33	7.08	6.52	6.17
	Input kW.	2.25	2.31	2.35	2.37	2.38	2.41	2.42
22ºC	Capacity kW	7.59	7.44	7.33	6.98	6.74	6.20	5.88
	Input kW.	2.30	2.35	2.40	2.42	2.43	2.46	2.47
27ºC	Capacity kW	7.23	7.09	6.98	6.65	6.42	5.91	5.60
	Input kW.	2.35	2.40	2.45	2.47	2.48	2.51	2.52

6.14 CTB-36HR1

MODEL		CTB-36HR1						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	13.02	12.76	12.57	11.96	11.56	10.64	10.08
	Input kW.	3.59	3.68	3.75	3.78	3.80	3.84	3.86
18ºC	Capacity kW	12.40	12.15	11.97	11.39	11.01	10.13	9.60
	Input kW.	3.66	3.75	3.82	3.86	3.88	3.92	3.94
20ºC	Capacity kW	11.81	11.57	11.40	10.85	10.48	9.65	9.14
	Input kW.	3.74	3.83	3.90	3.94	3.96	4.00	4.02
22ºC	Capacity kW	11.24	11.02	10.86	10.33	9.98	9.18	8.71
	Input kW.	3.82	3.91	3.98	4.02	4.04	4.08	4.10
27ºC	Capacity kW	10.71	10.50	10.34	9.84	9.51	8.75	8.29
	Input kW.	3.89	3.98	4.06	4.10	4.11	4.16	4.18

6.15 CTB-48HR1

MODEL		CTB-48HR1						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	17.36	17.01	16.76	15.95	15.41	14.18	13.44
	Input kW.	5.01	5.14	5.23	5.28	5.31	5.36	5.39
18ºC	Capacity kW	16.53	16.20	15.96	15.19	14.68	13.51	12.81
	Input kW.	5.11	5.24	5.33	5.39	5.41	5.47	5.49
20ºC	Capacity kW	15.74	15.43	15.20	14.47	13.97	12.86	12.19
	Input kW.	5.22	5.34	5.44	5.49	5.52	5.58	5.61
22ºC	Capacity kW	14.99	14.70	14.48	13.78	13.31	12.25	11.61
	Input kW.	5.32	5.45	5.55	5.61	5.63	5.69	5.71
27ºC	Capacity kW	14.28	13.99	13.78	13.12	12.68	11.67	11.06
	Input kW.	5.43	5.56	5.66	5.71	5.74	5.80	5.83

6.16 CTB-60HR1

MODEL		CTB-60HR1						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	18.27	17.91	17.64	16.79	16.22	14.93	14.15
	Input kW.	5.66	5.8	5.9	5.96	5.99	6.05	6.1
18ºC	Capacity kW	17.4	17.05	16.8	15.99	15.45	14.22	13.48
	Input kW.	5.77	5.91	6.02	6.08	6.11	6.17	6.2
20ºC	Capacity kW	16.57	16.24	16.0	15.23	14.71	13.54	12.83
	Input kW.	5.89	6.03	6.14	6.2	6.23	6.3	6.33
22ºC	Capacity kW	15.78	15.47	15.24	14.5	14.01	12.89	12.22
	Input kW.	6.01	6.15	6.26	6.33	6.36	6.42	6.45
27ºC	Capacity kW	15.03	14.73	14.51	13.81	13.35	12.28	11.64
	Input kW.	6.13	6.27	6.39	6.45	6.48	6.55	6.58

6.17 CTH-48HR1

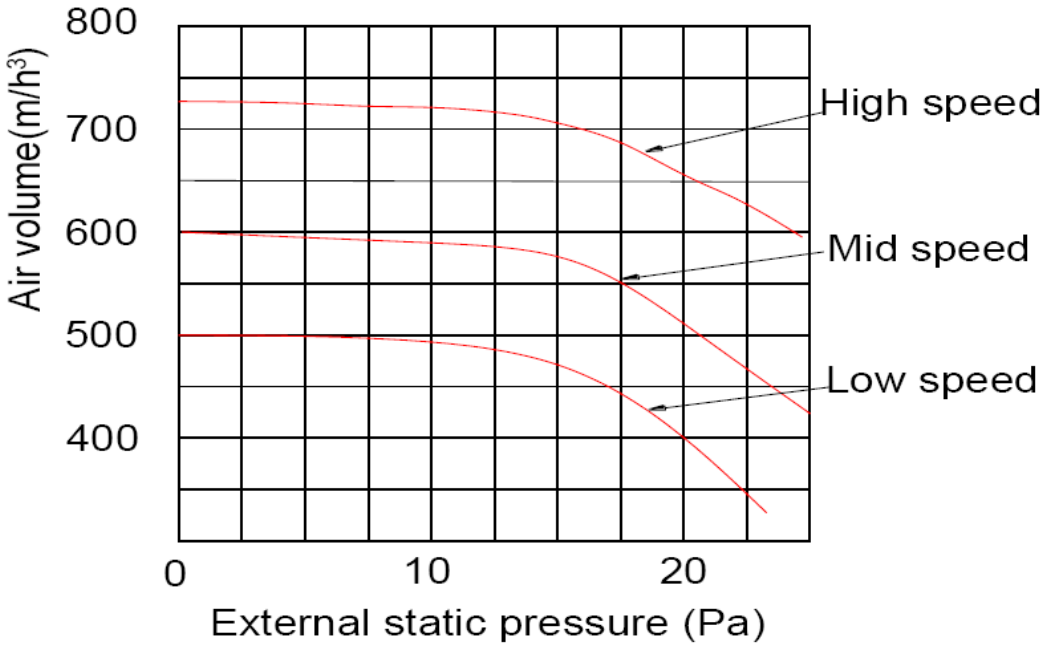
MODEL		CTH-48HR1						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	17.58	17.24	16.98	16.16	15.61	14.37	13.62
	Input kW.	5.16	5.29	5.38	5.44	5.46	5.52	5.55
18ºC	Capacity kW	16.75	16.41	16.17	15.39	14.87	13.69	12.97
	Input kW.	5.26	5.39	5.49	5.55	5.57	5.63	5.65
20ºC	Capacity kW	15.95	15.63	15.40	14.66	14.16	13.03	12.35
	Input kW.	5.37	5.50	5.60	5.65	5.68	5.75	5.77
22ºC	Capacity kW	15.19	14.89	14.67	13.96	13.48	12.41	11.76
	Input kW.	5.48	5.61	5.71	5.77	5.80	5.86	5.88
27ºC	Capacity kW	14.47	14.18	13.97	13.29	12.85	11.82	11.20
	Input kW.	5.59	5.72	5.83	5.88	5.91	5.97	6.00

6.18 CTH-60HR1

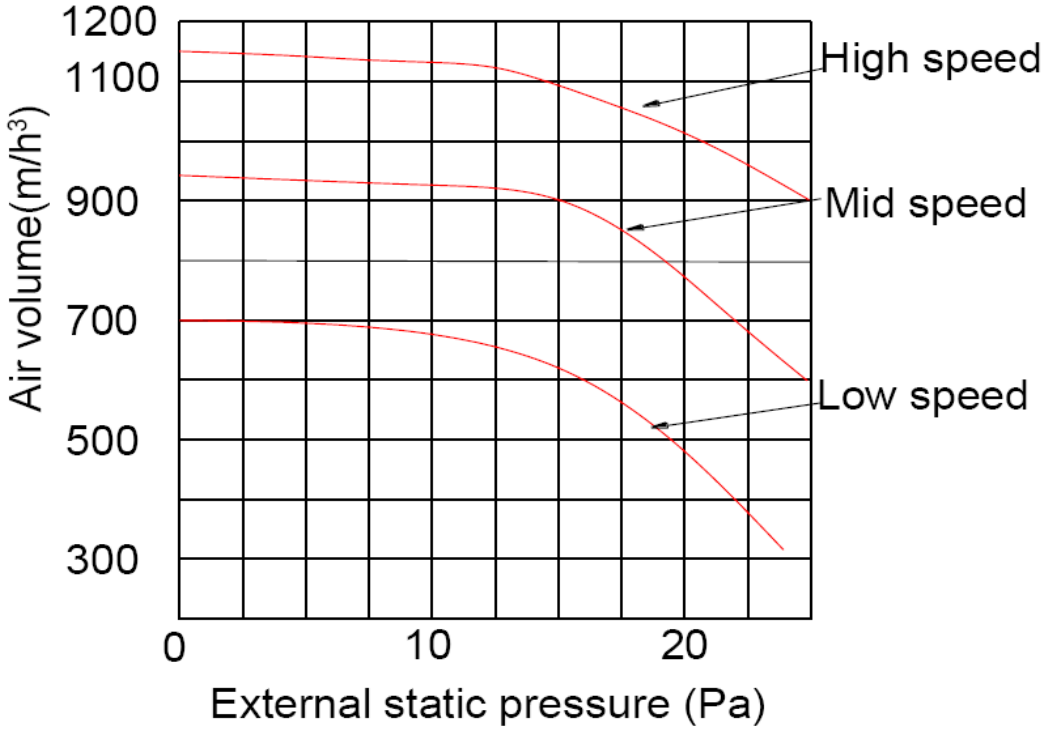
MODEL		CTH-60HR1						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	18.27	17.91	17.64	16.79	16.22	14.93	14.15
	Input kW.	5.81	5.95	6.05	6.12	6.15	6.21	6.24
18ºC	Capacity kW	17.40	17.05	16.80	15.99	15.45	14.22	13.48
	Input kW.	5.92	6.06	6.18	6.24	6.27	6.33	6.36
20ºC	Capacity kW	16.57	16.24	16.00	15.23	14.71	13.54	12.83
	Input kW.	6.04	6.19	6.30	6.36	6.39	6.46	6.49
22ºC	Capacity kW	15.78	15.47	15.24	14.50	14.01	12.89	12.22
	Input kW.	6.17	6.31	6.42	6.49	6.53	6.59	6.62
27ºC	Capacity kW	15.03	14.73	14.51	13.81	13.35	12.28	11.64
	Input kW.	6.29	6.43	6.56	6.62	6.65	6.72	6.75

7.Static Pressure

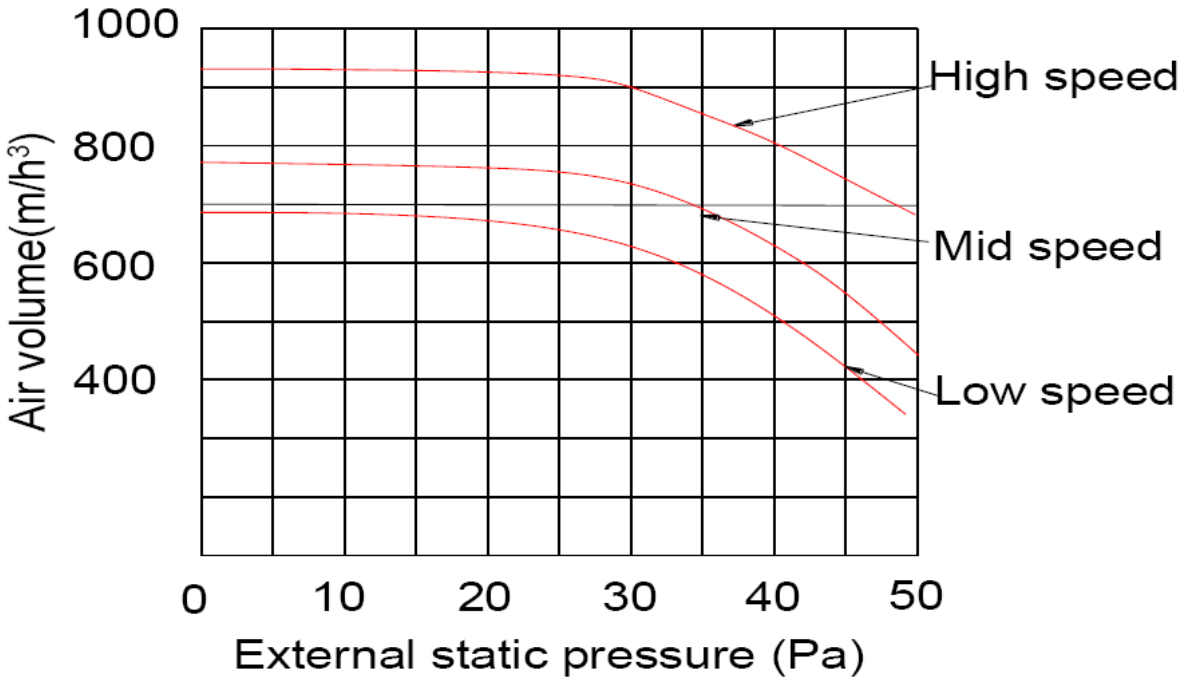
7.1 CTA-18HR1



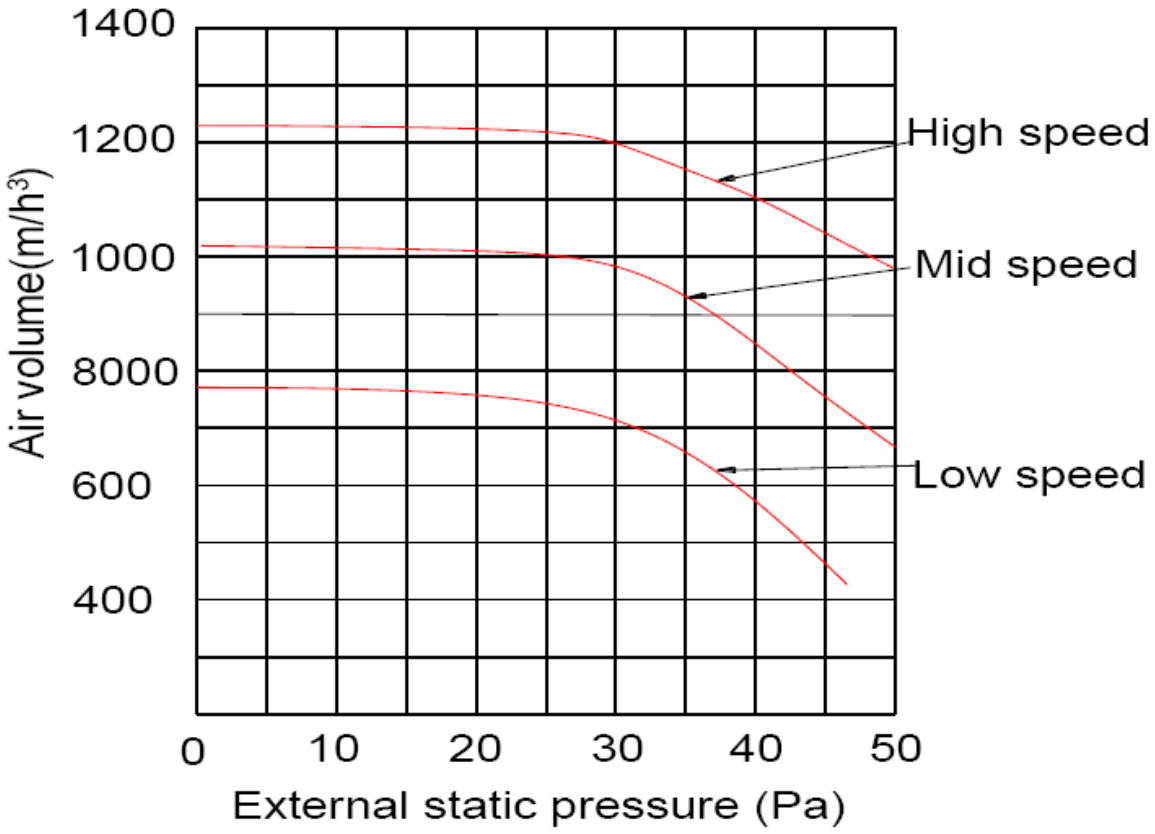
7.2 CTA-24HR1



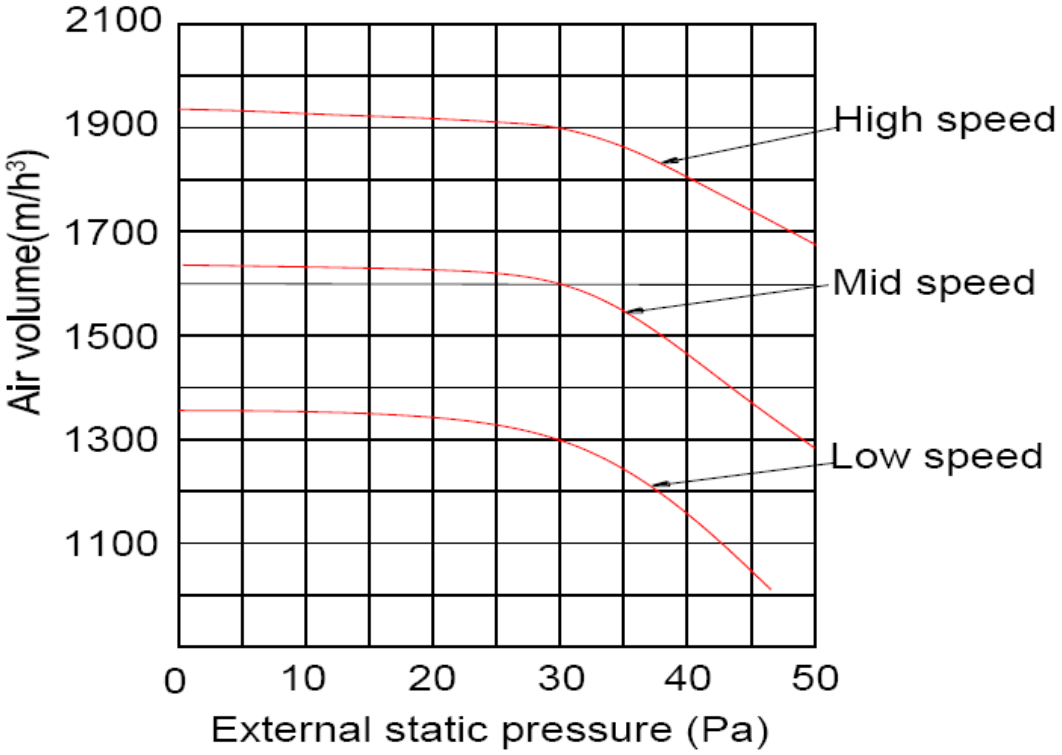
7.3 CTB-18HR1



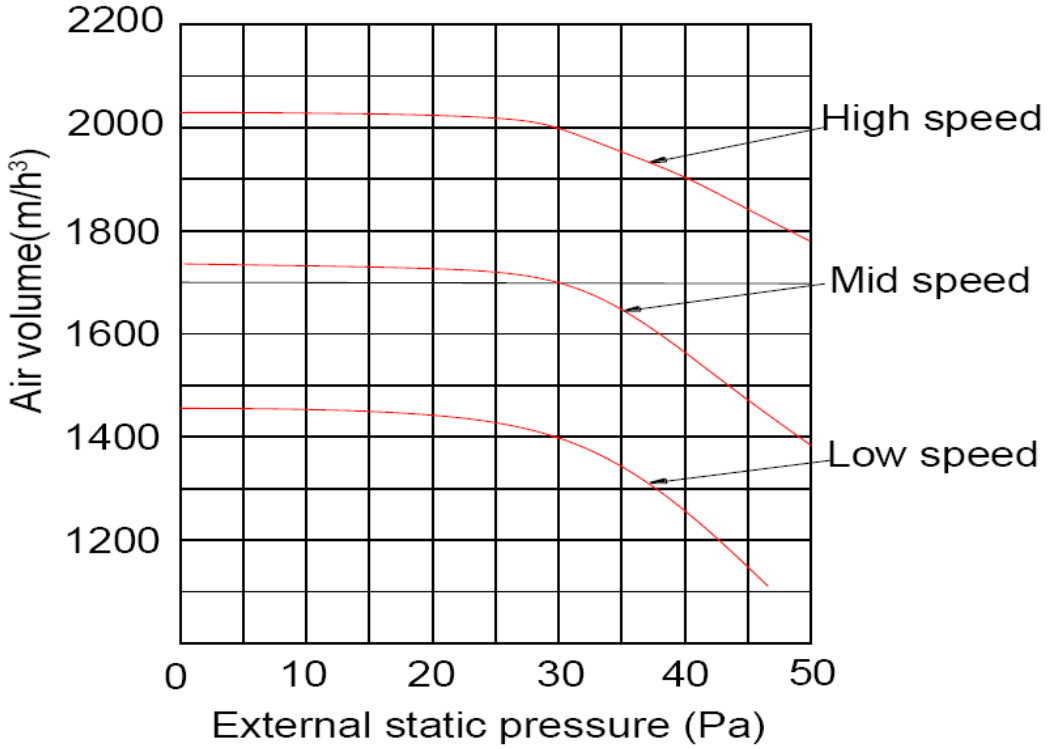
7.4 CTB-24HR1



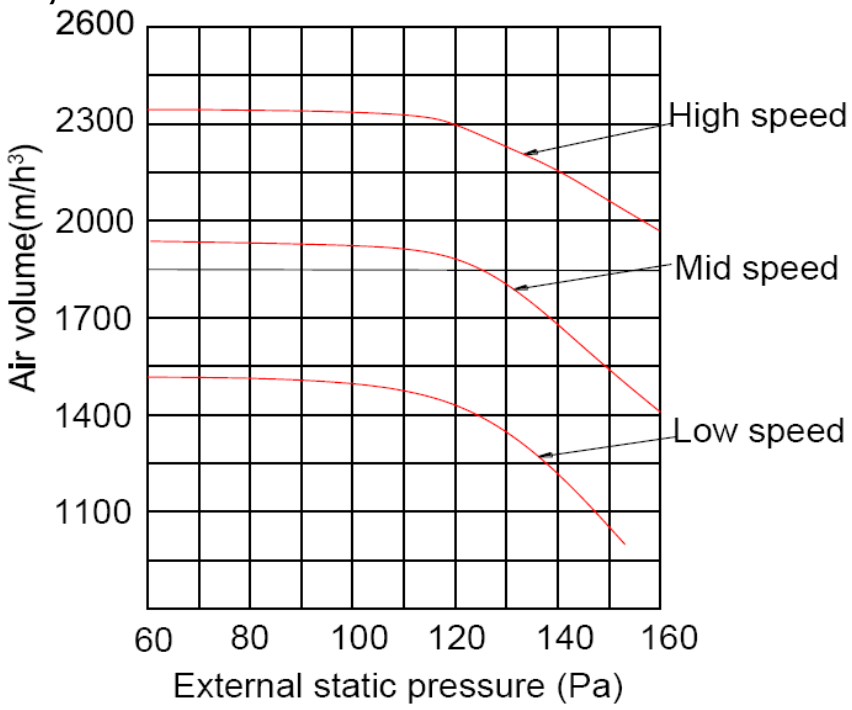
7.5 CTB-36HR1



7.6 CTB-48HR1, CTB-60HR1



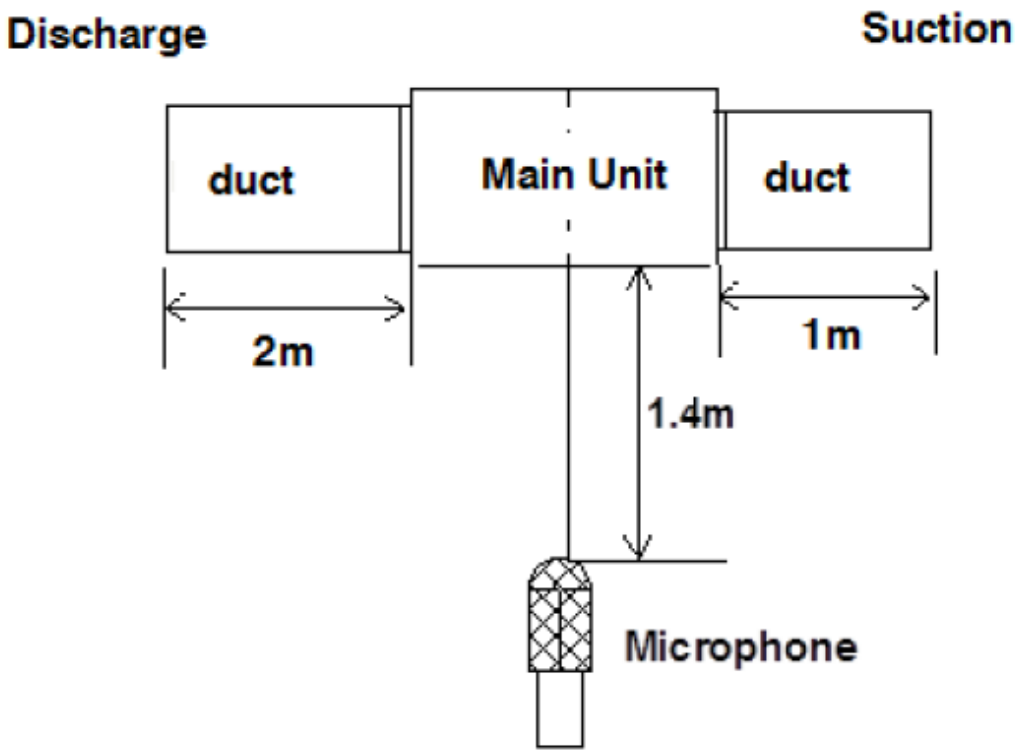
7.8 CTH-48HR1, CTH-60HR1



8.Electric Characteristics

Model	Indoor Units				Indoor Fan Motor
	Hz	Voltage	Min.	Max.	kW
CTA-18HR1	50	220-240V	198V	254V	0.07
CTA-24HR1	50	220-240V	198V	254V	0.15
CTB-18HR1	50	220-240V	198V	254V	0.25
CTB-24HR1	50	220-240V	198V	254V	0.25
CTB-36HR1	50	220-240V	198V	254V	0.30
CTB-48HR1	50	220-240V	198V	254V	0.34
CTB-60HR1	50	220-240V	198V	254V	0.34
CTH-48HR1	50	220-240V	198V	254V	0.50
CTH-60HR1	50	220-240V	198V	254V	0.50

9.Sound Levels



Model		CTA-18HR1	CTA-24HR1	CTB-18HR1	CTB-24HR1	CTB-36HR
Noise Level	dB(A)	37 ~ 46	38 ~ 48	40 ~ 48	40 ~ 48	40 ~ 50
Model		CTB-48HR1	CTB-60HR1	CTH-48HR1	CTH-60HR1	/
Noise Level	dB(A)	40 ~ 50	40 ~ 50	44 ~ 52	44 ~ 52	/

10.Accessories

	Name	Shape	Quantity
Tubing & Fittings	Soundproof/insulation sheath		2
	Binding tape		1
	Seal sponge		1
Drainpipe Fittings	Seal ring		1
Controller	Wire controller		1
	Remote controller (optional)		1
others	Operation & installation instruction manual		1

11.The Specification of Wiring

Model			18kBtu/h	24kBtu/h	36kBtu/h
Indoor power supply		V/Ph/Hz	220~240/1/50		
Outdoor power supply		V/Ph/Hz	220~240/1/50		
Connection wiring	Outdoor Power Supply		From indoor unit	Power supply individually for indoor and outdoor	
	Power wiring	mm^2	3×2.5	3×2.5/3×1.0	3×4.0/3×1.0
	Signal wiring	mm^2	5×1.5	RS485 twisted shielded wire pair 2×0.5	

Model			36kBtu/h	48kBtu/h	60kBtu/h
Indoor power supply		V/Ph/Hz	220~240/1/50		
Outdoor power supply		V/Ph/Hz	380~415/3/50		
Connection wiring	Outdoor Power Supply		Power supply individually for indoor and outdoor		
	Power wiring	mm^2	5×1.5/3×1.0	5×1.5/3×1.0	5×2.5/3×1.0
	Signal wiring	mm^2	RS485 twisted shielded wire pair 2×0.5		

12.Field Wiring

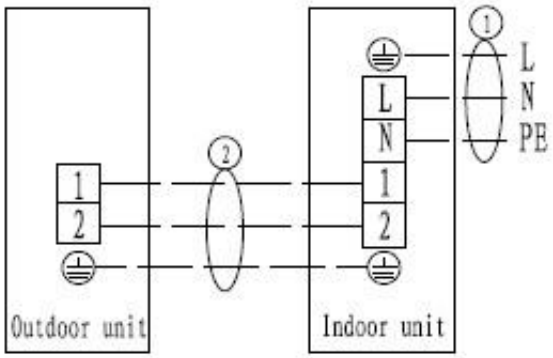


Fig 1
Applicable for 9K~18K cooling only type

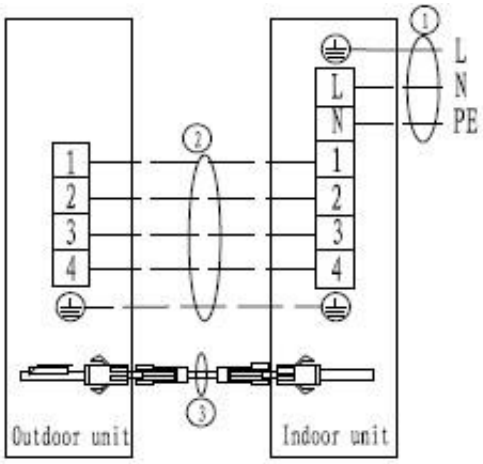


Fig 2
Applicable for 9K~18K heatpump type

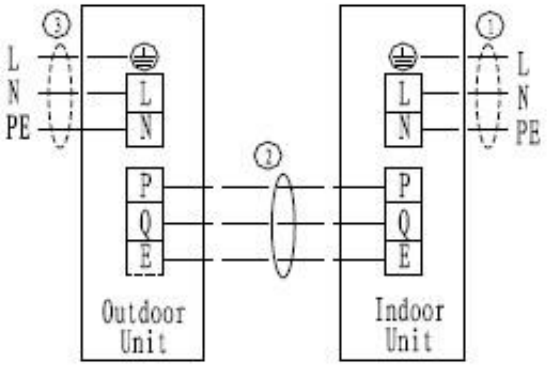


Fig 3
Applicable for 24K, 36K single-phase cooling and heatpump type

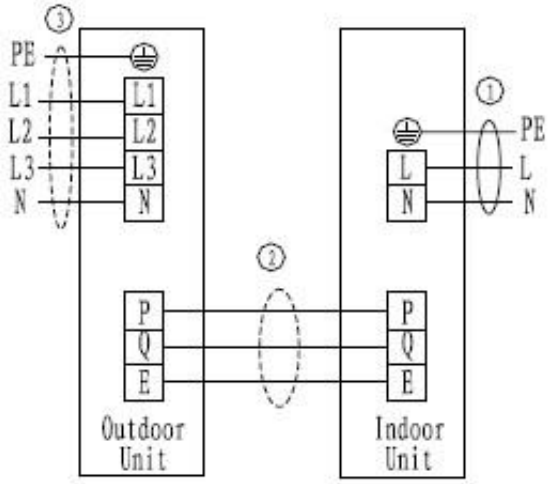
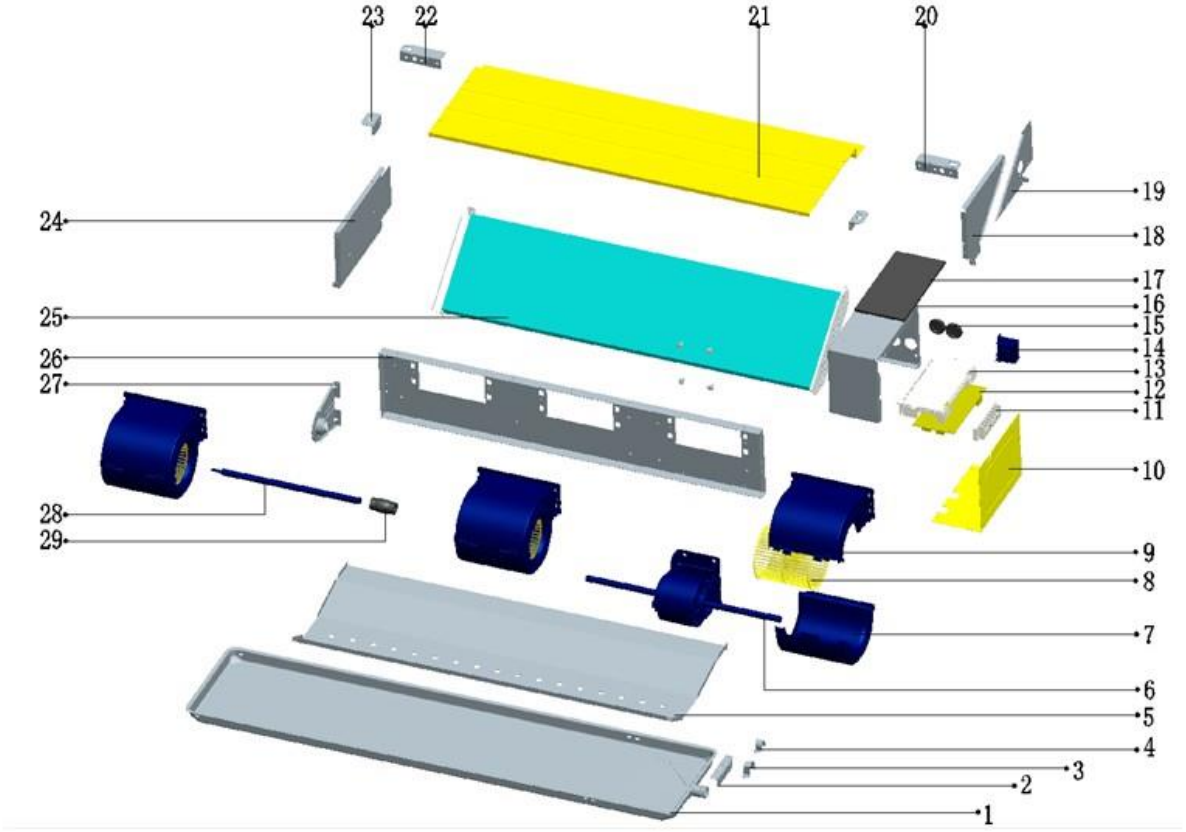


Fig 4
Applicable for 24K, 36K, 48K, 60K three-phase cooling and heatpump type

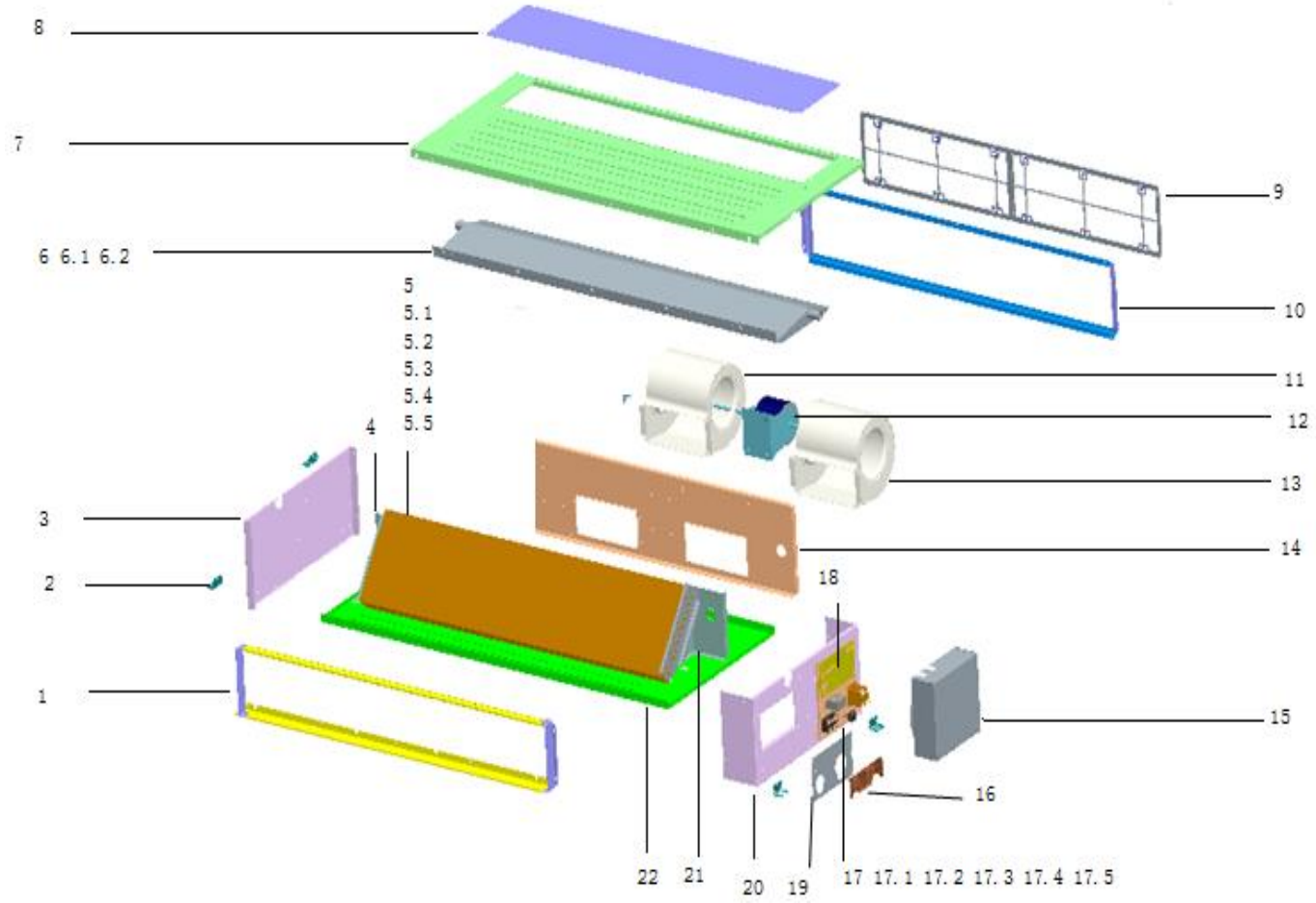
13.Exploded View

13.1 CTA-18HR1, CTA-24HR1



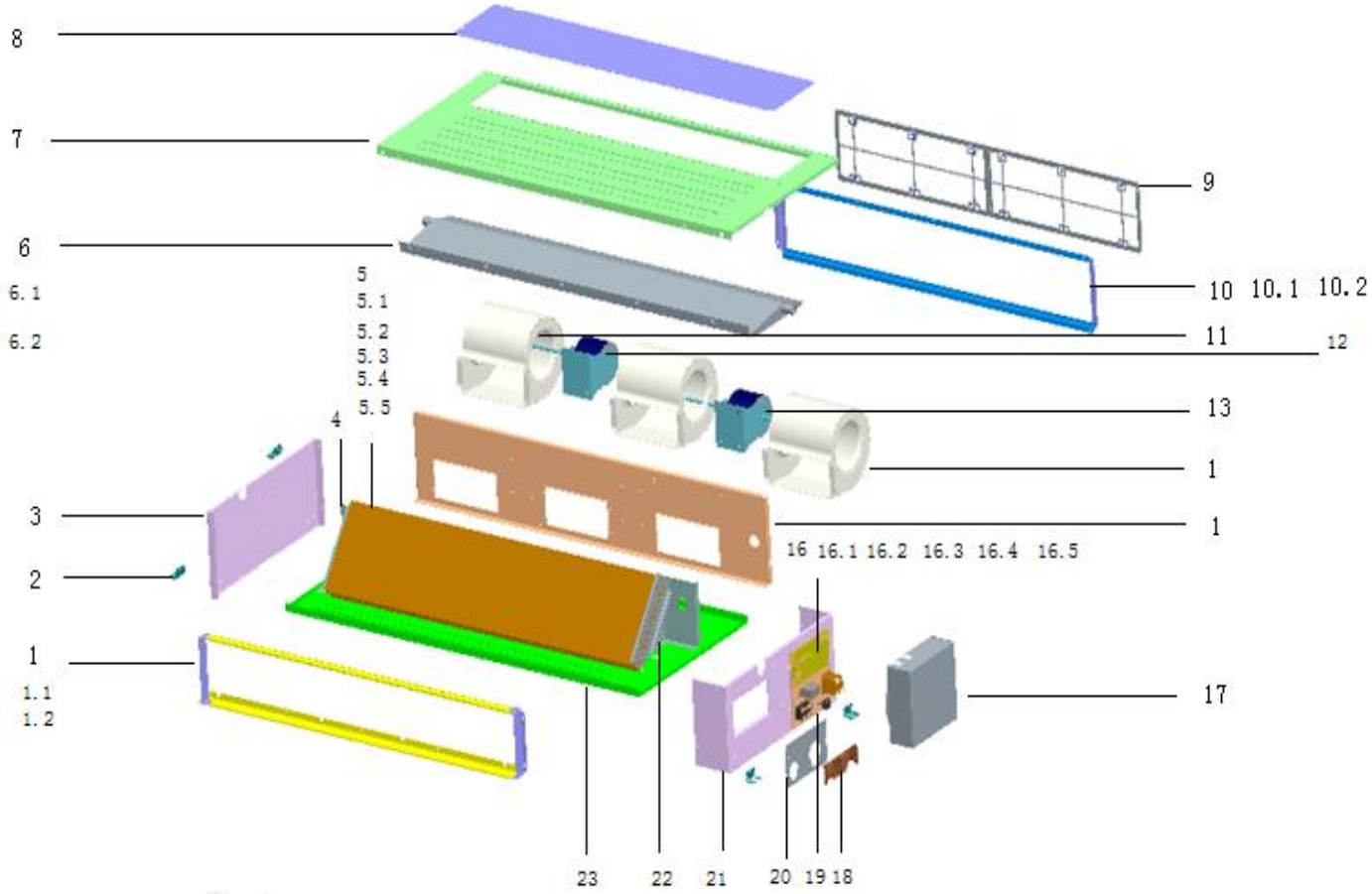
No.	Part Name	Quantity	No.	Part Name	Quantity
1	Water pan welding assy	1	17	Sponges	1
2	Fixing board for inlet and outlet pipe	1	18	Left rear clapboard	1
3	Pipe clamp1	1	19	Left front clapboard	1
4	Pipe clamp2	1	20	Front hanger A	1
5	Evaporator chassis	1	21	Upper cover	1
6	Motor for indoor unit	1	22	Front hanger B	1
7	Lower scroll case	3	23	Hanger	2
8	Centrifugal wind wheel	3	24	Right clapboard	1
9	Upper scroll case	3	25	Evaporator assy	1
10	E-parts box cover	1	26	Fan fixing board assy	1
11	Terminal	1	27	Motor support assy	1
12	Electronic control board for indoor unit	1	27.1	No.13 Bearing holder	1
13	Plastic base for PCB	1	27.2	Motor support	1
14	Transformer	1	28	Axis2	1
15	Small rubber ring that through the coils	2	29	Coupling	1
16	Electric control mounting plate welded assy	1			

13.2 CTB-18HR1, CTB-24HR1



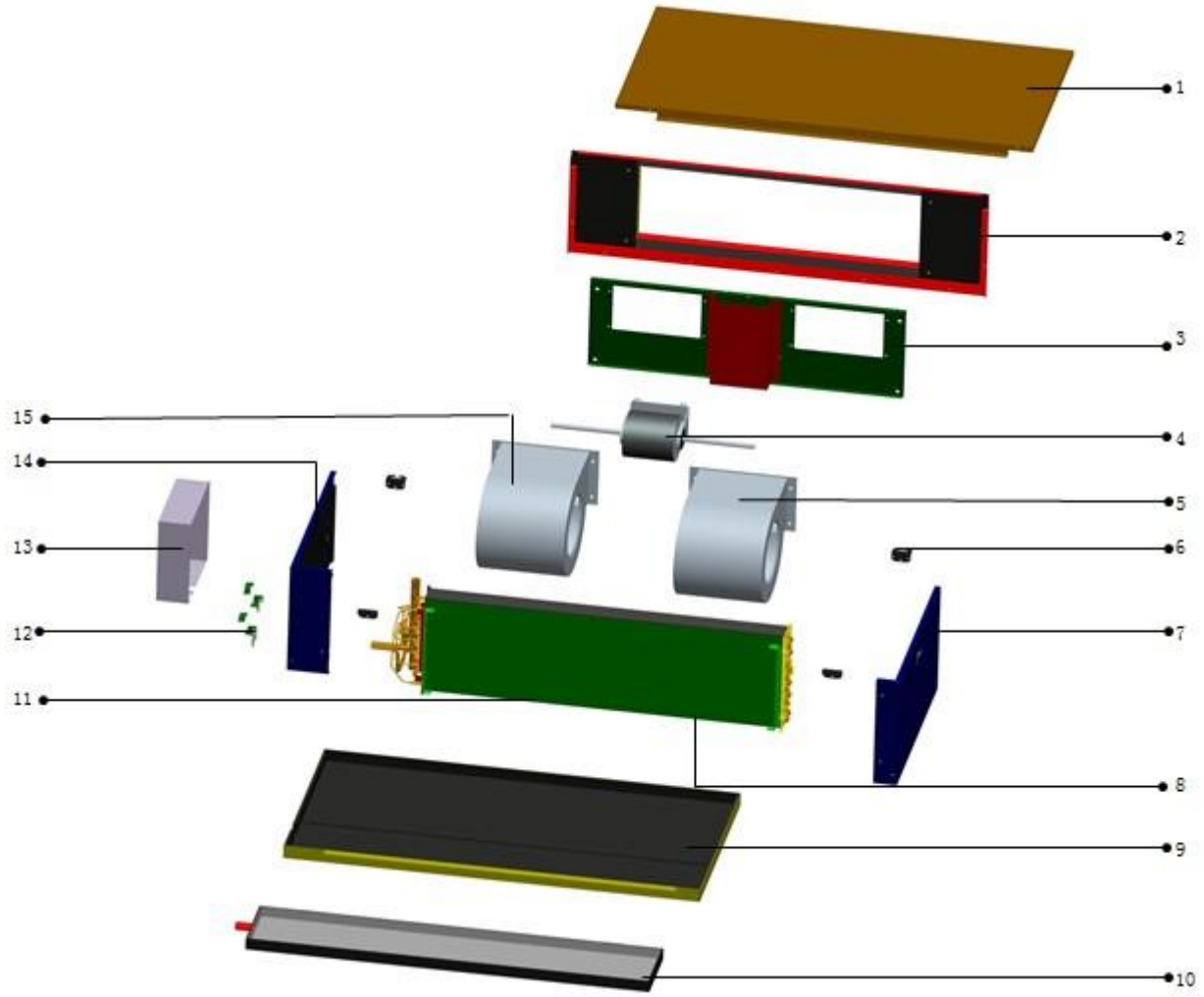
No.	Part Name	Quantity	No.	Part Name	Quantity
1	outlet assy	1	11	scroll case(left)	1
2	hanger	4	12	Fan motor	1
3	left clapboard	1	13	scroll case(right)	1
4	Left end plate of Evaporator	1	14	Fan fixing board assy	1
5	Evaporator assy	1	15	E-parts box cover assy	1
5.1	Transition tube	6	16	Small cover plate	1
5.2	Shunt assy	1	17	E-parts	1
5.3	air header assy	1	17.1	Main control board	1
5.4	Evaporator	1	17.2	Temperature sensor	1
5.5	Probe copper tube	1	17.3	PTC transformer	1
6	Welding assy for water collector	1	17.4	Terminal	1
6.1	leading	2	17.5	NO.7Line pressing buckle	2
6.2	effluent joint rubber cap	2	18	E-parts box base	1
7	Lower plate	1	19	big cover plate	1
8	Return air damper	1	20	Right clapboard	1
9	filter screen	2	21	Right end plate of Evaporator	1
10	Return air assy	1	22	Upper plate	1

13.3 CTB-36HR1, CTB-48HR1, CTB-60HR1



No.	Part Name	Quantity	No.	Part Name	Quantity
1	outlet assy	1	10.2	return air left-right rail	2
1.1	outlet left-right rail	2	11	scroll case(left)	1
1.2	outlet upper-lower rail	2	12	Fan motor	1
2	hanger	4	13	Fan motor	1
3	left clapboard	1	14	scroll case(right)	2
4	Left end plate of Evaporator	1	15	Fan fixing board assy	1
5	Evaporator assy	1	16	E-parts	1
5.1	Transition tube	5	16.1	Main control board	1
5.2	Shunt assy	1	16.2	Temperature sensor	1
5.3	air header assy	1	16.3	PTC transformer	1
5.4	Evaporator	1	16.4	Terminal	1
5.5	Probe copper tube	1	16.5	NO.7Line pressing buckle	2
6	Welding assy for water collector	1	17	E-parts box cover assy	1
6.1	leading	2	18	Small cover plate	1
6.2	effluent joint rubber cap	2	19	E-parts box base	1
7	Lower plate	1	20	big cover plate	1
8	Return air damper	1	21	Right clapboard	1
9	filter screen	2	22	Right end plate of Evaporator	1
10	Return air assy	1	23	Upper plate	1
10.1	return air upper-lower rail	2			

13.4 CTH-48HR1, CTH-60HR1



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Head cover assy	1	12.2	φ35 upper Pipe clamp	1
2	Front panel	1	12.3	φ20 lower Pipe clamp	1
3	Fixing board assy for fan	1	12.4	φ35 lower Pipe clamp	1
4	Twin screw Motor for indoor unit	1	13	Electric control components	1
5	Left wind wheel scroll case	1	13.1	Electric control board assy for indoor unit	1
6	Hanger	4	13.2	Temp sensor	1
7	left clapboard assy	1	13.2.1	Room temp sensor	1
8	Fixing board for Air return	2	13.2.2	Indoor Pipe temp sensor	1
9	Base plate assy	1	13.3	transformer	1
10	Water pan assy	1	13.4	Terminal	1
11	Evaporator assy	1	14	Right clapboard assy	1
12	Pipe clamp	1	15	Right wind wheel scroll case	1
12.1	φ20 upper Pipe clamp	1			

14.Troubleshooting

Fault code table

4LED Faults	Digital display	Failure description
Timer light flashing	E2	Ambient temperature sensor (T1) failure
Running light flashing	E3	Evaporator pipe temperature sensor (T2) failure
Defrost light flashing	E5	Condenser pipe temperature sensor (T3) failure
Warning light flashing	F5	Water full filled protection
Running light, defrost light flashing	E1	Indoor unit and wire controller communication failure
Running light, timer light flashing	P6	Indoor unit EEPROM failure
Defrost light, timer light flashing	F0	Indoor fan stall protection
Defrost light, warning light flashing	F2	Outdoor protection
	F7	Outdoor over-current protection
Timer light, warning light flashing	E0	Indoor unit and outdoor unit communication failure
Running light, defrost light, timer light flashing	F3	High pressure protection
Defrost light , timer light, warning light flashing	F4	Low pressure protection
Running light, timer light, warning light flashing	F8	Outdoor unit exhaust temperature over-high protection
Running light, defrost light, timer light, warning light flashing	F9	Three-phase electricity phase sequence failure
Note: the flashing frequency for all above indication lights is 1HZ.		

Floor & Ceiling

1.Features

1. Flexible installation, ceiling suspended and floor standing.


2. Adopting centrifugal fans, higher ESP and longer air flow distance.

3. Two way auto-swing function, built-in two louver motor, vertical and horizontal air-flow adjustment.

4. Washable air filter

5. LED display for optional.

6. New upper and lower buckle type wheel case, the upper plastic wheel case can be removed Alone, which is convenient adjust the wheel motor.

7. Water pump optional, pumping head is up to 1200mm.
8. Adopting waterproof plastic film on water collector, avoiding water leakage.

9. Self-diagnostic function and multi protection; Auto-restart function.

10. Standard for wireless controller; option for wired controller

Standard

Optional

2.Specifications

Model			CUA-18HR1	CUA-24HR1	CUA-36HR1
Indoor power supply		V/Ph/Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz
Cooling	Capacity	Btu/h	18000	24000	36000
		KW	5.3	7.1	10.5
	Input	W	130	150	300
	Rated current	A	0.3	0.7	1.4
	EER	W/W	2.61	2.78	2.56
Heating	Capacity	Btu/h	19800	26000	39000
		KW	5.9	7.7	11.5
	Input	W	130	150	300
	Rated current	A	0.3	0.68	1.4
	COP	W/W	3.24	3.42	2.95
Indoor fan motor	Model		YSK110-65LD-4P3H 85	YSK110-75LD-4P2	YSK110-180LD-4P2
	Input	W	130	150	300
	Capacitor	μF	3	5	5
	Speed(Hi/Me/Lo)	r/min	1350/1270/1180	980/880/780	1310/1210/1110
Indoor coil	Number of rows		3	2	3
	Fin spacing	mm	2	1.4	1.7
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Number of circuits		3	5	5
Indoor air flow(High speed)		m^3/h	790	1300	1700
Indoor noise level		dB(A)	44～52	39～48	44～52
Indoor unit	Dimension (W*H*D)	mm	880×635×203	1245×680×247	1245×680×247
	Packing(W*H*D)	mm	970×725×301	1325×770×330	1325×770×330
	Net/Gross weight	kg	30/35	35/41	37/43
Max pressure		MPa	4.0	4.0	4.0
Refrigerant type			R410A	R410A	R410A
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ9.52/Φ15.88	Φ9.52/Φ19.05
Drainage pipe		mm	25	25	25
Standard controller			Standard for remote controller(wired controller for option)		
Operation temp		°C	16～32	16～32	16～32
Ambient temp		°C	-7～43	-7～43	-7～43
Application area		m^2	20-35	28-50	40-70
Stuffing Quantity(20'/40'/40'HQ)		set	132/270/306	75/165/189	75/165/189

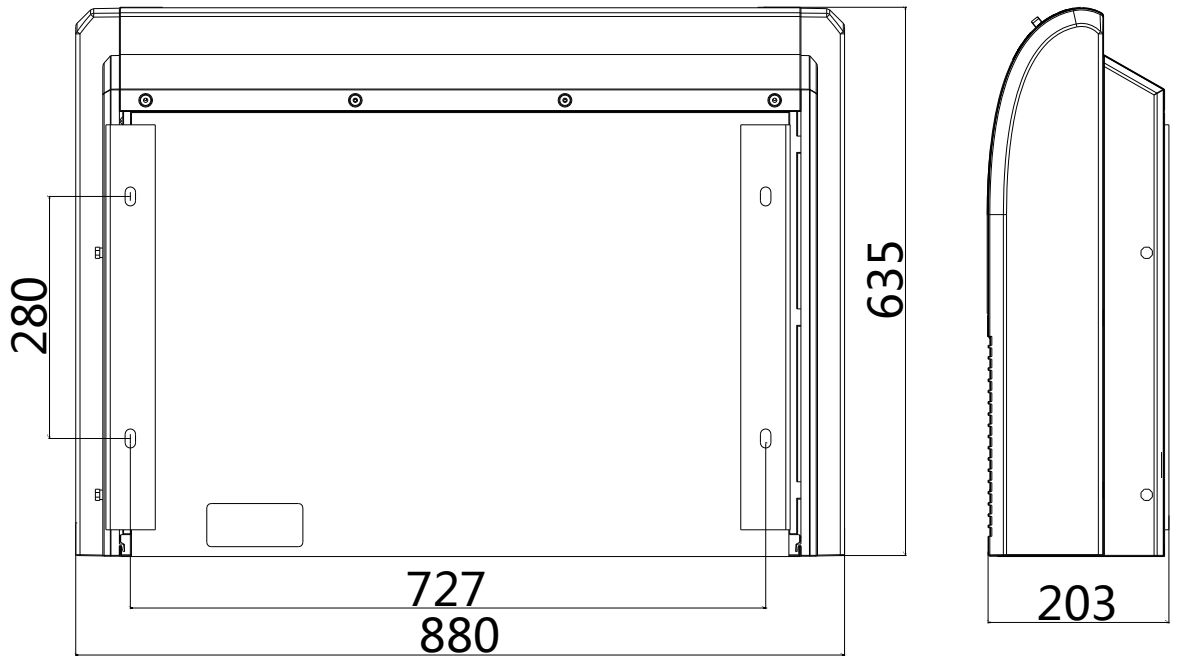
Model			CUA-48HR1	CUA-60HR1
Indoor power supply		V/Ph/Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz
Cooling	Capacity	Btu/h	48000	60000
		KW	14	16
	Input	W	260	260
	Rated current	A	1.15	1.15
	EER	W/W	2.66	2.68
Heating	Capacity	Btu/h	52000	60000
		KW	15.2	16.0
	Input	W	260	260
	Rated current	A	1.15	1.15
	COP	W/W	2.84	2.64
Indoor fan motor	Model		YSK110-59LD-4P17 +YSK110-59LD-4P17	YSK110-59LD-4P17 +YSK110-59LD-4P17
	Input	W	260	260
	Capacitor	μF	3+3	3+3
	Speed(Hi/Me/Lo)	r/min	1310/1139/1016	1310/1139/1016
Indoor coil	Number of rows		2	2
	Fin spacing	mm	1.5	1.5
	Fin type		Hydrophilic	Hydrophilic
	Number of circuits		5	5
Indoor air flow(High speed)		m^3/h	2300	2300
Indoor noise level		dB(A)	57	57
Indoor unit	Dimension(W*H*D)	mm	1670×680×247	1670×680×247
	Packing(W*H*D)	mm	1750×770×330	1750×770×330
	Net/Gross weight	kg	47/54	47/54
Max pressure		MPa	4.5	4.5
Refrigerant type			R410A	R410A
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ19.05	Φ9.52/Φ19.05
Drainage pipe		mm	25	25
Standard controller			Standard for remote controller(wired controller for option)	
Operation temp		°C	16～32	16～32
Ambient temp		°C	-7～43	-7～43
Application area		m^2	55~95	60~105
Stuffing Quantity(20'/40'/40'HQ)		set	60/120/123	60/120/123

Notes:

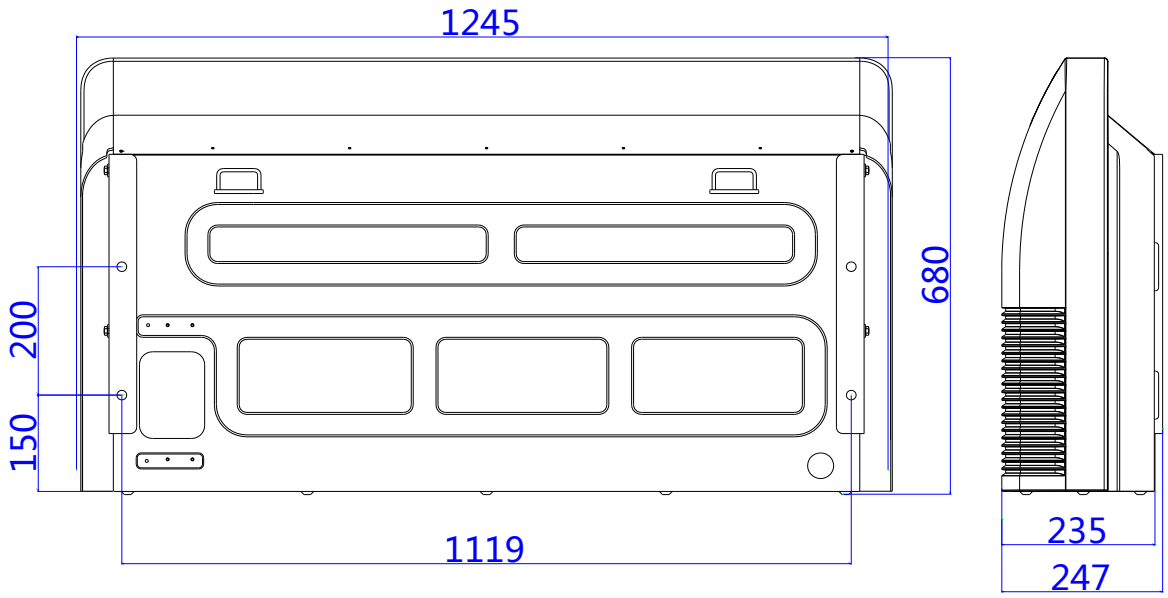
1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. Piping: 5m(horizontal)
2.Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. Piping: 5m(horizontal)
3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

3.Dimensions

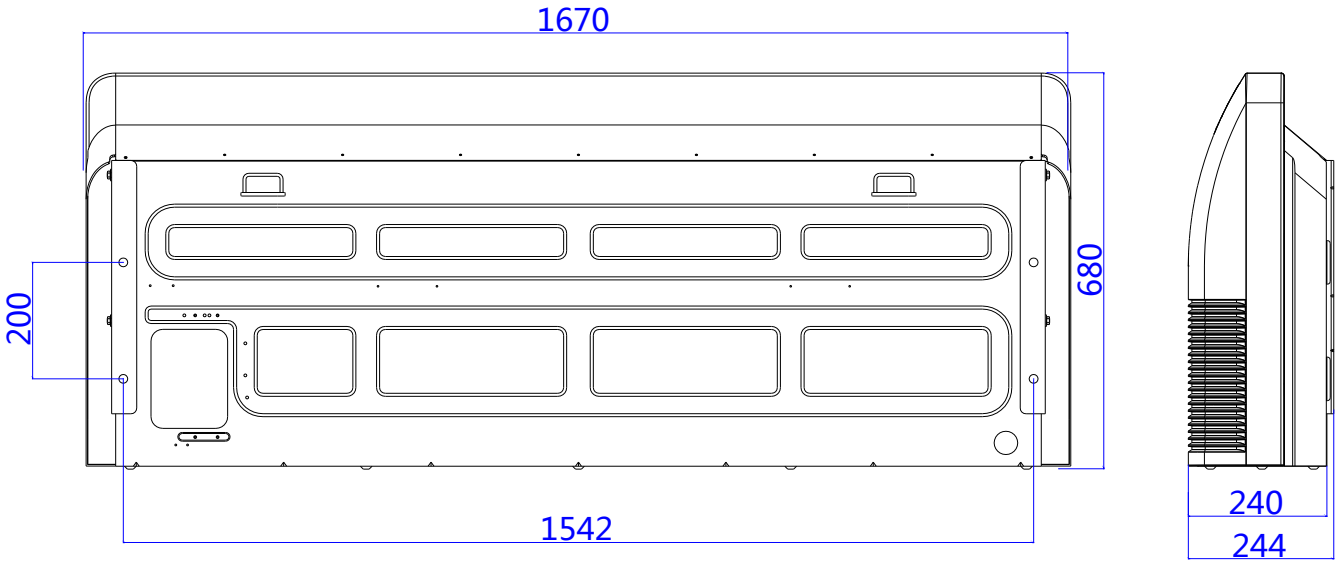
3.1 CUA-18HR1



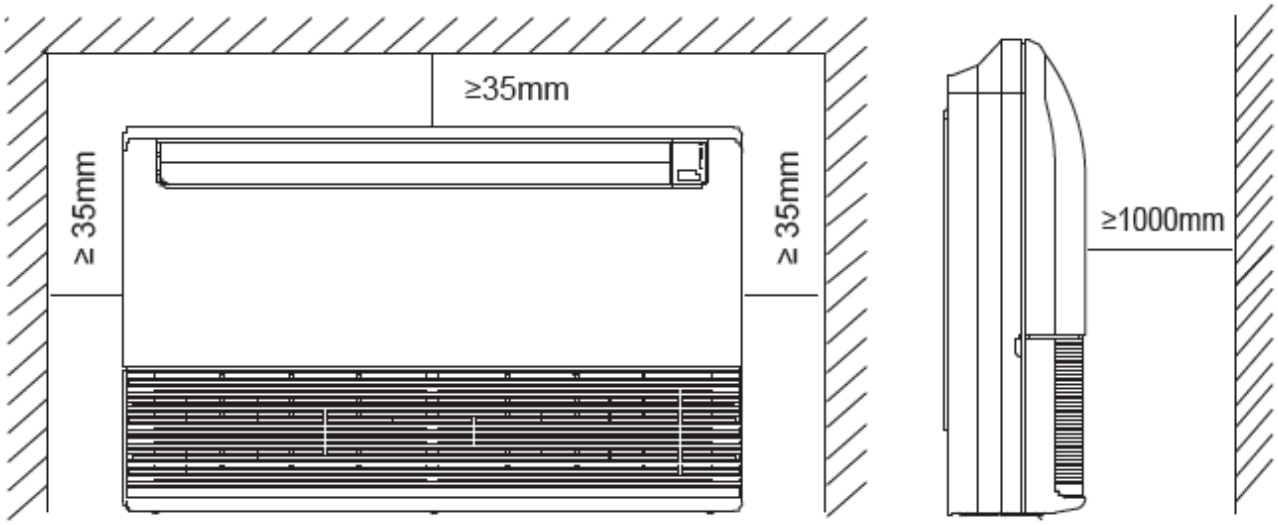
3.2 CUA-24HR1, CUA-36HR1



3.3 CUA-48HR1, CUA-60HR1

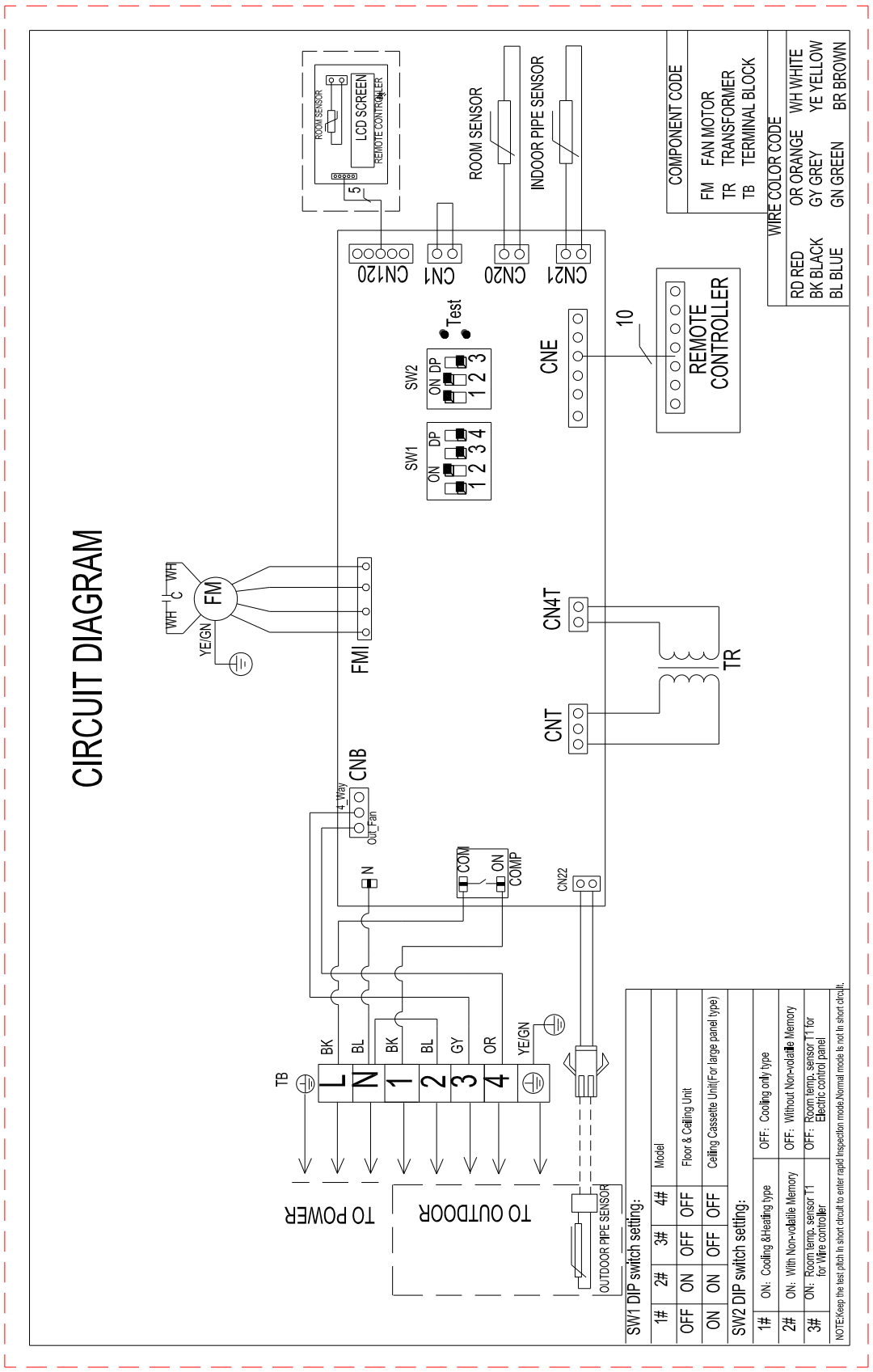


4.Service Space

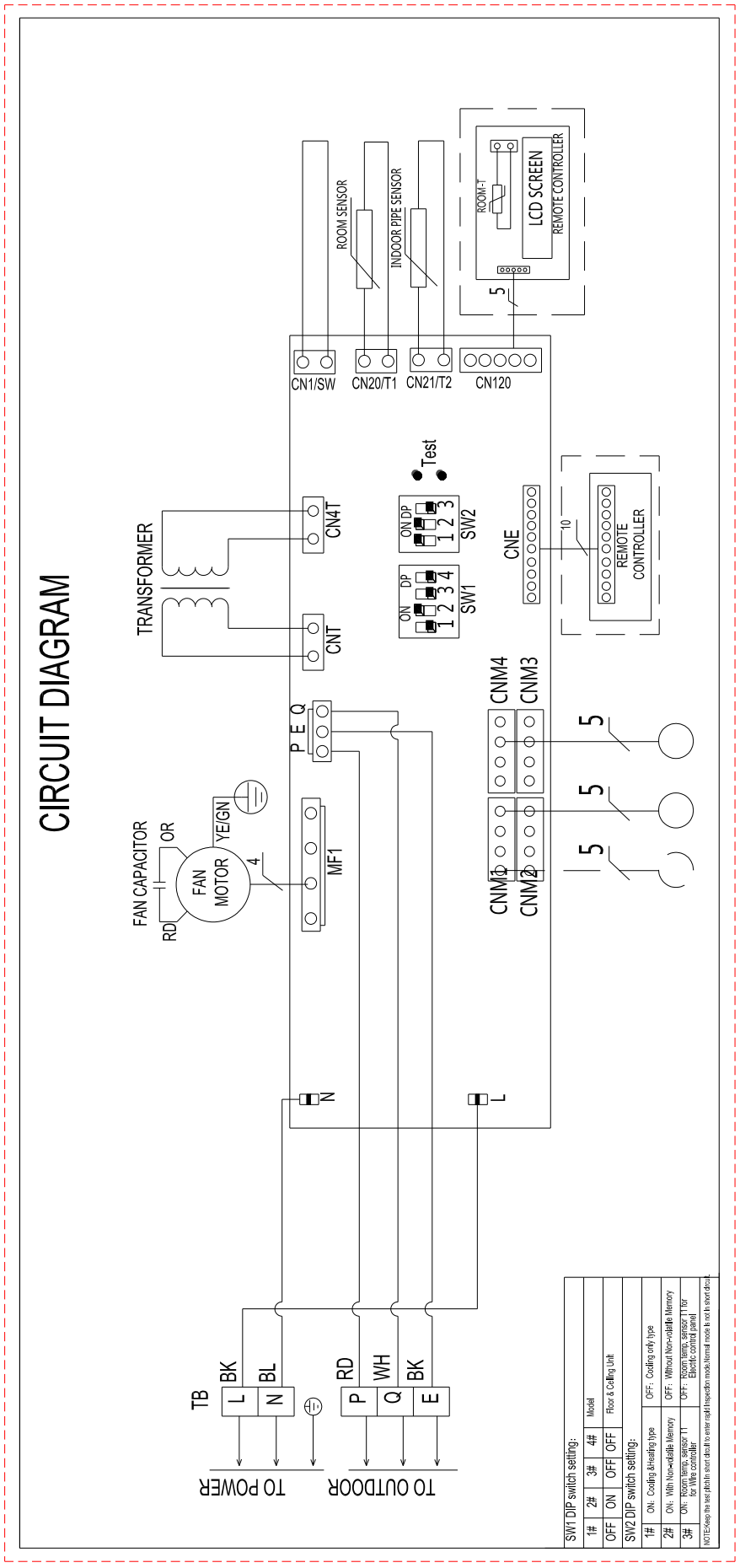


5.Wiring Diagrams

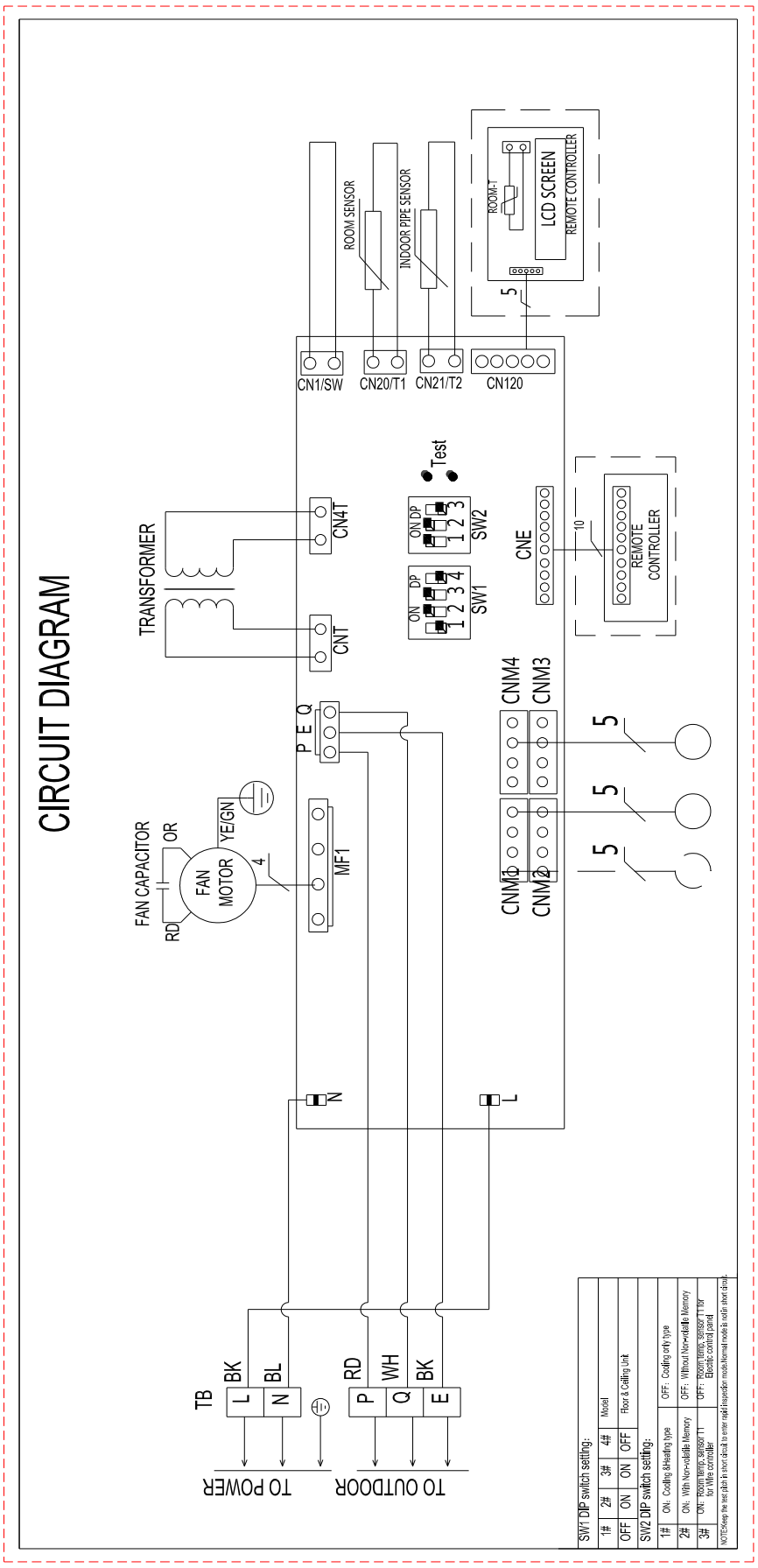
5.1 CUA-18HR1



5.2 CUA24HR1, CUA-36HR1,



5.3 CUA-48HR1,CUA-60HR1



6.Capacity Table

Cooling

6.1 CUA-18HR1

MODEL		CUA-18HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	4.98	4.93	4.88	4.81	4.32	3.67
	Input kW.	1.76	1.79	1.83	1.89	2.00	2.08
24ºC D 17ºC W	Total capacity kW	5.23	5.18	5.12	5.05	4.53	3.85
	Input kW.	1.79	1.83	1.87	1.92	2.04	3.79
27ºC D 19ºC W	Total capacity kW	5.49	5.43	5.38	5.30	4.76	4.04
	Input kW.	1.83	1.86	1.90	1.96	2.08	2.16
29ºC D 19ºC W	Total capacity kW	5.71	5.65	5.60	5.51	4.95	4.21
	Input kW.	1.86	1.90	1.94	2.00	2.12	2.21
32ºC D 23ºC W	Total capacity kW	5.94	5.88	5.82	5.73	5.14	4.37
	Input kW.	1.90	1.94	1.98	2.04	2.16	2.25

6.2 CUA-24HR1

MODEL		CUA-24HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	6.67	6.60	6.54	6.44	5.78	4.91
	Input kW.	2.29	2.33	2.38	2.45	2.60	2.71
24ºC D 17ºC W	Total capacity kW	7.00	6.93	6.86	6.76	6.07	5.16
	Input kW.	2.33	2.38	2.43	2.50	2.65	4.93
27ºC D 19ºC W	Total capacity kW	7.35	7.28	7.21	7.10	6.37	5.42
	Input kW.	2.38	2.42	2.48	2.55	2.71	2.82
29ºC D 19ºC W	Total capacity kW	7.65	7.57	7.50	7.38	6.63	5.63
	Input kW.	2.42	2.47	2.53	2.60	2.76	2.87
32ºC D 23ºC W	Total capacity kW	7.95	7.87	7.79	7.68	6.89	5.86
	Input kW.	2.47	2.53	2.57	2.65	2.82	2.93

6.3 CUA-36HR1

MODEL		CUA-36HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	9.86	9.77	9.67	9.53	8.55	7.27
	Input kW.	3.68	3.75	3.83	3.94	4.19	4.35
24ºC D 17ºC W	Total capacity kW	10.36	10.25	10.15	10.00	8.98	7.63
	Input kW.	3.75	3.83	3.91	4.02	4.26	7.93
27ºC D 19ºC W	Total capacity kW	10.88	10.76	10.66	10.50	9.43	8.01
	Input kW.	3.83	3.90	3.98	4.10	4.35	4.53
29ºC D 19ºC W	Total capacity kW	11.31	11.20	11.09	10.92	9.80	8.33
	Input kW.	3.90	3.98	4.06	4.19	4.44	4.61
32ºC D 23ºC W	Total capacity kW	11.76	11.64	11.53	11.36	10.19	8.66
	Input kW.	3.98	4.06	4.14	4.26	4.53	4.71

6.4 CUA-48HR1

MODEL		CUA-48HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	13.15	13.02	12.89	12.70	11.40	9.69
	Input kW.	4.72	4.81	4.91	5.06	5.37	5.58
24ºC D 17ºC W	Total capacity kW	13.81	13.67	13.53	13.33	11.97	10.17
	Input kW.	4.81	4.91	5.01	5.16	5.47	10.17
27ºC D 19ºC W	Total capacity kW	14.50	14.35	14.21	14.00	12.57	10.68
	Input kW.	4.91	5.00	5.11	5.26	5.58	5.81
29ºC D 19ºC W	Total capacity kW	15.08	14.93	14.78	14.56	13.07	11.11
	Input kW.	5.00	5.10	5.21	5.37	5.69	5.92
32ºC D 23ºC W	Total capacity kW	15.68	15.52	15.37	15.14	13.59	11.55
	Input kW.	5.10	5.21	5.31	5.47	5.81	6.04

6.5 CUA-60HR1

MODEL		CUA-60HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	43ºC
21ºC D 15ºC W	Total capacity kW	15.03	14.88	14.73	14.51	13.03	11.07
	Input kW.	5.35	5.45	5.56	5.73	6.08	6.32
24ºC D 17ºC W	Total capacity kW	15.78	15.62	15.46	15.23	13.68	11.62
	Input kW.	5.45	5.56	5.68	5.85	6.20	11.52
27ºC D 19ºC W	Total capacity kW	16.57	16.40	16.24	16.00	14.37	12.21
	Input kW.	5.56	5.67	5.79	5.96	6.32	6.58
29ºC D 19ºC W	Total capacity kW	17.23	17.06	16.89	16.64	14.94	12.70
	Input kW.	5.67	5.78	5.90	6.08	6.45	6.71
32ºC D 23ºC W	Total capacity kW	17.92	17.74	17.57	17.30	15.53	13.20
	Input kW.	5.78	5.90	6.02	6.20	6.58	6.84

Heating

6.6 CUA-18HR1

MODEL		CUA-18HR1						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	6.62	6.49	6.40	6.09	5.88	5.41	5.13
	Input kW.	1.71	1.75	1.78	1.79	1.81	1.82	1.83
18ºC	Capacity kW	6.31	6.18	6.09	5.80	5.60	5.16	4.88
	Input kW.	1.74	1.78	1.81	1.83	1.84	1.86	1.87
20ºC	Capacity kW	6.01	5.89	5.80	5.52	5.33	4.91	4.65
	Input kW.	1.77	1.82	1.85	1.87	1.88	1.90	1.91
22ºC	Capacity kW	5.72	5.61	5.53	5.26	5.08	4.67	4.43
	Input kW.	1.81	1.85	1.89	1.91	1.92	1.94	1.94
27ºC	Capacity kW	5.45	5.34	5.26	5.01	4.84	4.45	4.22
	Input kW.	1.84	1.89	1.93	1.94	1.95	1.97	1.98

6.7 CUA-24HR1

MODEL		CUA-24HR1						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	8.68	8.51	8.38	7.98	7.71	7.09	6.72
	Input kW.	2.07	2.12	2.16	2.18	2.20	2.22	2.23
18ºC	Capacity kW	8.27	8.10	7.98	7.60	7.34	6.76	6.40
	Input kW.	2.12	2.17	2.20	2.23	2.24	2.26	2.27
20ºC	Capacity kW	7.87	7.72	7.60	7.24	6.99	6.43	6.10
	Input kW.	2.16	2.21	2.25	2.27	2.28	2.31	2.32
22ºC	Capacity kW	7.50	7.35	7.24	6.89	6.66	6.13	5.81
	Input kW.	2.20	2.25	2.30	2.32	2.33	2.35	2.36
27ºC	Capacity kW	7.14	7.00	6.90	6.56	6.34	5.84	5.53
	Input kW.	2.24	2.30	2.34	2.36	2.38	2.40	2.41

6.8 CUA-36HR1

MODEL		CUA-36HR1						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	13.01	12.76	12.57	11.96	11.56	10.64	10.08
	Input kW.	3.59	3.68	3.75	3.78	3.81	3.84	3.86
18ºC	Capacity kW	12.40	12.15	11.97	11.39	11.01	10.13	9.60
	Input kW.	3.67	3.75	3.82	3.86	3.88	3.92	3.94
20ºC	Capacity kW	11.81	11.57	11.40	10.85	10.49	9.65	9.14
	Input kW.	3.74	3.83	3.90	3.94	3.96	4.00	4.02
22ºC	Capacity kW	11.24	11.02	10.86	10.34	9.98	9.19	8.71
	Input kW.	3.82	3.91	3.98	4.02	4.04	4.08	4.10
27ºC	Capacity kW	10.71	10.49	10.34	9.84	9.51	8.75	8.30
	Input kW.	3.89	3.99	4.06	4.10	4.12	4.16	4.18

6.9 CUA-48HR1

MODEL		CUA-48HR1						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	17.35	17.01	16.76	15.95	15.41	14.18	13.44
	Input kW.	4.94	5.06	5.15	5.2	5.23	5.28	5.31
18ºC	Capacity kW	16.53	16.2	15.96	15.19	14.68	13.51	12.8
	Input kW.	5.04	5.16	5.25	5.31	5.33	5.39	5.41
20ºC	Capacity kW	15.74	15.43	15.2	14.47	13.98	12.86	12.19
	Input kW.	5.14	5.26	5.36	5.41	5.44	5.5	5.52
22ºC	Capacity kW	14.99	14.69	14.48	13.78	13.31	12.25	11.61
	Input kW.	5.25	5.37	5.47	5.52	5.55	5.61	5.63
27ºC	Capacity kW	14.28	13.99	13.79	13.12	12.68	11.67	11.06
	Input kW.	5.34	5.48	5.58	5.63	5.66	5.72	5.75

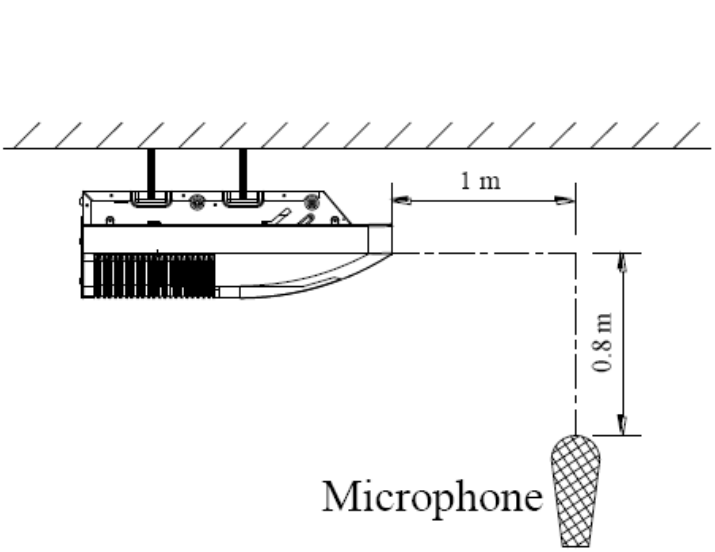
6.10 CUA-60HR1

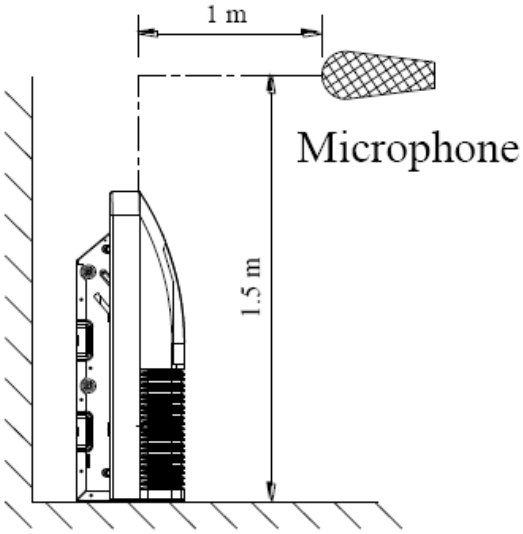
MODEL		CUA-60HR1						
Indoor Conditions		24ºC DB 18ºCWB	12ºC DB 11ºCWB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	18.26	17.91	17.64	16.79	16.22	14.93	14.15
	Input kW.	5.59	5.72	5.82	5.88	5.91	5.97	6.00
18ºC	Capacity kW	17.40	17.05	16.80	15.99	15.45	14.22	13.47
	Input kW.	5.70	5.83	5.94	6.00	6.03	6.09	6.12
20ºC	Capacity kW	16.57	16.24	16.00	15.23	14.72	13.54	12.83
	Input kW.	5.81	5.95	6.06	6.12	6.15	6.22	6.24
22ºC	Capacity kW	15.78	15.46	15.24	14.51	14.01	12.89	12.22
	Input kW.	5.94	6.07	6.18	6.24	6.27	6.34	6.37
27ºC	Capacity kW	15.03	14.73	14.52	13.81	13.35	12.28	11.64
	Input kW.	6.04	6.20	6.31	6.37	6.40	6.47	6.50

7.Electric Characteristics

Model	Indoor Units				Indoor Fan Motor
	Hz	Voltage	Min.	Max.	kW
CUA-18HR1	50	220-240V	198	254	0.13
CUA-24HR1	50	220-240V	198	254	0.15
CUA-36HR1	50	220-240V	198	254	0.30
CUA-48HR1	50	220-240V	198	254	0.26
CUA-60HR1	50	220-240V	198	254	0.26

8.Sound Levels

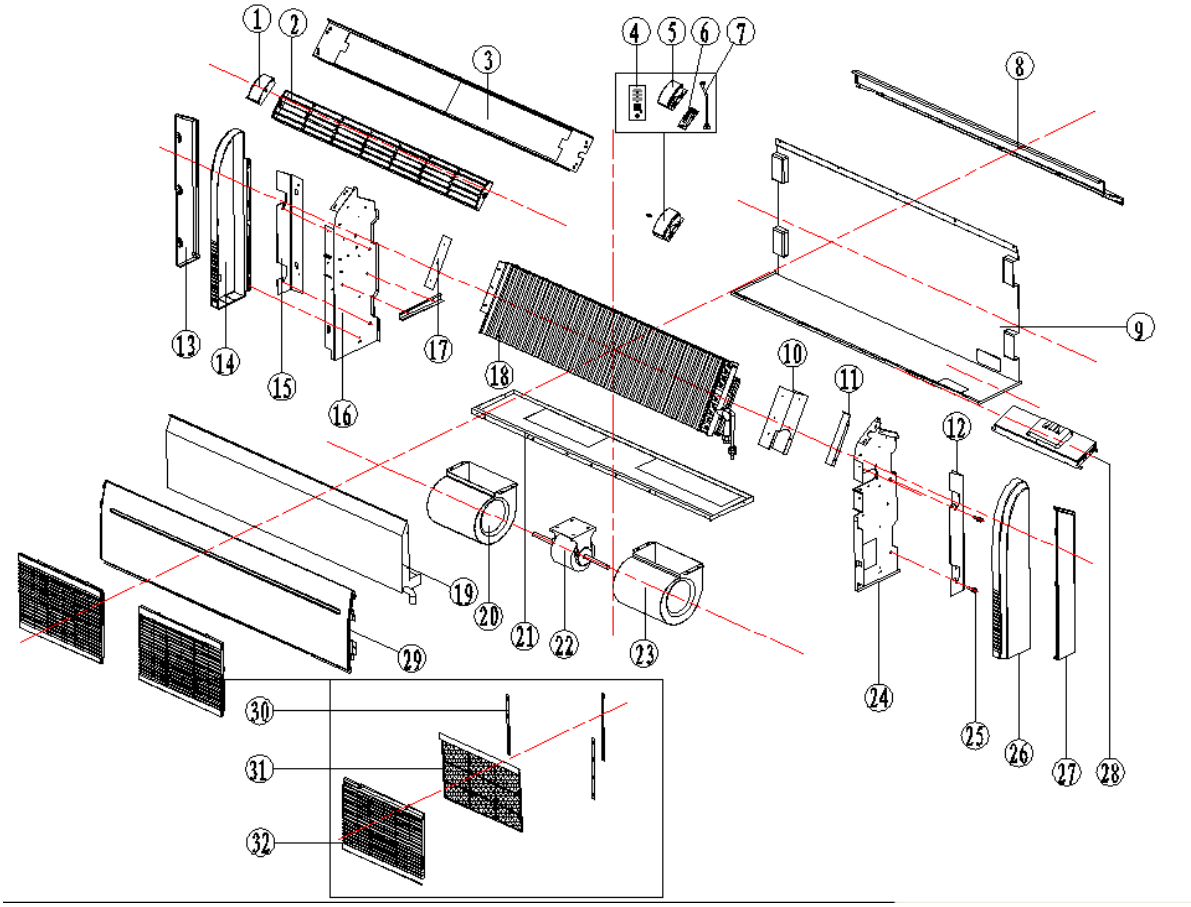




Model		CUA-18HR1	CUA-24HR1(RS485)	CUA-36HR1(RS485)
noise level	dB(A)	44～52	39～48	44～52
Model		CUA-48HR1(RS485)	CUA-60HR1(RS485)	/
noise level	dB(A)	48～57	48～57	/

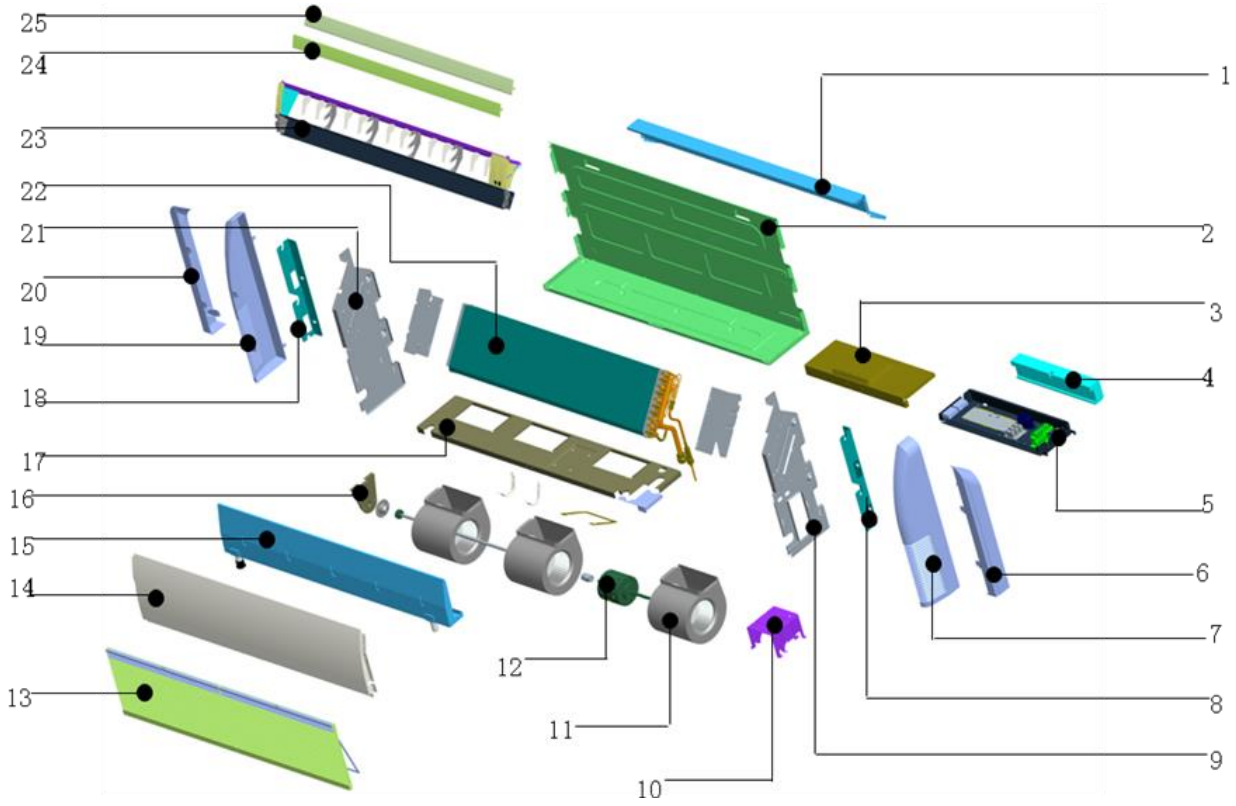
9.Exploded View

9.1 CUA-18HR1



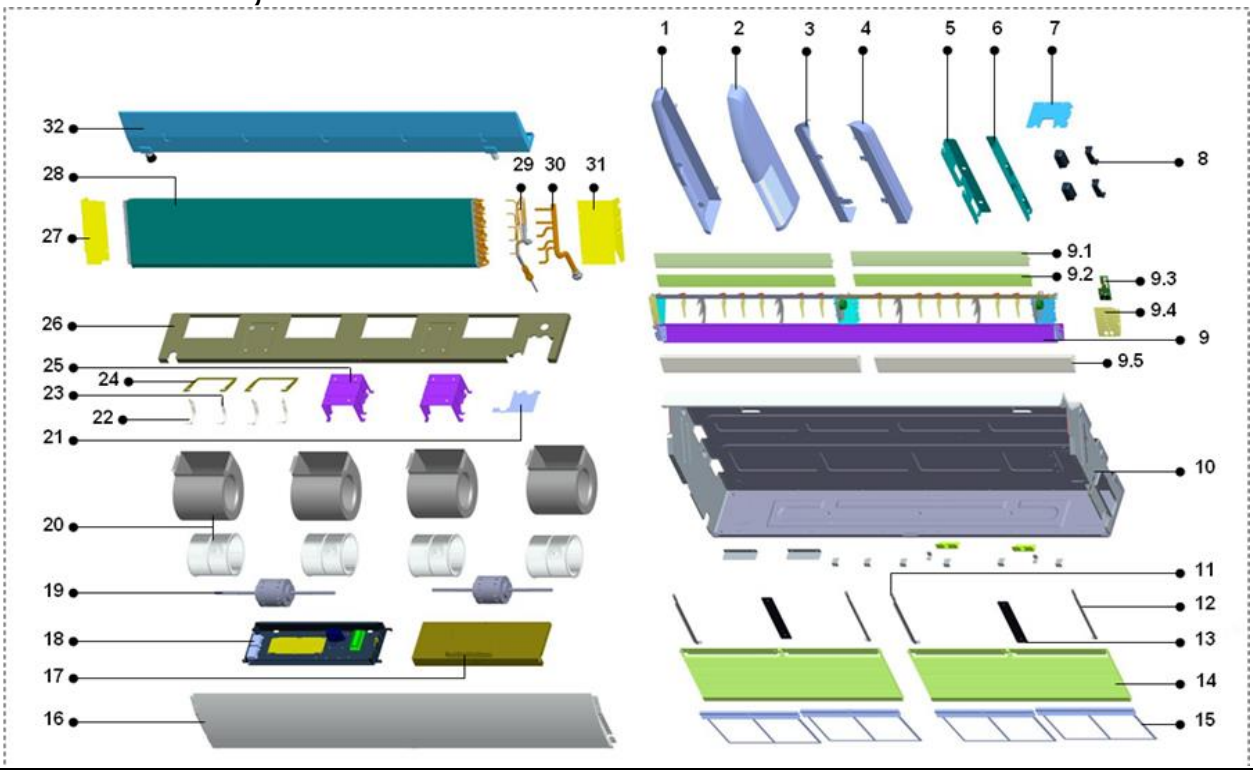
No.	Part Name	Quantity	No.	Part Name	Quantity
1	70 wind guide connected board assy B	1	22	indoor fan motor	1
2	Wind guide frame assy	2	23	Fan wheel(right)	1
3	Air outlet support	1	24	Right side board	2
4	Display film	1	25	Hexagon headed bolt	4
5	Display panel	1	26	Right cover	4
8	Top Cover	1	27	Right accessories	1
9	Weld assembly for rear panel	1	28	Indoor e-part box assembly	1
10	Evaporator right fixed plate	1	28.1	Electric box	1
11	Evaporator right positioning plate	1	28.2	Indoor PCB	1
12	Right mounting support	1	28.3	Temperature sensors （indoor)	1
13	Left accessories	1	28.4	Temperature sensor （evaporator)	1
14	Left cover	1	28.5	Transformer	1
15	Left mounting support	1	28.6	Terminal	1
16	Left side board	1	28.7	Display lamp panel	1
17	Evaporator left positioning plate	1	29	Front panel component	1
18	Evaporator assy	1	30	70 filter mound layer 2	1
19	Water pan components	1	31	70 filter	2
20	Fan wheel(left)	1	32	70 grille	2
21	Weld assembly for fan wheel mounting plate	1			

9.2 CUA-24HR1, CUA-36HR1



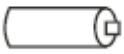
No.	Part Name	Quantity	No.	Part Name	Quantity
1	Rear cover	1	20	Right seal plate	1
2	Chassis assembly	1	21	Right separating board	1
3	E-part box cover	1	22	Evaporator component	1
4	E-part box mat	1	22.1	Left mounting plate of evaporator	1
5	Indoor PCB assembly	1	22.2	Shunt capillary assembly	1
5.1	E-part box	1	22.3	Distributor	1
5.2	Indoor PCB	1	22.4	Air inlet header pipe assembly of evaporator	1
5.3	Fan capacitor	1	22.5	Single Connector	1
5.4	Transformer	1	22.6	Evaporator assembly	1
5.5	Temperature sensors（indoor)	1	22.7	Right mounting plate of evaporator	1
5.6	Terminal	1	22.8	Temperature sensors (evaporator)	1
6	Left seal plate	1	23	Air-out frame component	1
7	Left cover	1	23.1	Fixing board assembly for air-out frame	1
8	Left hoisting pate	1	23.2	Display film	1
9	Left separating board Ⅰ	1	23.3	Display lamp panel	1
10	Motor separating board	1	23.4	Vertical step motor	1
11	Wheel volute for slim type	3	23.5	Horizontal step motor	1
12	Indoor fan motor	1	23.6	End bearing of louver	2
13	Air inlet grille	2	23.7	Intermediate bearing of louver	8
14	Top Cover assembly	1	23.8	Driving lever for louver	1
15	Weld assembly of Water drain pan	1	23.9	Follower lever for louver	1
15.1	Water outlet rubber cover	1	23.10	Louver holder	1
16	Supporting board for motor	1	23.11	Guard vane	10
17	Weld assembly for intermediate transverse girder	1	24	Upper horizontal louver	1
18	Right mounting plate of evaporator	1	25	Down horizontal louver	1
19	Right cover	1			

9.3 CUA-48HR1, CUA-60HR1



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Right cover	1	16	top Cover assembly	1
2	Left cover	1	17	electric box cover	1
3	Right seal plate	1	18	indoor PCB assembly	1
4	left seal plate	1	18.1	electric box	1
5	Right hoisting plate	1	18.2	indoor PCB	1
6	Left hoisting pate	1	18.3	fan capacitor	2
7	Rat guard	1	18.4	temperature sensors（indoor)	1
8	Handle	4	18.5	temperature sensors (evaporator)	1
9	Air out frame assy	1	18.6	transformer	1
9.1	Horizontal louver，up	2	18.7	terminal	1
9.2	Horizontal louver, down	2	19	indoor fan motor	2
9.3	display lamp panel	1	20	wheel volute for slim type	4
9.4	display panel Installing box	1	21	pipe clamp	1
9.5	Foam for air outlet frame	2	22	left gland for motor shaft sleeve	2
9.6	vertical step motor	1	23	right gland for motor shaft sleeve	2
9.7	horizontal step motor 1	1	24	Motor separating board	2
9.8	horizontal step motor	1	25	Holder for fan motor	2
9.9	display film	1	26	weld assembly for intermediate transverse girder	1
9.10	End bearing of louver	4	27	right mounting plate of evaporator	1
9.11	intermediate bearing of louver	8	28	evaporator	1
9.12	driving lever for louver	2	29	shunt capillary assembly	1
9.13	follower lever for louver	2	29.1		1
9.14	Louver holder	2	29.2	distributor	1
9.15	Guard vane	12	30	air inlet header pipe assembly of evaporator	1
10	Chassis	1	30.1	Single Connector	1
11	left retaining plate	2	31	left mounting plate of evaporator	1
12	right retaining plate	2	32	weld assembly of Water drain pan	1
13	filter snap-gauge	2	32.1	water outlet rubber cover	1
14	air inlet grille	2	33	remote controller	1
15	Filter	4			

10.Accessories

Installation fittings	Name	Shape	Quantity
	1.Hanging arm		2
Controller	2. Remote controller		1
	3. Remote controller holder (optional)		1
	4. Wire controller (optional)		1
	5. Mounting screw (ST2.9×10-C-H)		2
	6. Alkaline dry batteries (AM4)		2
Others	7. Installation & operation instruction manual		1

11.The Specification of Power

Model			18kBtu/h	24kBtu/h	36kBtu/h
Indoor power supply		V/Ph/Hz	220~240/1/50		
Outdoor power supply		V/Ph/Hz	220~240/1/50		
Connection wiring	Outdoor Power Supply		From indoor unit	Power supply individually for indoor and outdoor	
	Power wiring	mm^2	3×2.5	3×2.5/3×1.0	3×4.0/3×1.0
	Signal wiring	mm^2	5×1.5	RS485 twisted shielded wire pair 2×0.5	

Model			36kBtu/h	48kBtu/h	60kBtu/h
Indoor power supply		V/Ph/Hz	220~240/1/50		
Outdoor power supply		V/Ph/Hz	380~415/3/50		
Connection wiring	Outdoor Power Supply		Power supply individually for indoor and outdoor		
	Power wiring	mm^2	5×1.5/3×1.0	5×1.5/3×1.0	5×2.5/3×1.0
	Signal wiring	mm^2	RS485 twisted shielded wire pair 2×0.5		

12.Field Wiring

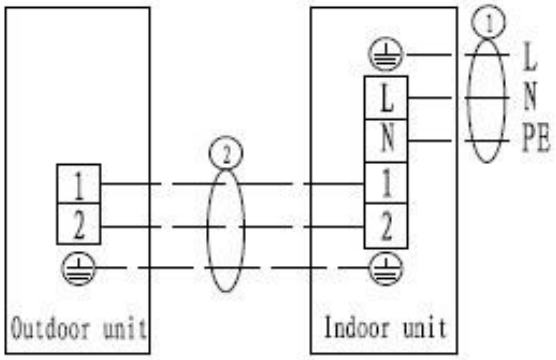


Fig 1
Applicable for 9K~18K cooling only type

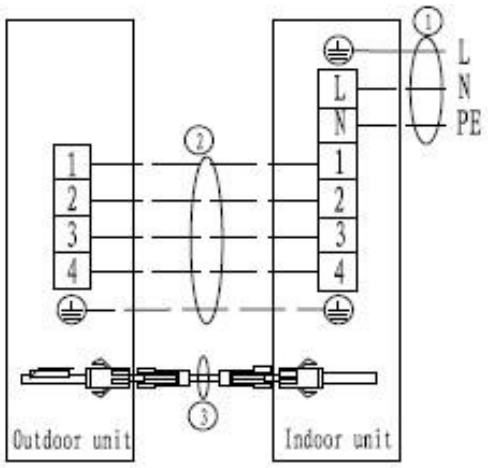


Fig 2
Applicable for 9K~18K heatpump type

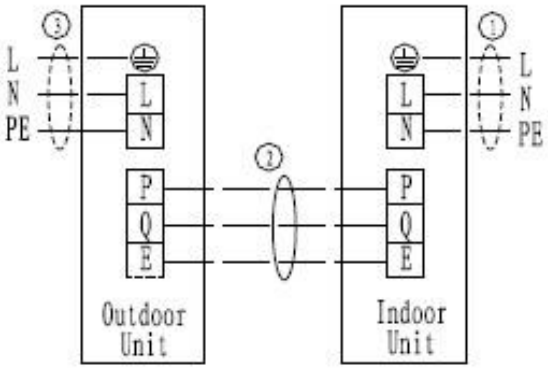


Fig 3
Applicable for 24K, 36K single-phase cooling and heatpump type

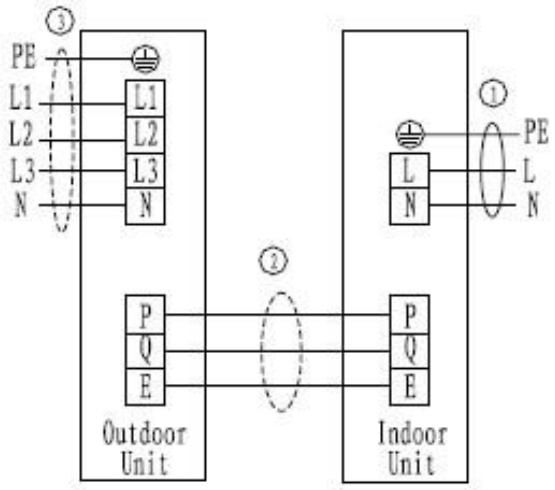


Fig 4
Applicable for 24K, 36K, 48K, 60K three-phase cooling and heatpump type

13.Troubleshooting

Fault code Table

4LED Faults	Digital display	Failure description
Timer light flashing	E2	Ambient temperature sensor (T1) failure
Running light flashing	E3	Evaporator pipe temperature sensor (T2) failure
Defrost light flashing	E5	Condenser pipe temperature sensor (T3) failure
Warning light flashing	F5	Water full filled protection
Running light, defrost light flashing	E1	Indoor unit and wire controller communication failure
Running light, timer light flashing	P6	Indoor unit EEPROM failure
Defrost light, timer light flashing	F0	Indoor fan stall protection
Defrost light, warning light flashing	F2	Outdoor protection
Timer light, warning light flashing	E0	Indoor unit and outdoor unit communication failure
Running light, defrost light, timer light flashing	F3	High pressure protection
Defrost light , timer light, warning light flashing	F4	Low pressure protection
Running light, timer light, warning light flashing	F8	Outdoor unit exhaust temperature over-high protection
Running light, defrost light, timer light, warning light flashing	F9	Three-phase electricity phase sequence failure
Note: the flashing frequency for all above indication lights is 1HZ.		

Part 3 Outdoor Units

1.Specification

Model			COU-12HR1	COU-18HR1	COU-24HR1	COU-36HR1
Outdoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50
Cooling	Capacity	Btu/h	12000	18000	24000	36000
		KW	3.5	5.3	7.1	10.5
	Input	W	1240	1900	2400	3710
	Rated current	A	5.4	8.26	10.6	16.7
Heating	Capacity	Btu/h	13200	20000	26000	39000
		KW	3.9	5.9	7.7	11.5
	Input	W	1270	1690	2100	3310
	Rated current	A	5.5	7.35	9.2	15
Max. input consumption		W	1620	2500	2700	4800
Max. current		A	8.3	12.6	13.2	21.2
Compressor	Model		PA145G1C-4FT1	ASH232SV-C8LU	ASH264RV-C8DU1	C-SBN301H5D
	Type		ROTARY	ROTARY	ROTARY	SCROLL
	Brand		GMCC	HITACHI	HITACHI	SANYO
	Capacity	Btu/h	13136	18800	24000	36000
	Input	W	1210	1900	2200	3950
	Rated current(RLA)	A	5.5	8.8	9.95	19.2
	Locked rotor Amp(LRA)	A	27	40	49	112
	Thermal protector		Internal	Internal	Internal	Internal
	Capacitor	μF	30	60	55	60
	Refrigerant oil	ml	440	600	600	1700
Outdoor fan motor	Model		YDK-35-6A H	YDK-38-6B	YDK-60A-6F	YDK-200-6B
	Input	70	70	80	150	450
	Capacitor	2	2	2.5	4	10
	Speed	r/min	900	920	850	800
Outdoor coil	Number of rows		2	2	2	1
	Tube pitch(a) x row pitch(b)	mm	25×21.65	25×21.65	25×21.65	25×21.65
	Fin spacing	mm	1.7	1.7	1.8	1.4
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	9.52	9.52	9.52	9.52
			inner grooved	inner grooved	inner grooved	inner grooved
	Number of circuits		4	4	5	3
Outdoor air flow(High speed)		m^3/h	2000	2800	3800	6000
Outdoor noise level		dB(A)	55	53	58	65
Outdoor unit	Dimension(W*H*D)	mm	866×304×535	866×304×535	930×370×700	1070×400×995
	Packing(W*H*D)	mm	920×335×585	920×335×585	990×410×770	1145×475×1120

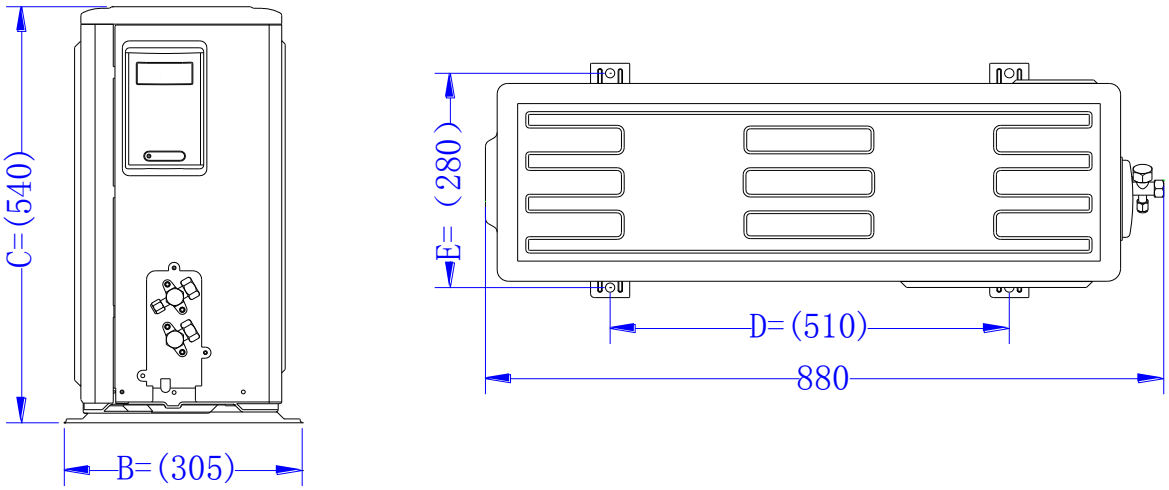
	Net/Gross weight	kg	36/38	41/43	52/56	92/100
Refrigerant type/quantity		g	R410A/1100	R410A/1200	R410A/1800	R410A/2100
Throttle part			capillary	capillary	capillary	capillary
Design pressure		MPa	4.0/1.2	4.0/1.2	4.0/1.2	4.0/1.2
Max pressure		MPa	4.0	4.0	4.5	4.5
Connection wiring	Power wiring	mm^2	3×1.5	3×2.5	3×2.5/3×1.0	3×4.0/3×1.0
	Signal wiring	mm^2	5×1.5	5×1.5	RS485 twisted shielded wire pair	
Refrigerant piping	Liquid side/Gas side	mm	φ6.35/φ12.7	φ6.35/φ12.7	Φ9.52/Φ15.88	Φ9.52/Φ19.05
	Max. pipe length	m	20	20	20	20
	Max. high drop	m	10	10	10	10
Ambient temp		°C	-7～43	-7～43	-7～43	-7～43
Stuffing Quantity		20'/40'/40' HQ	100/200/208	100/200/208	70/140/144	40/80/80

Model			COU-36HSR1	COU-48HSR1	COU-60HSR1
Outdoor power supply		V/Ph/Hz	380~415/3/50	380~415/3/50	380~415/3/50
Cooling	Capacity	Btu/h	36000	48000	60000
		KW	10.5	14	16
	Input	W	3800	5000	5700
	Rated current	A	6.9	8.2	10
Heating	Capacity	Btu/h	39000	52000	60000
		KW	11.5	15.2	16
	Input	W	3600	5100	5800
	Rated current	A	6.5	8.4	10.2
Max. input consumption		W	4900	6000	6600
Max. current		A	10.3	10.5	11.8
Compressor	Model		C-SBN303H8D	C-SBN373H8D	C-SBN453H8D
	Type		SCROLL	SCROLL	SCROLL
	Brand		SANYO	SANYO	SANYO
	Capacity	Btu/h	36000	48100	56000
	Input	W	3650	4750	5750
	Rated current(RLA)	A	6.58	8.22	9.77
	Locked rotor Amp(LRA)	A	48	66	70
	Thermal protector		Internal	Internal	Internal
	Capacitor	μF	/	/	/
	Refrigerant oil	ml	1700	1700	1700

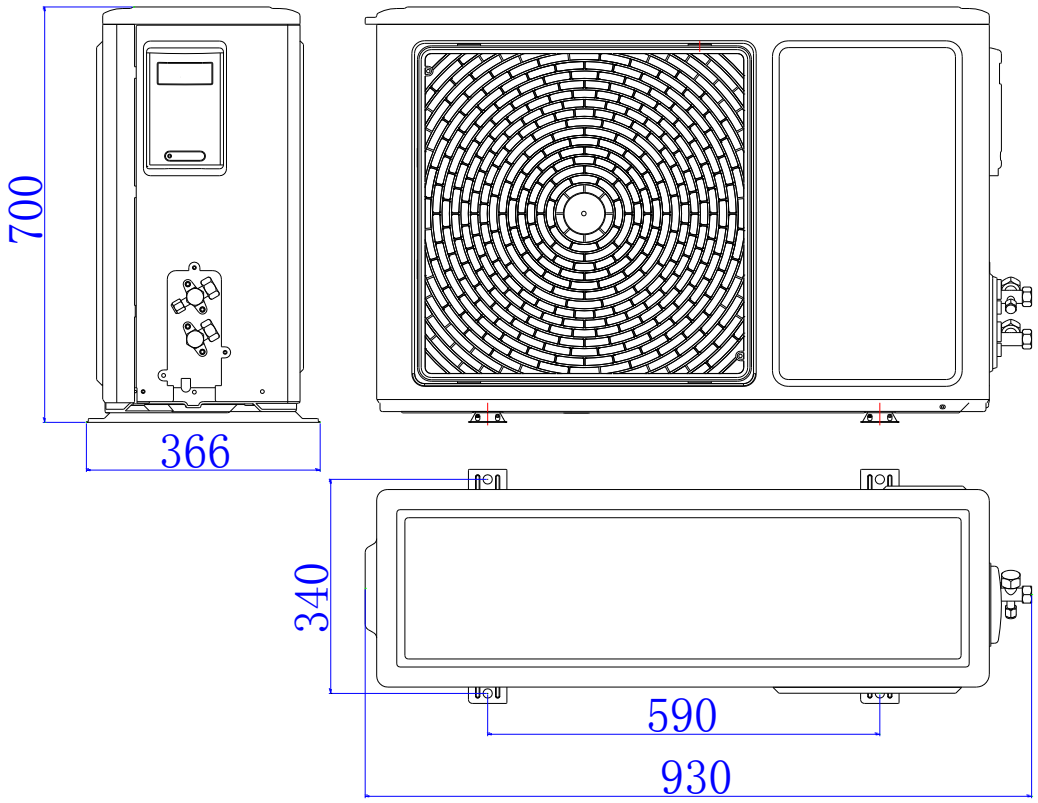
Outdoor fan motor	Model		YDK-200-6B	YDK-60-6P3-2	YDK-60-6P3-2
	Input	W	450	170*2	170*2
	Capacitor	μF	10	4*2	4*2
	Speed	r/min	800	780	780
Outdoor coil	Number of rows		1	2	2
	Tube pitch(a) x row pitch(b)	mm	25×21.65	22×19.05	25×21.65
	Fin spacing	mm	1.4	1.6	1.6
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	9.52	7.94	9.52
			inner grooved	inner grooved	inner grooved
	Number of circuits		3	7	7
Outdoor air flow(High speed)		m^3/h	6000	6100	6100
Outdoor noise level		dB(A)	65	60	60
Outdoor unit	Dimension(W*H*D)	mm	1070×400×995	911×400×1335	911×400×1335
	Packing(W*H*D)	mm	1145×475×1120	964×402×1445	964×402×1445
	Net/Gross weight	kg	92/100	99/110	99/110
Refrigerant type/quantity		g	R410A/2100	R410A/3600	R410A/4000
Throttle part			capillary	capillary	capillary
Design pressure		MPa	4.0/1.2	4.0/1.2	4.0/1.2
Max pressure		MPa	4.5	4.5	4.5
Connection wiring	Power wiring	mm^2	5×1.5/3×1.0	5×1.5/3×1.0	5×2.5/3×1.0
	Signal wiring	mm^2	RS485 twisted shielded wire pair		
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ19.05	Φ9.52/Φ19.05	Φ9.52/Φ19.05
	Max. pipe length	m	20	20	20
	Max. high drop	m	10	10	10
Ambient temp		°C	-7～43	-7～43	-7～43
Stuffing Quantity		20'/40'/40'HQ	40/80/80	32/64/64	32/64/64

2.Dimensions

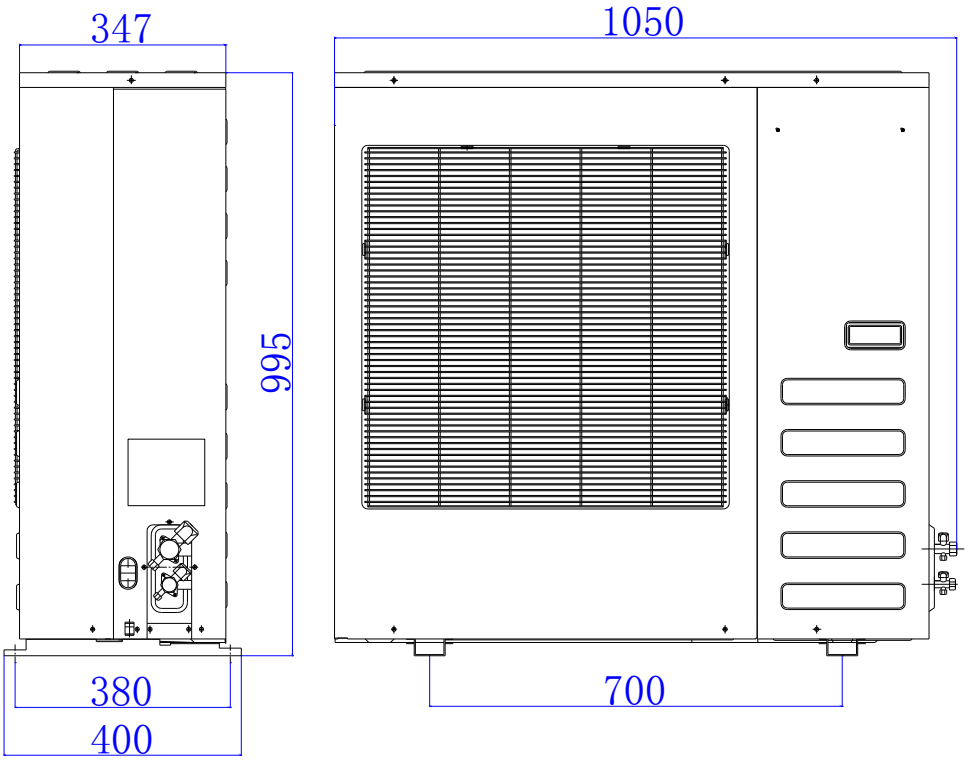
2.1 COU-12HR1, COU-18HR1



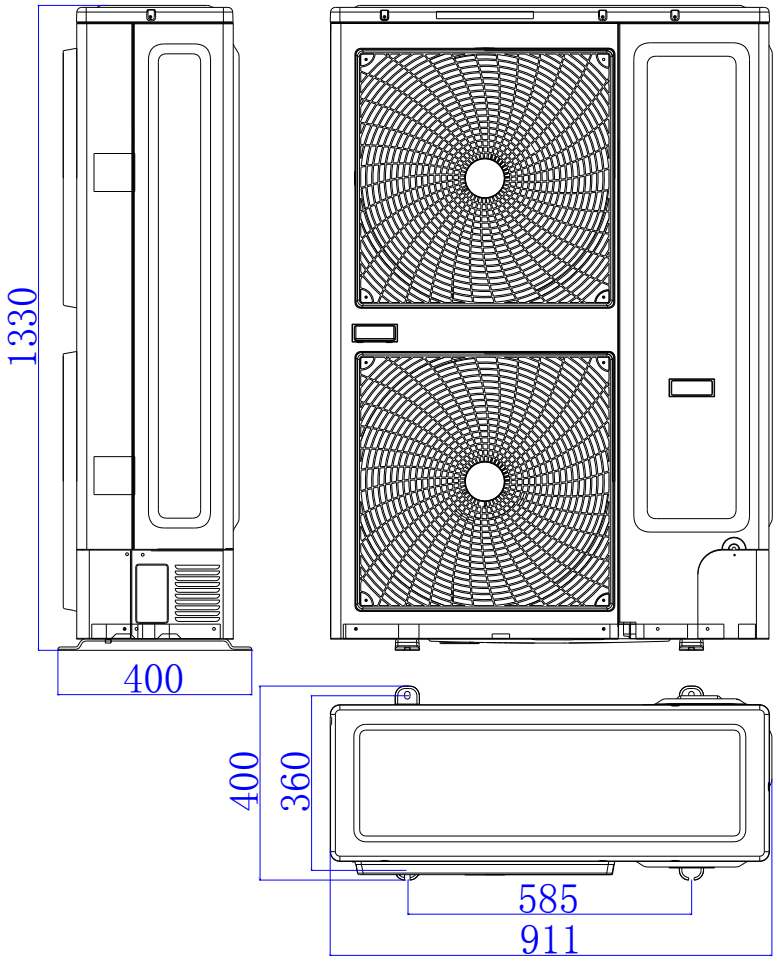
2.2 COU-24HR1



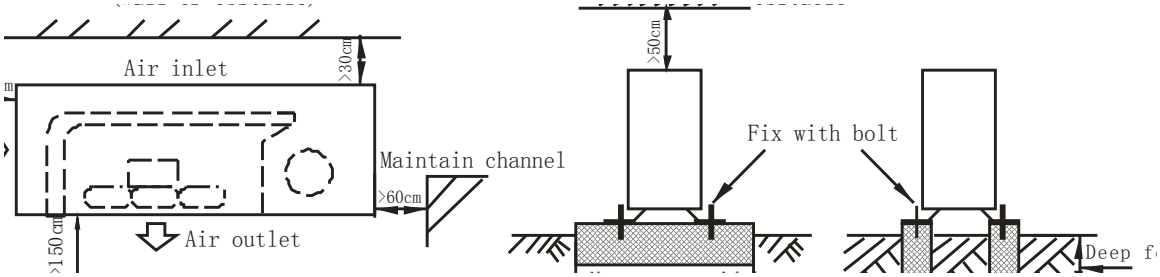
2.3 COU-36HR1, COU-36HSR1



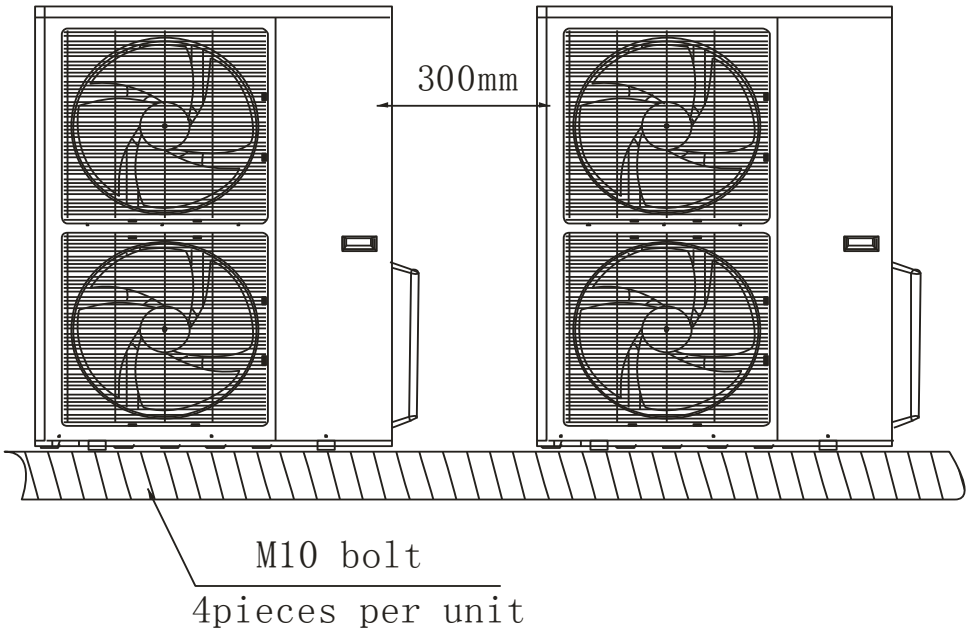
2.4 COU-48HR1, COU-60HR1



3.Service Space

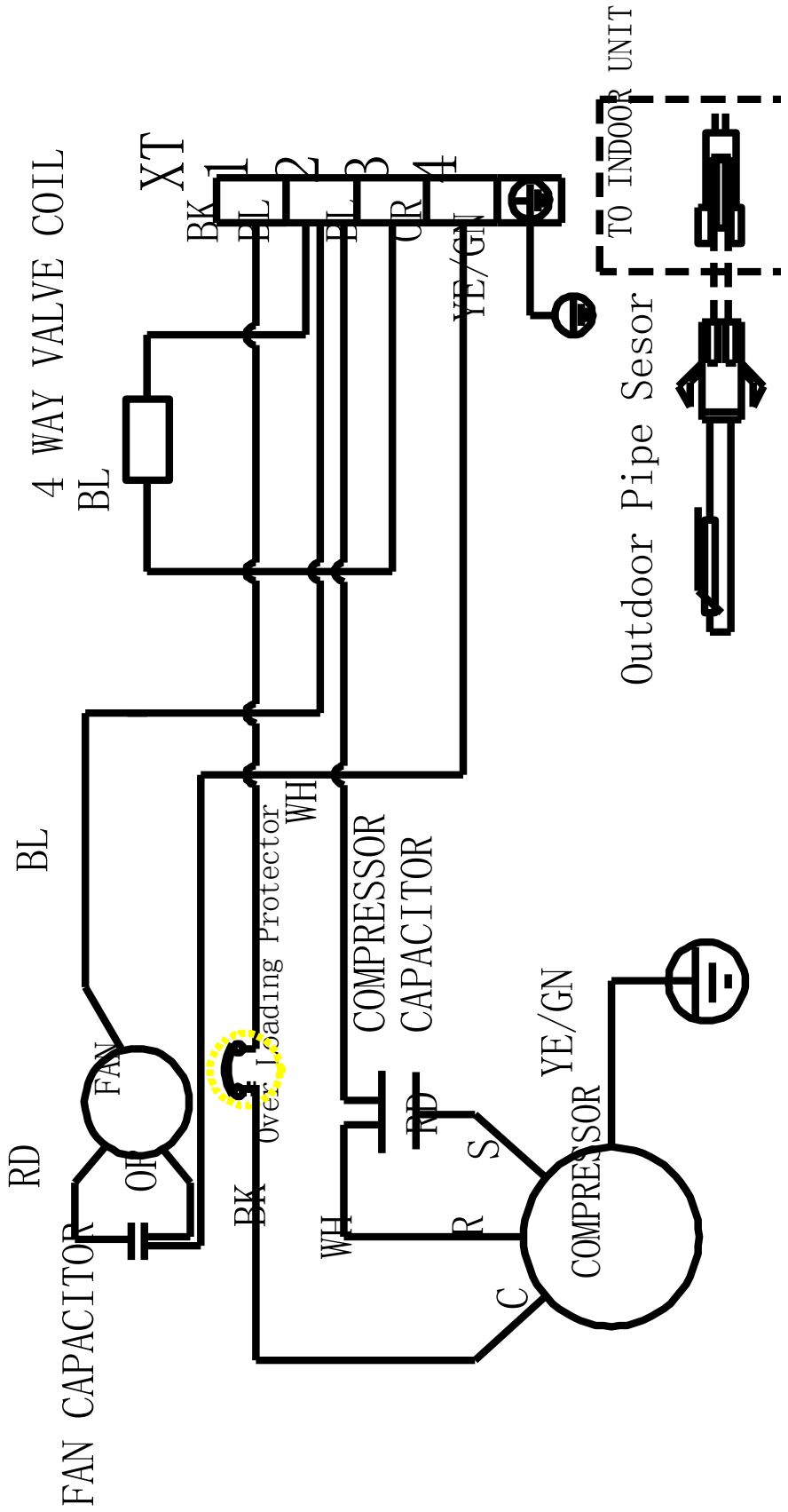


300mm is necessary between 2 outdoor units

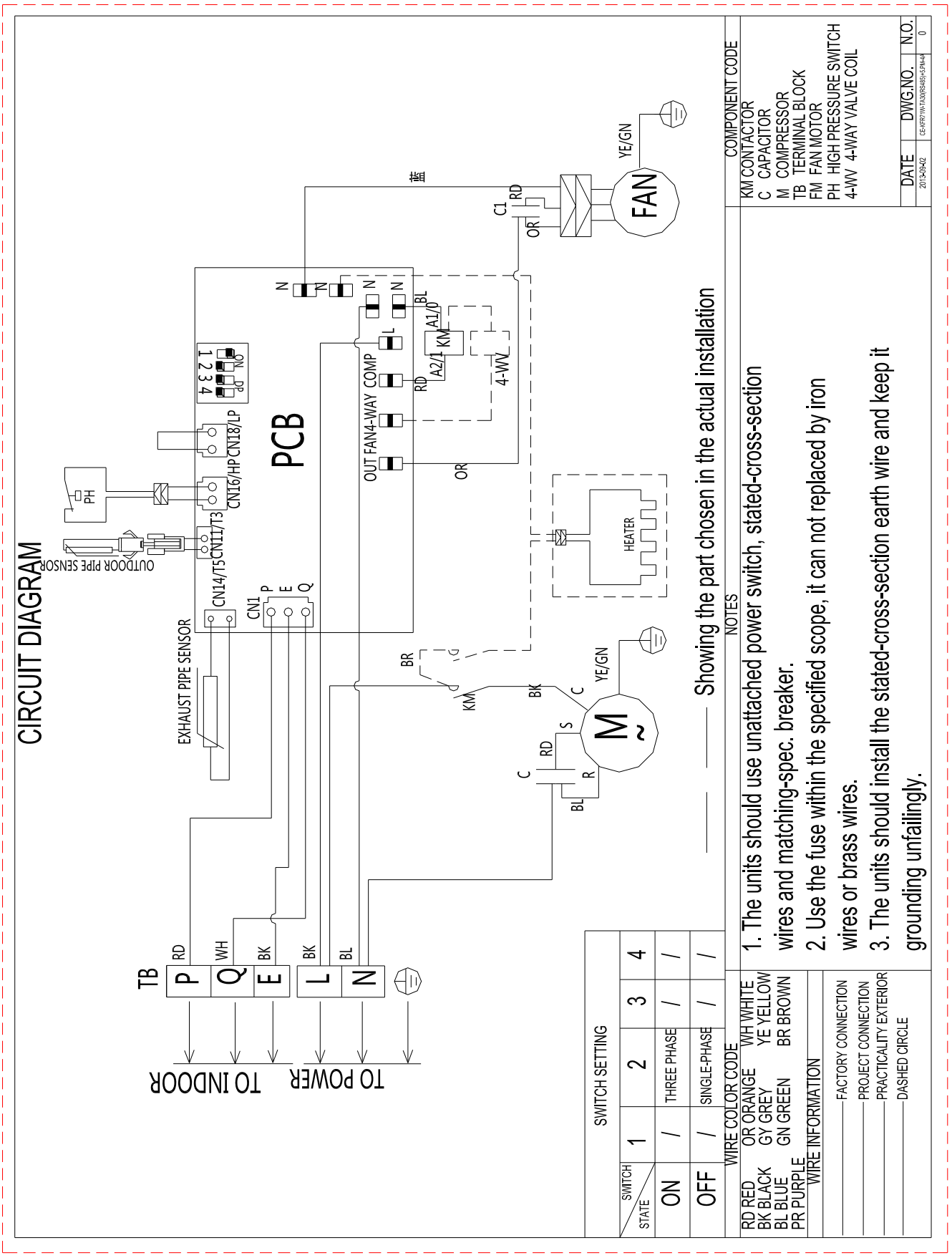


4.Wiring Diagrams

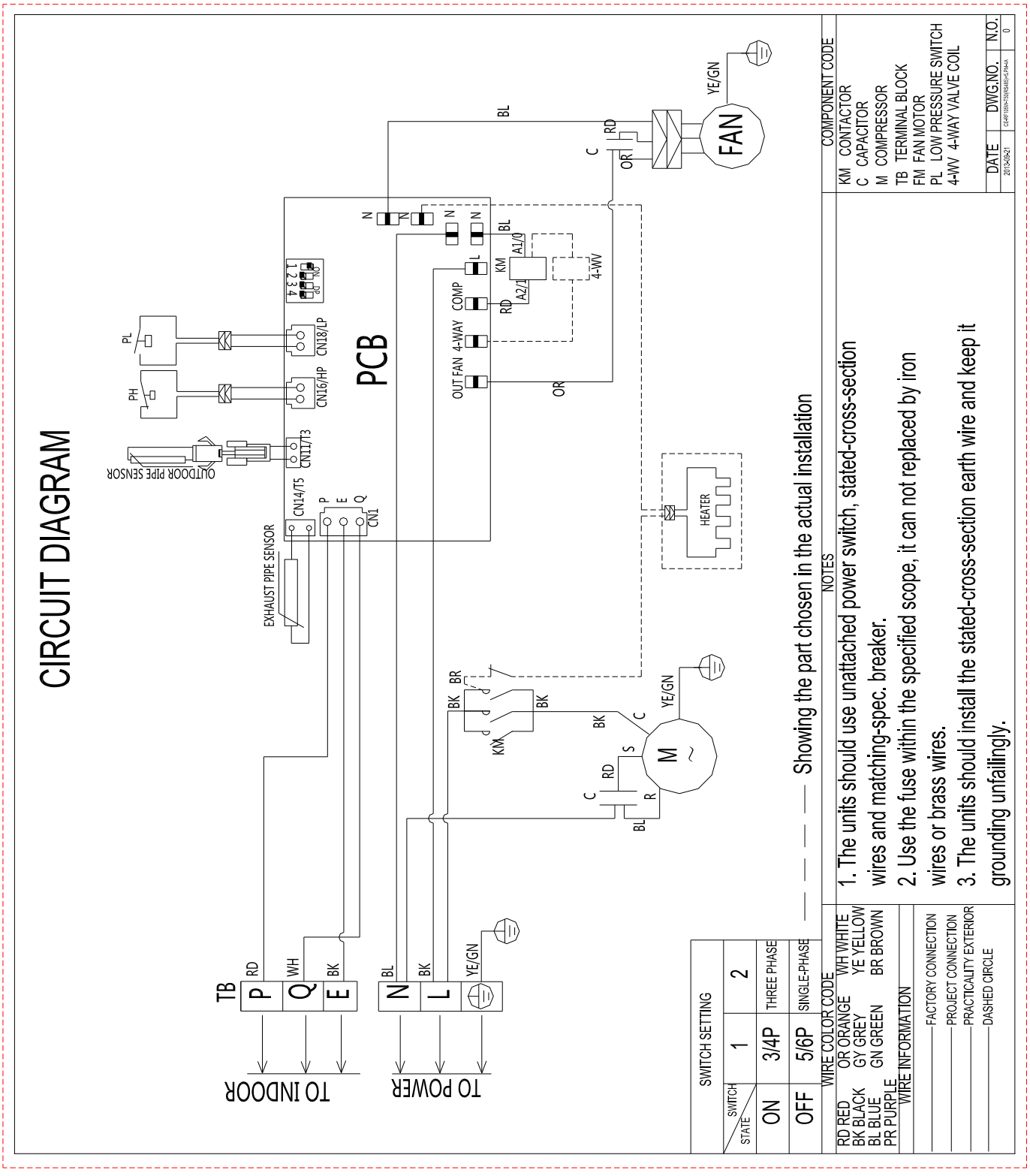
4.1 COU-12HR1, COU-18HR1 (Power supply from indoor unit)



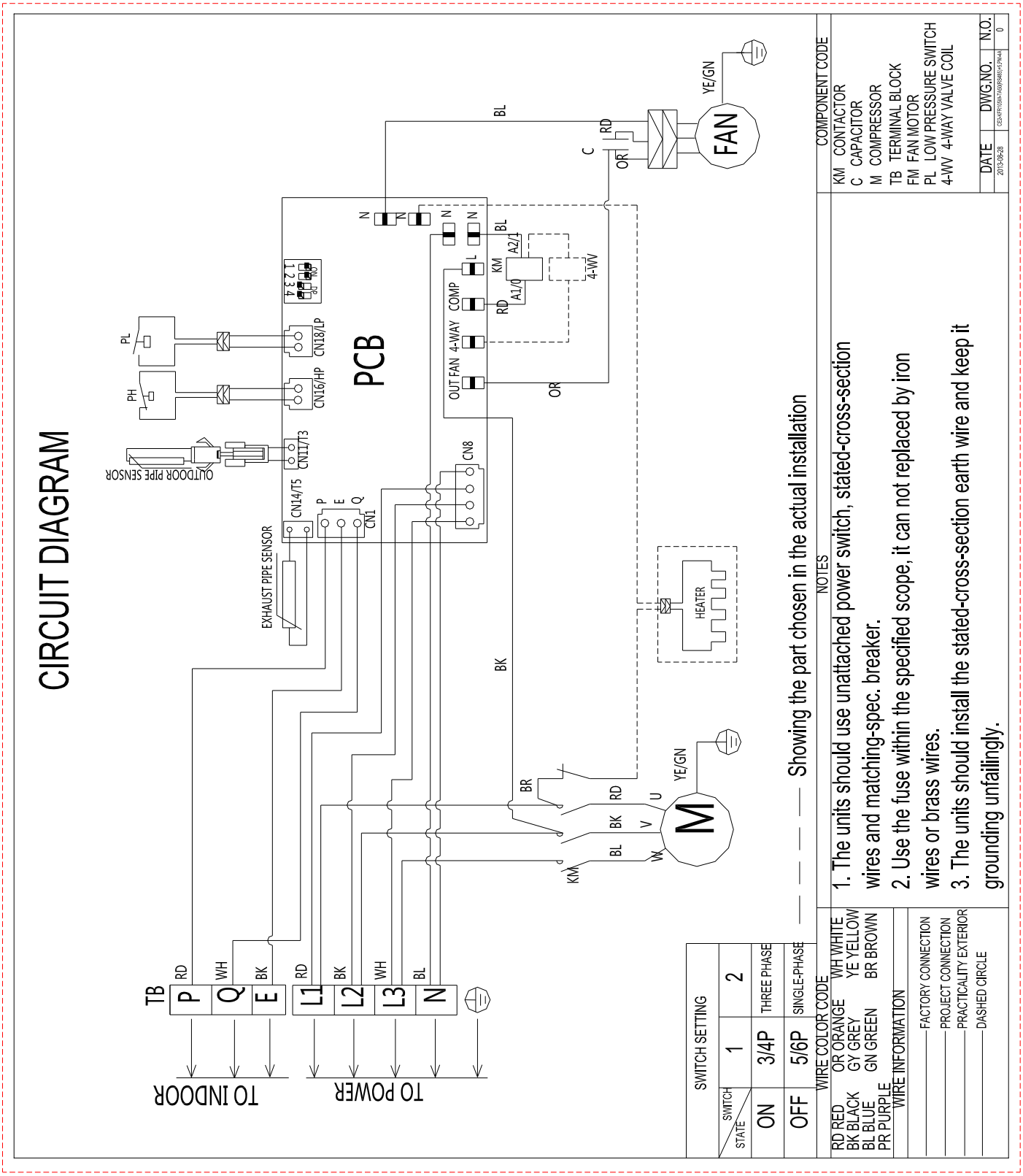
4.2 COU-24HR1 (Power supply independently)



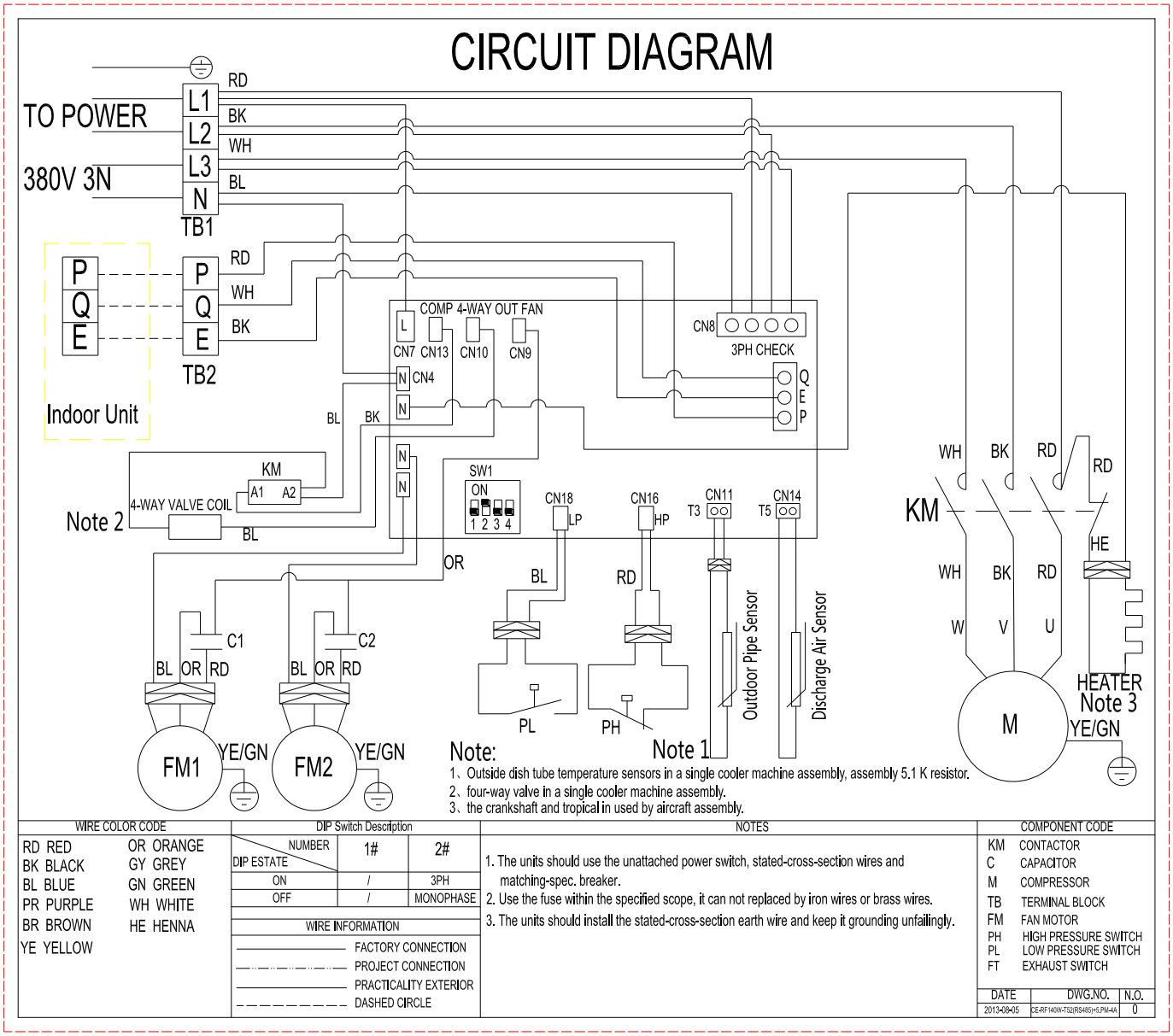
4.3 COU-36HR1 (Power supply independently)



4.4 COU-36HSR1 (Power supply independently)



4.5 COU-48HSR1 , COU-60HSR1 (Power supply independently)



WIRE COLOR CODE		DIP Switch Description			NOTES	COMPONENT CODE	
RD RED	OR ORANGE	NUMBER / DIP ESTATE	1#	2#	1. The units should use the unattached power switch, stated-cross-section wires and matching-spec. breaker.	KM	CONTACTOR
BK BLACK	GY GREY	ON	/	3PH	2. Use the fuse within the specified scope, it can not replaced by iron wires or brass wires.	C	CAPACITOR
BL BLUE	GN GREEN	OFF	/	MONOPHASE	3. The units should install the stated-cross-section earth wire and keep it grounding unfailingly.	M	COMPRESSOR
PR PURPLE	WH WHITE	WIRE INFORMATION				TB	TERMINAL BLOCK
BR BROWN	HE HENNA	FACTORY CONNECTION				FM	FAN MOTOR
YE YELLOW		PROJECT CONNECTION				PH	HIGH PRESSURE SWITCH
		PRACTICALITY EXTERIOR				PL	LOW PRESSURE SWITCH
		DASHED CIRCLE				FT	EXHAUST SWITCH

DATE	DWG.NO.	N.O.
2013-08-05	CE-RF140N-T32(RS485)+5.PM-4A	0

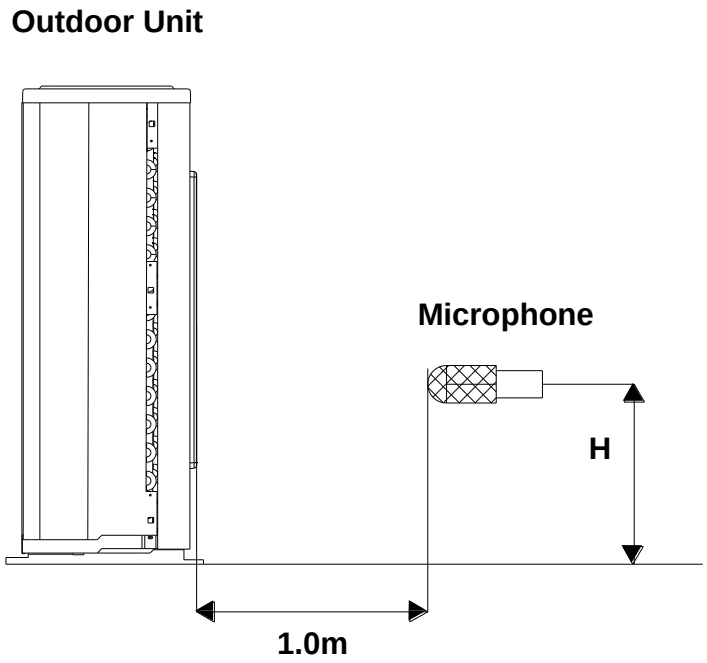
5.Electric Characteristics

Model	Outdoor Unit				
	Hz	254	Min.	Max.	Outdoor motor (kw)
COU-12HR1	50	254	198	254	0.07
COU-18HR1	50	254	198	254	0.08
COU-24HR1	50	254	198	254	0.15
COU-36HR1	50	418V	198	254	0.45
COU-36HSR1	50	418V	342V	418V	0.45
COU-48HSR1	50	418V	342V	418V	0.34
COU-60HSR1	50	380~415V	342V	418V	0.34

6.Operation Limits

Operation Mode	Outdoor temperature(℃)	Room temperature(℃)
Cooling operation	18~43	16~32
Heating operation	-7~24	16~32

7.Sound Levels

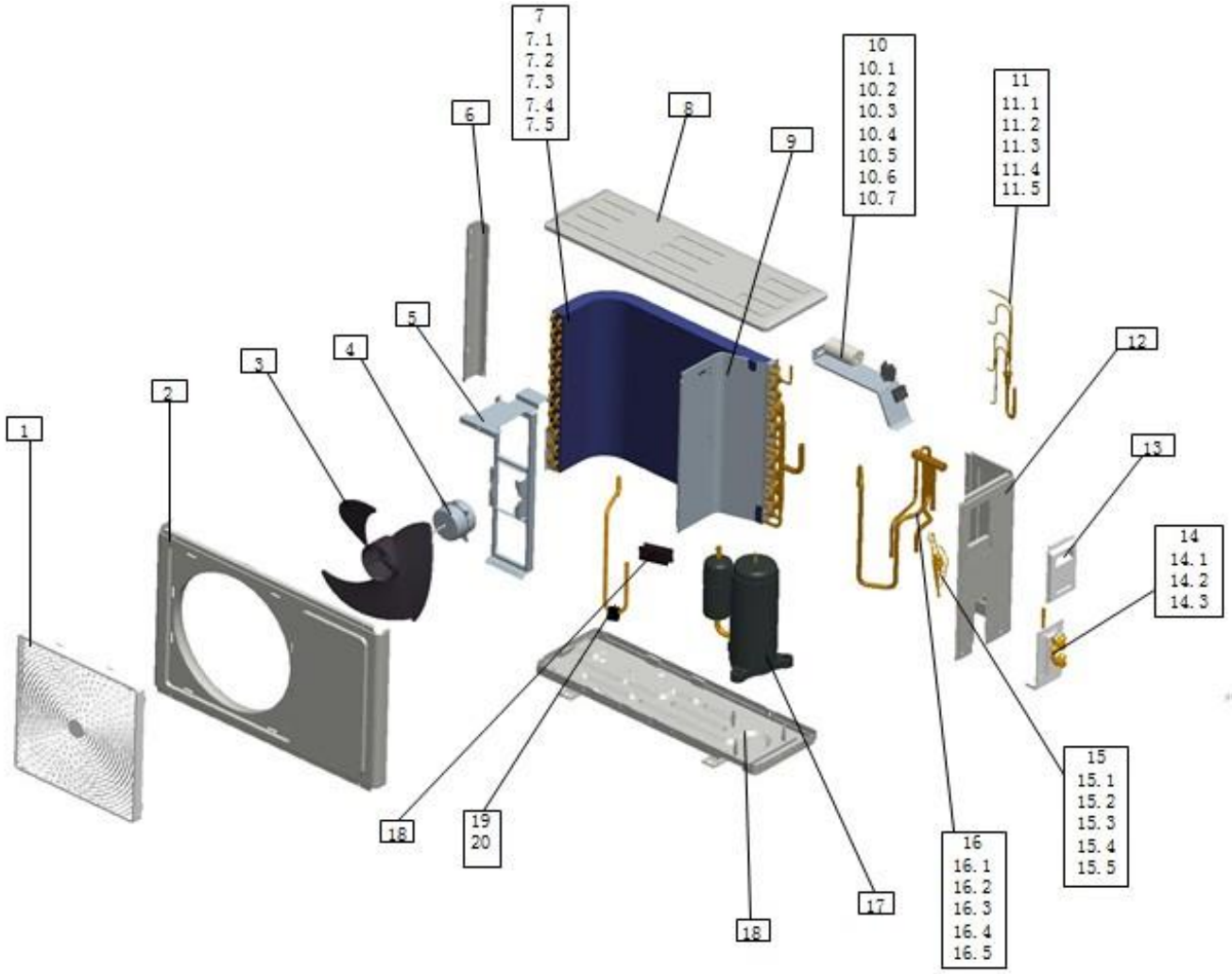


Note: H= 0.5 × (height of outdoor unit+)

Model	Noise level dB(A)
COU-12HR1	55
COU-18HR1	53
COU-24HR1	58
COU-36HR1	65
COU-36HSR1	65
COU-48HSR1	60
COU-60HSR1	60

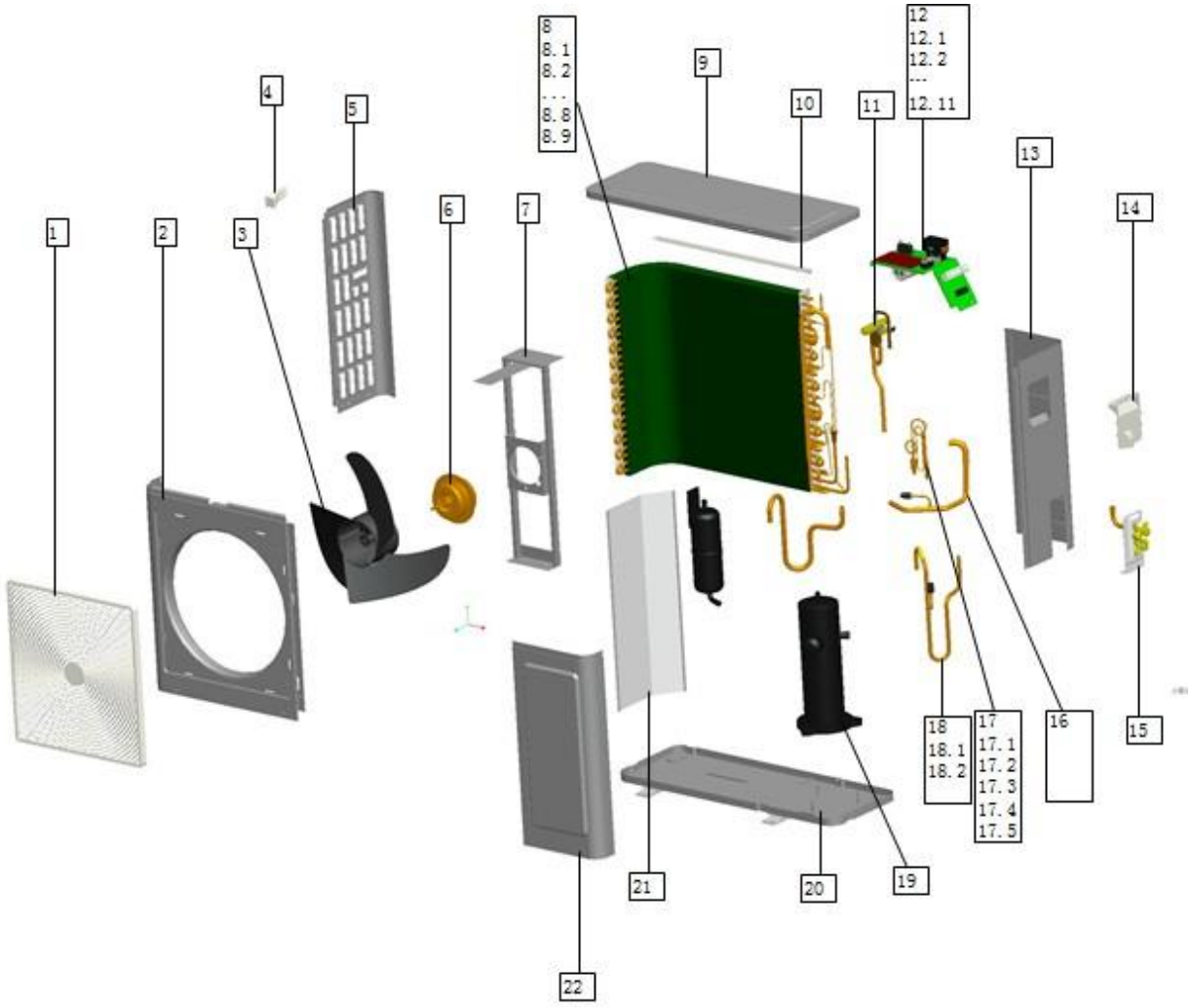
8.Exploded View

8.1 COU-12HR1, COU-18HR1



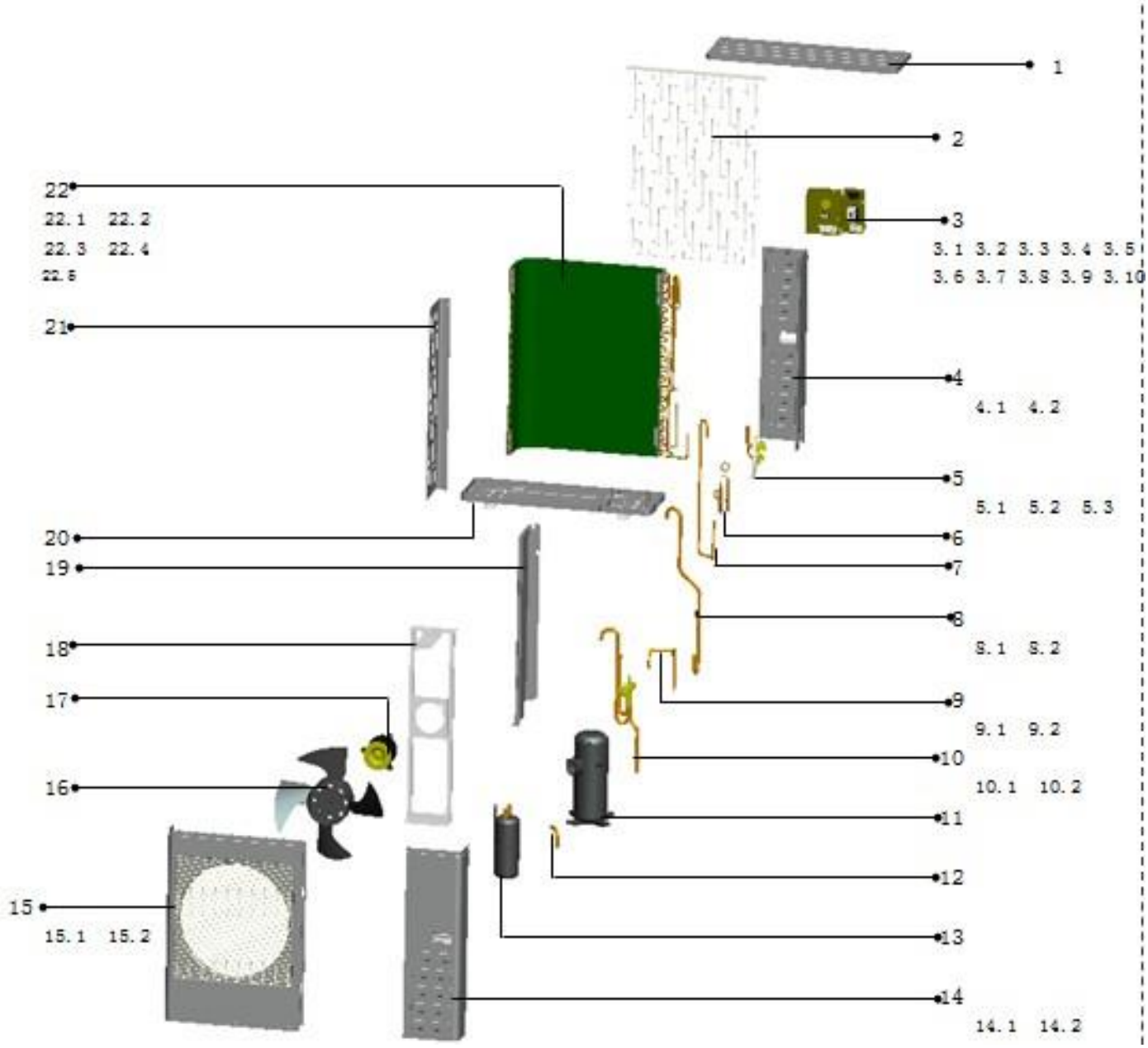
No.	Part Name	Quantity	No.	Part Name	Quantity
1	Top net	1	11	Pre-welding assy for distributing capillary	1
2	Panel assy	1	12	Right clapboard	1
3	Propeller fan	1	13	Handle	1
4	Fan motor	1	14	Valve holder assy	1
5	Holder for fan motor	1	15	Pre-welding assy for throttle capillary	1
6	column	1	16	4-Ways valve assy	1
7	Condenser assy	1	17	Compressor	1
8	Cover	1	18	Chassis	1
9	Separating board	1	19	shock absorber block (ball)	1
10	E-parts assy	1	20	shock absorber block	1

8.2 COU-24HR1



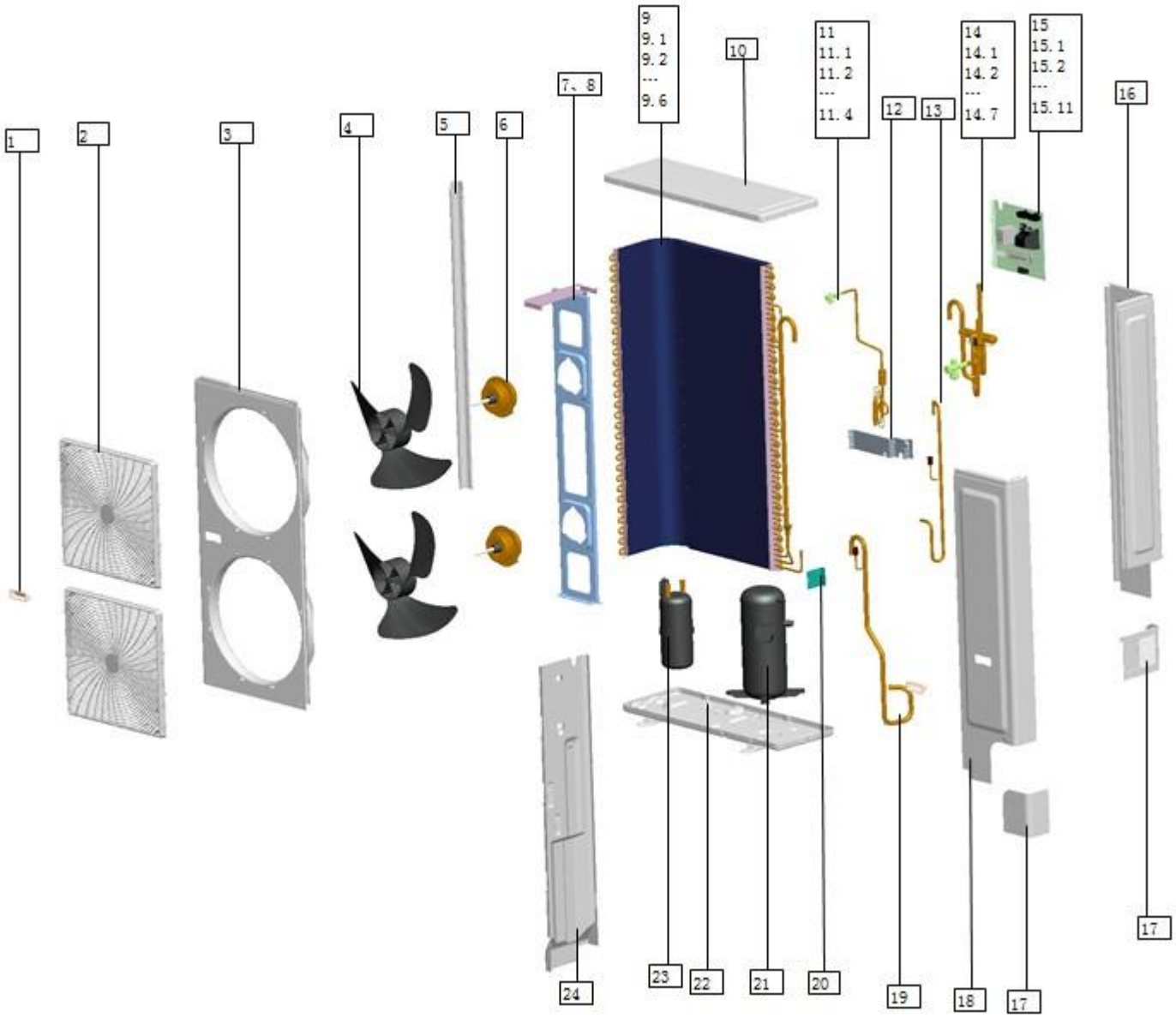
No.	Part Name	Quantity	No.	Part Name	Quantity
1	Front top net	1	12.10	Control wire for 4-Ways valve	1
2	Front panel	1	12.11	Contactor	1
3	Propeller fan	1	13	Right clapboard	1
4	Handle	1	14	Handle	1
5	Left clapboard	1	15.1	Valve holder	1
6	Fan motor	1	15.2	Cut-off valve DN8	1
7	Holder for fan motor	1	15.3	Cut-off valve DN13	1
8	Condenser assy	1	16	Suction pipe	1
9	Cover	1	17	Pre-welding assy for throttle capillary	1
10	Back connection	1	18	Discharge pipe assy	1
11	4-Ways valve assy	1	19	Compressor	1
11.1	4-Ways valve	1	20	Chassis	1
11.2	Return pipe of compressor	1	21	Separating board	1
11.3	Low pressure valve connecting pipe	1	22	Maintenance panel	1
12	E-parts assy	1			

8.3 COU-36HR1，COU-36HSR1



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Cover	1	9.1	Discharge pipe A for compressor	1
2	Rear net	1	9.2	High-pressure switch	1
3	E-parts assy	1	10	4-Ways valve assy	1
3.1	Fan motor capacitor	1	10.1	4-Ways valve assy	1
3.2	temp. sensor	1	10.2	Control wire for 4-Ways valve	1
3.3	Contactor	1	11	Compressor	1
3.4	Terminal	1	12	Suction pipe for compressor	1
3.5	Terminal	1	13	Vapor-liquid separator	1
3.6	Cover for E-parts	1	14	Maintenance board assy	1
3.7	Main control board	1	14.1	Maintenance board	1
3.8	Protection cap	2	14.2	Handle	1
3.9	Discharge temp sensor	1	15	Front panel assy	1
3.10	Groove clamp 4	1	15.1	Panel	1
4	Right clapboard assy	1	15.2	Top net	1
4.1	Right clapboard	1	16	Propeller fan	1
4.2	handle	1	17	Fan motor	1
5	Valve holder assy	1	18	Holder for fan motor	1
5.1	Valve holder	1	19	Separating board	1
5.2	Cut-off valve	1	20	Chassis	1
5.3	Cut-off valve DN16	1	21	Left clapboard	1
6	Pre-welding assy for throttle capillary	1	22	Condenser assy	1
7	Discharge pipe B for compressor	1	22.1	Condenser	1
8	Pre-welding assy for compressor suction pipe B	1	22.2	Pre-welding assy for condenser collecting pipe	1
8.1	Suction pipe B for compressor	1	22.3	Pre-welding assy for distributing capillary	1
8.2	Low-pressure switch	1	22.4	Condenser inlet tube shockproof tubule	1
9	Pre-welding assy for discharge pipe A	1	22.5	Cold out pipe	1

8.4 COU-48HR1 , COU-60HR1



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Handle	3	14.3	Cut-off valve DN16	1
2	Top net	2	14.4	4-Ways valve connecting pipe	1
3	Front panel	1	14.5	4-Ways valve connecting pipe	1
4	Propeller fan	2	14.6	4-Ways valve connecting pipe	1
5	Column	1	14.7	Control wire for 4-Ways valve	1
6	Fan motor	2	15	E-parts assy	1
7	Holder for fan motor	1	15.1	Temp sensor	1
8	Motor bracket connecting plate	1	15.2	Electric control board assy	1
9	Condenser assy	1	15.3	Terminal	1
9.1	Condenser	1	15.4	Terminal	1
9.2	Collector components	1	15.5	Groove clamp 3	1
9.3	Cold out pipe	1	15.6	Groove clamp 9	1
9.4	Condenser inlet tube shockproof tubule	1	15.7	Exhaust temp sensor	1
9.5	Probe of copper pipe	1	15.8	Electronic control mounting plate	1
9.6	Distributing capillary assy	1	15.9	Protection cap	1
10	Cover	1	15.10	Fan motor capacitor	2
11	High pressure valve connecting pipe assy	1	15.11	Contactor	1
11.1	filter	1	16	Rear panel	1
11.2	Refrigeration capillary	1	17	Rear side valve board	1
11.3	High pressure valve connecting pipe	1	18	Right clapboard	1
11.4	Cut-off valve DN8	1	19	Suction pipe assy	1
12	Valve holder	1	19.1	Suction pipe	1
13	Discharge pipe assy	1	19.2	Low-pressure switch	1
13.1	Discharge pipe	1	20	Machine foot cover	1
13.2	Probe of copper pipe	1	21	Compressor assy	1
13.3	High-pressure switch	1	22	Chassis	1
13.4	Probe of copper pipe	1	23	Vapor-liquid separator	1
14	4-Ways valve assy	1	24	Separating board	1
14.1	4-Ways valve	1			
14.2	Process pipe	1			

9.Troubleshooting

Fault display

Fault	LED
Błąd wysokiego ciśnienia	Green light flashes once every 5s
Błąd czujnika T3	Green light flashes 2 times every 5s
Błąd przepełnienia	Green light flashes 3 times every 5s
Błąd kolejności faz	Green light flashes 4 times every 5s
Wysoka temp. tłoczenia	Green light flashes 5 times every 5s
Błąd niskiego ciśnienia	Green light flashes 6 times every 5s
Brak komunikacji	Yellow light keeps constant on
Brak komunikacji	Yellow light extinguishes
Brak komunikacji	Yellow light flashes

Part 4 Installation

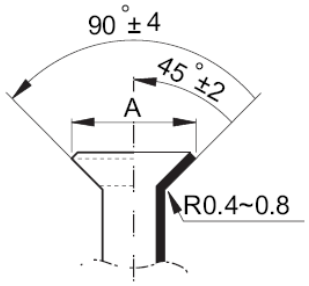
1.Precaution on Installation

1.1. Measure the necessary length of the connecting pipe, and make it by the following way.
a. Connect the indoor unit at first, then the outdoor unit.
Bend the tubing in proper way. Do not harm them.

CAUTIONS:

- Daub the surfaces of the flare pipe and the joint nuts with frozen oil, and wrench it for 3~4 rounds
- With hands before fasten the flare nuts.

Be sure to use two wrenches simultaneously when you connect or disconnect the pipes.

Pipe gauge	Tightening torque	Flare dimension A Min (mm) Max		Flare shape
Φ6.4	15～16N.m (153～163 kgf.cm)	8.3	8.7	
Φ9.5	25～26N.m (255～265kgf.cm)	12.0	12.4	
Φ12.7	35～36N.m (357～367kgf.cm)	15.4	15.8	
Φ15.9	45～47N.m (459～480 kgf.cm)	18.6	19.1	
Φ19.1	65～67N.m (663～684kgf.cm)	22.9	23.3	

b. The stop value of the outdoor unit should be closed absolutely (as original state). Every time you connect it, first loosen the nuts at the part of stop value, then connect the flare pipe immediately (in 5 minutes). If the nuts have been loosened for a long time, dusts and other impurities may enter the pipe system and may cause malfunction later. So please expel the air out of the pipe with refrigerant before connection.
c. Expel the air after connecting the refrigerant pipe with the indoor unit and the outdoor unit. Then fasten the nuts at the repair-points.

1.2. Locate The Pipe
a. Drill a hole in the wall (suitable just for the size of the wall conduit), then set on the fittings such as the wall conduit and its cover.
b. Bind the connecting pipe and the cables together tightly with binding tapes. Do not let air in, which will cause water leakage by condensation.
c. Pass the bound connecting pipe through the wall conduit from outside. Be careful of the pipe allocation to do no damage to the tubing.

1.3. Connect the pipes.

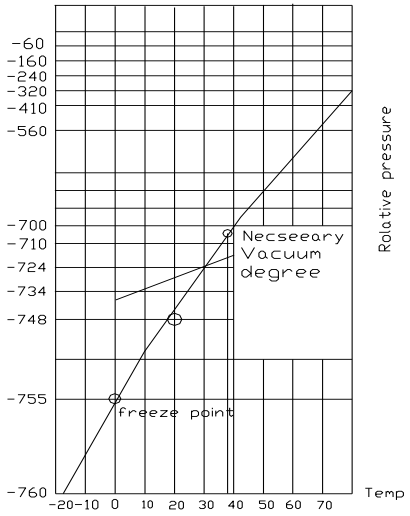
1.4. Then, open the stem of stop values of the outdoor unit to make the refrigerant pipe connecting the indoor unit with the outdoor unit in fluent flow.

1.5. Be sure of no leakage by checking it with leak detector or soap water.

1.6. Cover the joint of the connecting pipe to the indoor unit with the soundproof / insulating sheath (fittings), and bind it well with the tapes to prevent leakage.

2.Vacuum Dry and Leakage Checking

2.1 Vacuum Dry: use vacuum pump to change the moisture (liquid) into steam (gas) in the pipe and discharge it out of the pipe to make the pipe dry. Under one atmospheric pressure, the boiling point of water(steam temperature) is 100℃. Use vacuum pump to make the pressure in the pipe near vacuum state, the boiling point of water falls relatively. When it falls under outdoor temperature, the moisture in the pipe will be vaporized.

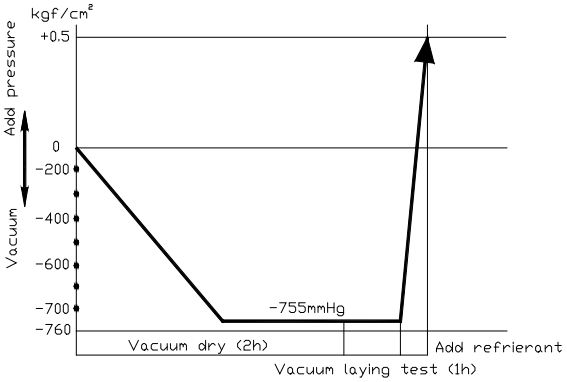


2.2 Vacuum dry procedure

There are two methods of vacuum dry due to different construction environment: common vacuum dry, special vacuum dry.

①. Common vacuum dry procedure

- Vacuum dry (for the first time)---connect the all-purpose detector to the inlet of liquid pipe and gas pipe, and run the vacuum pump more than two hours (the vacuum pump should be below -755mmHg)
- If the pump can't achieve below -755mmHg after pumping 2 hours, moisture or leakage point will still exist in the pipe. At this time, it should be pumped 1 hour more.
- If the pump can't achieve -755mmHg after pumping 3 hours, please check if there are some leakage points.
- Vacuum placement test: place 1 hour when it achieves -755mmHg, pass if the vacuum watch shows no rising. If it rises, it shows there's moisture or leakage point.
- Vacuuming from liquid pipe and gas pipe at the same time.
- Sketch map of common vacuum dry procedure.



②. Special vacuum dry procedure

- This vacuum dry method is used in the following conditions:
- There's moisture when flushing the refrigerant pipe.
- Rainwater may enter into the pipe.
- Vacuum dry for the first time …… 2h pumping

③. Vacuum destroy for the second time …… Fill nitrogen to 0.5Kgf/cm2

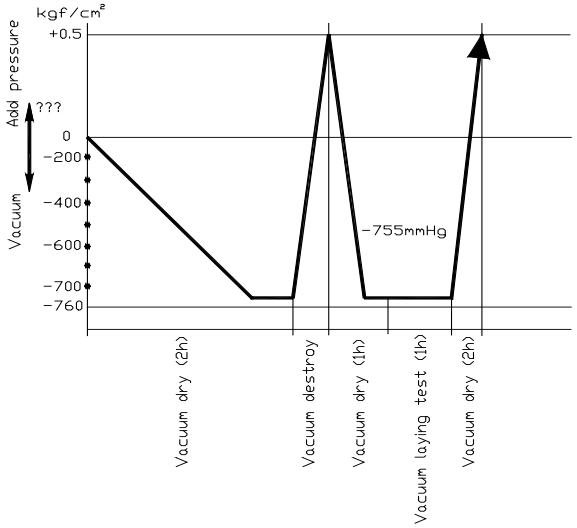
Because nitrogen is for drying gas, it has vacuum drying effect during vacuum destroy. But if the moisture is too much, this method can't dry thoroughly. So, please pay more attention to prevent water entering and forming condensation water.

④. Vacuum dry for the second time……1h pumping

Determinant: Pass if achieving below -755mmHg. If -755mmHg can't be achieved in 2h, repeat procedure ③ and ④.

⑤. Vacuum placing test …… 1h

⑥. Sketch map of special vacuum dry procedure



3.Additional Refrigerant Charge

Caution

● Refrigerant cannot be charged until field wiring has been completed.

● Refrigerant may only be charged after performing the leak test and the vacuum pumping.

● When charging a system, care shall be taken that its maximum permissible charge is never exceeded, in view of the danger of liquid hammer.

● Charging with an unsuitable substance may cause explosions and accidents, so always ensure that the appropriate refrigerant is charged.

● Refrigerant containers shall be opened slowly.

● Always use protective gloves and protect your eyes when charging refrigerant.

The outdoor unit is factory charged with refrigerant. Calculate the added refrigerant according to the diameter and the length of the liquid side pipe of the outdoor unit/indoor unit

R(g) D(mm) / L(m)	φ6.4	Φ9.5	Φ12.7
Less than 5m (One-way)	—	—	—
Added Refrigerant When Over 5m(One-way)	30g/m×(L-5)	65g/m×(L-5)	120g/m×(L-5)

Remark:

R (g): Additional refrigerant to be charged

L (m): The length of the refrigerant pipe (one-way)

D (mm): Liquid side piping

4.Water Drainage

4.1 Gradient and Supporting

4.1.1 Keep the drainpipe sloping downwards at a gradient of at least 1/100. Keep the drainpipe as short as possible and eliminate the air bubble.

4.1.2 The horizontal drainpipe should be short. When the pipe is too long, a prop stand must be installed to keep the gradient of 1/100 and prevent bending. Refer to the following table for the specification of the prop stand.

	Diameter	Distance between the prop stands
Hard PVC pipe	25~40mm	1~1.5m

4.1.3. Precautions

① The diameter of drainpipe should meet the drainage requirement at least.

② The drainpipe should be heat-insulated to prevent atomization.

③ Drainpipe should be installed before installing indoor unit. After powering on, there is some water in water-receiver plate. Please check if the drain pump can operate correctly.

④ All connection should be firm.

⑤ Wipe color on PVC pipe to note connection.

⑥ Climbing, horizontal and bending conditions are prohibited.

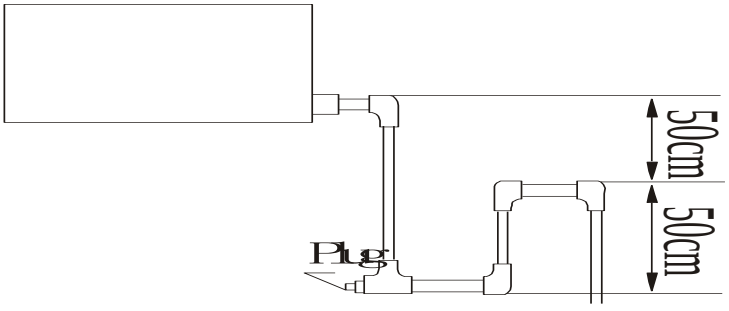
⑦ The dimension of drainpipe can't less than the connecting dimension of indoor drainpipe.

⑧ Heat-insulation should be done well to prevent condensation.

⑨ Indoor units with different drainage type can't share one convergent drainpipe.

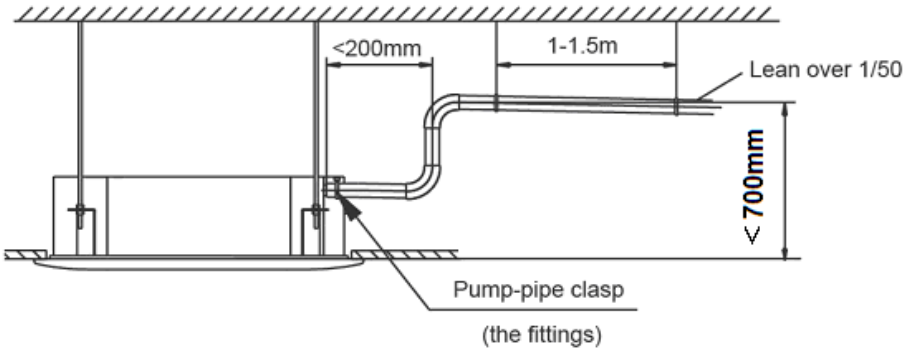
4.2 Drainpipe Trap

4.2.1. If the pressure at the connection of the drainpipe is negative, it needs to design drainpipe trap.
4.2.2. Every indoor unit needs one drainpipe trap.
4.2.3. A plug should be designed to do cleaning.

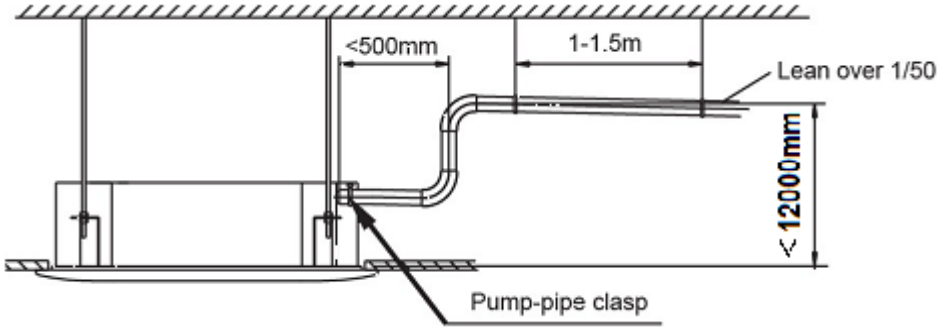


4.3 Upwards drainage (drain pump)

For Four-way cassette(compact)



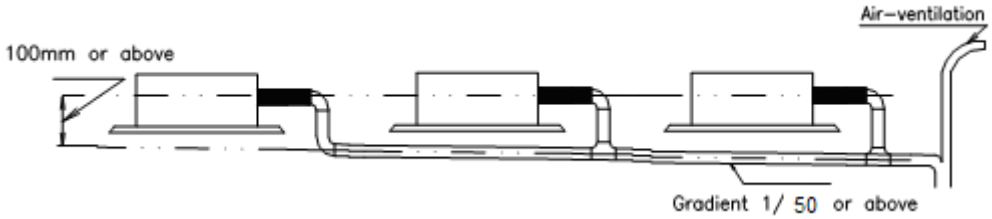
For Four-way cassette



4.4 Convergent drainage

4.4.1. The number of indoor units should be as small as possible to prevent the traverse main pipe overlong.

4.4.2. Indoor unit with drain pump and indoor unit without drain pump should be in different drainage system.



4.4.3. Selecting the diameter

Number of connecting indoor units → Calculate drainage volume → Select the diameter

Calculate allowed volume =Total cooling capacity of indoor units(HP)×2 (l/ hr)

	Allowed volume(lean 1/50) (l/ hr)	I.D. (mm)	Thick
Hard PVC		¢25	3.0
Hard PVC		¢30	3.5
Hard PVC		¢40	4.0
Hard PVC		¢50	4.5
Hard PVC		¢80	6.0

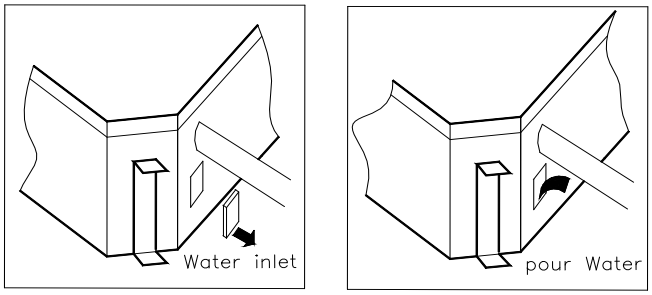
4.5 Drainage test

4.5.1Drainage without drain pump

After finishing drainpipe installation, pour some water into the water receiver plate to check if the water flows smoothly.

4.5.2 Drainage with drain pump

① Poke the Water Level Switch, remove the cover, use water pipe to pour 2000ml water into the water receipt plate through the water inlet.



② Turn on the power to Cooling operation. Check the pump's operation and switch on the Water Level Switch. Check the pump's sound and look into the transparent hard pipe in the outlet at the same time to check if the water can discharge normally.

③ Stop the air conditioner running, turn off the power, and put back the cover.

- Stop the air conditioner. After 3 minutes, check if it has abnormity. If the collocation of drainpipes is illogical, the water will flow back overfull, which will cause the alarm lamp flashes, even overflow from the water receipt plate.
- Keep on pouring water until it gives an alarm signal for high water level, check if the pump drains water at once. If the water level can't fall below the alarmed water level after 3 minutes, the air conditioner will stop. Turn off the power and drain the remained water, and then turn on the air conditioner.

Note: the drain stuff in the main water receipt plate is for maintenance. Stuff up the drain stuff to prevent water leakage.

5.Insulation Work

5.1 Insulation material and thickness

5.1.1. Insulation material

Insulation material should adopt the material which is able to endure the pipe's temperature: no less than 70℃ in the high-pressure side, no less than 120℃ in the low-pressure side(For the cooling type machine, no requirements at the low-pressure side.)

◆ Example: Heat pump type----Heat-resistant Polyethylene foam (withstand above 120℃)
Cooling only type----Polyethylene foam (withstand above 100℃)

5.1.2. Thickness choice for insulation material

Insulation material thickness is as follows:

	Pipe diameter (mm)	Adiabatic material thickness
Refrigerant pipe	Φ6.4—Φ25.4	10mm
	Φ28.6—Φ38.1	15mm
Drainage pipe	Inner diameterΦ20—Φ32	6mm

5.2 Refrigerant pipe insulation

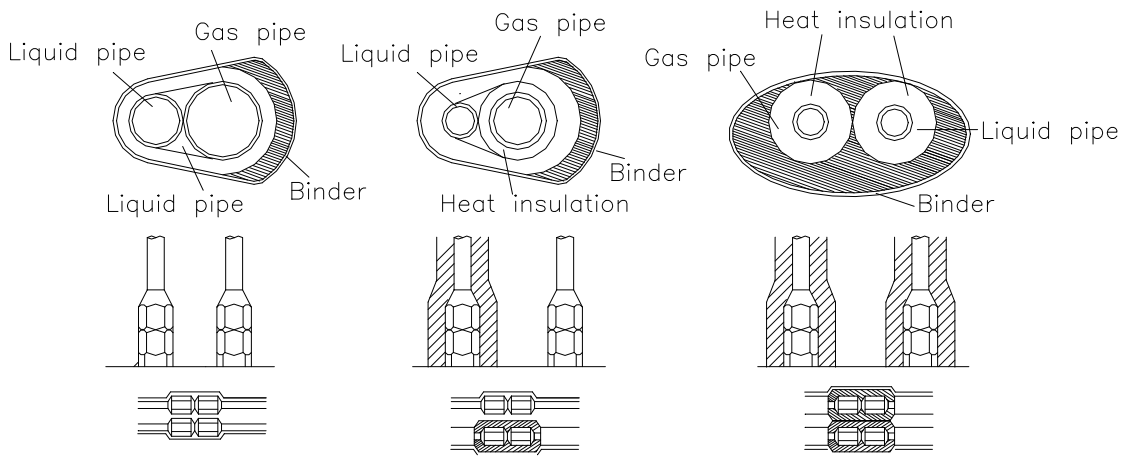
5.2.1. Work Procedure

① Before laying the pipes, the non-jointing parts and non-connection parts should be heat insulated.

② When the gas proof test is eligible, the jointing area, expanding area and the flange area should be heat insulated

5.2.2. Insulation for non-jointing parts and non-connection parts

wrong	right	
Gas pipe and liquid pipe should not be put together to insulate	Insulate the gas pipe (cooling only)	Insulate the gas pipe and liquid pipe

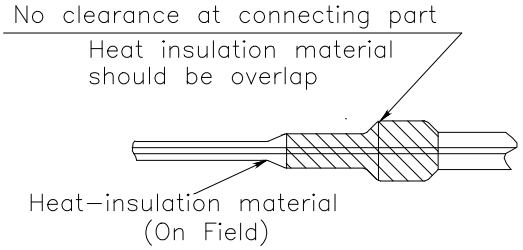


For construction convenience, before laying pipes, use insulation material to insulate the pipes to be deal with, at the same time, at two ends of the pipe, remain some length not to be insulated, in order to be welded and check the leakage after laying the pipes.

5.2.3. Insulate for the jointing area, expanding area and the flange area

① Insulate for the jointing area, expanding area and the flange area should be done after checking leakage of the pipes

② Make sure there's no clearance in the joining part of the accessorial insulation material and local preparative insulation material.



5.3 Drainage pipe insulation

The connection part should be insulated, or else water will be condensing at the non-insulation part.

5.4 Note

5.4.1 The jointing area, expanding area and the flange area should be heat insulated after passing the pressure test

5.4.2 The gas and liquid pipe should be heat insulated individually, the connecting part should be heat insulated individually.

5.4.3 Use the attached heat-insulation material to insulate the pipe connections (pipes' tie-in ,expand nut) of the indoor unit

.

6.Test Operation

(1) The test operation must be carried out after the entire installation has been completed.

(2) Please confirm the following points before the test operation.

- The indoor unit and outdoor unit are installed properly.
- Tubing and wiring are correctly completed.
- The refrigerant pipe system is leakage-checked.
- The drainage is unimpeded.
- The ground wiring is connected correctly.
- The length of the tubing and the added stow capacity of the refrigerant have been recorded.
- The power voltage fits the rated voltage of the air conditioner.
- There is no obstacle at the outlet and inlet of the outdoor and indoor units.
- The gas-side and liquid-side stop values are both opened.
- The air conditioner is pre-heated by turning on the power.

(3) According to the user's requirement, install the remote controller when the remote controller's signal can reach the indoor unit smoothly.

(4) Test operation

Set the air conditioner under the mode of "COOLING" with the remote controller, and check the following points.

Indoor unit

- Whether the switch on the remote controller works well.
- Whether the buttons on the remote controller works well.
- Whether the air flow louver moves normally.
- Whether the room temperature is adjusted well.
- Whether the indicator lights normally.
- Whether the temporary buttons works well.
- Whether the drainage is normal.
- Whether there is vibration or abnormal noise during operation.

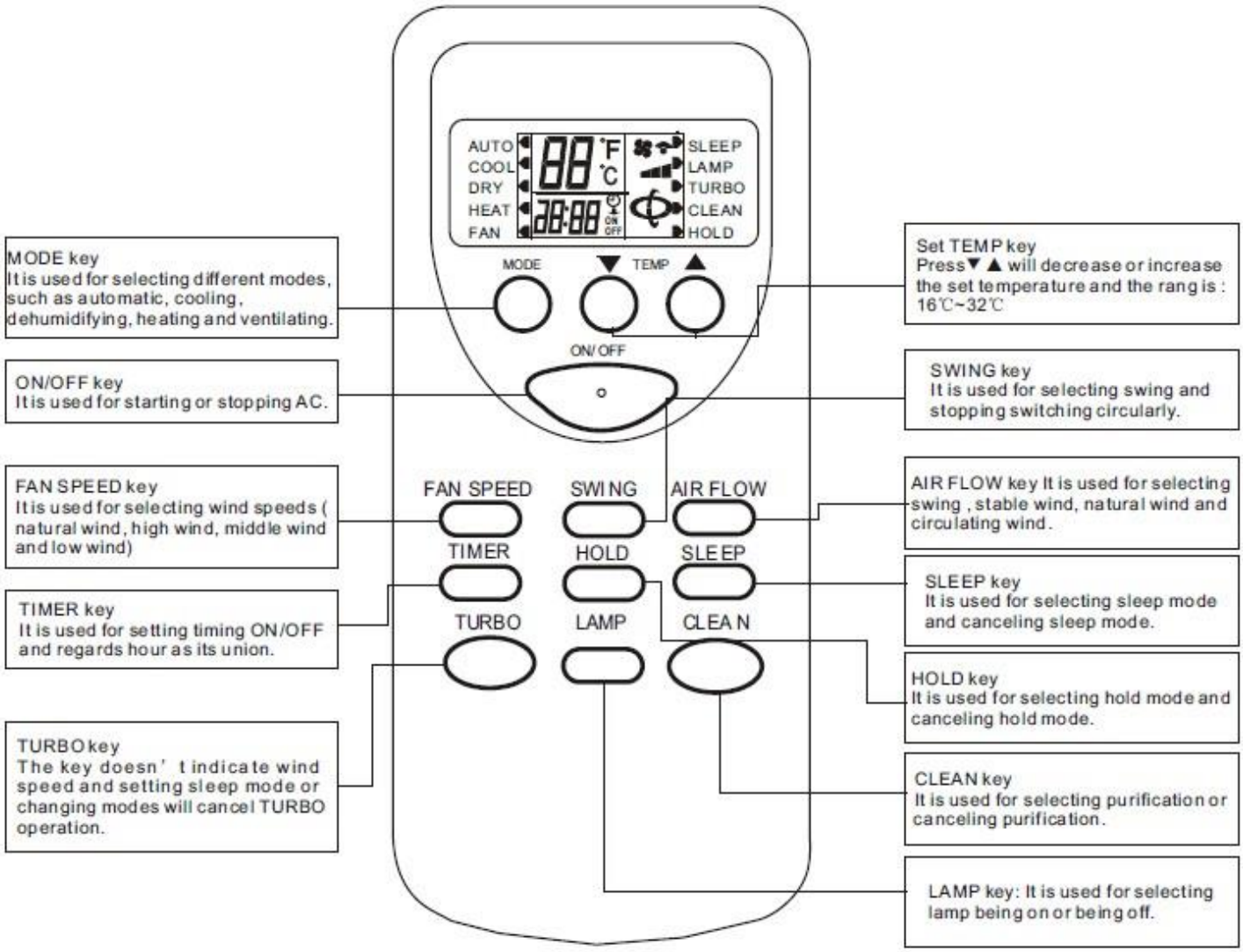
Outdoor unit

- Whether there is vibration or abnormal noise during operation.
- Whether the generated wind, noise, or condensed of by the air conditioner have influenced your neighborhood.
- Whether any of the refrigerant is leaked.

Part 5 Control

1.Wireless Remote Controller

1.1 Jingling TB-YKQ-D02b



USE OF REMOTE CONTROLLER

The controller below is the Jingling Common Remote Controller, SWING key, TURBO key, LAMP key and CLEAN key is applicable for special latest developed new models instead of normal ones.

FUNCTION KEY

A. ON/OFF key:

Press the key and the remote control will switch circularly in the order: ON→OFF→ON. When it is powered on at first from off state to on state, the default setting of work condition is (The set temperature is 25℃ and the mode , wind speed, swing and air door are all automatic and there

is no lamp, no turbo, no purification, no sleep, no timing and no hold function). When it is not powered on firstly from off state to on state, the work condition is as the same as the state before stopping. It will cancel damp, purification, sleep, turbo and timing running mode.

B. MODE key:

Press the key to switch modes in the order: automatic cooling →dehumidify →heating →ventilating →automatic.

C. " ▼ " key:

In dehumidifying mode and automatic mode, pressing the key cannot change the temperature. In other mode, press the key once and the temperature will decrease 1℃ in the order: 32℃→31℃ →…→17℃→16℃ .

D. " ▲ " key:

In dehumidifying mode and automatic mode, pressing the key cannot change the temperature. In other mode, press the key once and the temperature will increase 1℃ in the order: 16℃→17℃ →…→31℃→32℃.

E. SWING key:

In dehumidifying mode, the swing mode is in the stable wind mode without change. In other mode, press the key to switch modes in the order: swing → stable wind→ natural wind →swing

F. AIR FLOW key:

The default air flow is in the swing mode when starting firstly and press the key to switch modes in the order: swing →stop →swing.

G. WIND SPEED key:

The default wind speed is in the automatic wind mode when starting firstly. The remote control won't react by pressing the key because the wind speed can't be adjusted and in low speed in dehumidifying mode. In other mode, press the key to switch modes in the order:

Automatic wind→ high speed →middle speed→ low speed →automatic wind

H. TIMER key:

The default mode is in no timing state, press the key to set timing time with hour as its union. The switch order is: 1H→2H→…→24H→cancel→1H…. Press the key to set timing starting in the off state and set timing stopping in the on state. After setting timing function, the time keeps decreasing per hour until the time decreasing to the timing on or timing off and the timing display will be cancelled at the same time. Pressing MODE key can't cancel timing in timing mode

which will send out the order of timing time by pressing other key.

I. TURBO key:

The default state for the control is no turbo and the key don't work in the automatic mode, dehumidifying mode and ventilating mode (It will not display any contents and not send out any codes). The control, however, will switch between on and off by pressing the key in other mode. The wind speed isn't indicated in turbo mode and it will be cancelled for changing modes and setting sleep mode.

J. SLEEP key:

Press the key to switch modes in the order: sleep→ cancel sleep→ sleep. The sleep function won't be cancelled for changing modes. Press the key to set sleep mode and the wind speed will automatically be switched to low speed and it can adjust the wind speed by pressing the WIND SPEED key (except dehumidifying mode).

K. LOCK key:

The default state is in no LOCK key state, press the key to select modes in order: LOCK key →cancel LOCK key→ LOCK key; In LOCK key mode, all keys except LOCK key of the remote control can't work . (NOTE: In LOCK key mode, the remote and operation panel of the unit both will be locked automatically by pressing the key and press the key again, they will be unlocked. As for the split unit, it only holds the control rather than urgent keys and the panel will make a reaction.)

L. LAMP key:

The default state is in no LAMP key state, press the key to select modes in order: LAMP key →cancel LAMP key→ LAMP key; In LAMP key mode, pressing MODE key can't cancel the show of LAMP key.

M. CLEAN key:

The default state is in no purification state, press the key to select modes in order: CLEAN →cancel CLEAN→ CLEAN; In purification mode, pressing CLEAN key can't cancel purification function. Press the key when the remote control is closed, the control will switch modes in the order: CLEAN →cancel CLEAN→ CLEAN; when you stop the unit and turn on the purification switch, except the wind, the stable swing and air door swing speed aren't adjusted.

2.Wired Controller

ZKX-TE-05

I. Use-method

The control panel of wire controller is responsible for controlling the operation status of the system by the button and displaying the working status of the entire system by its LCD screen, and is responsible for communicating with the control board of the system.

Fig1 Appearance of Wire Controller

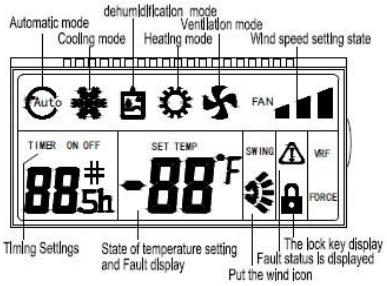


Fig2 LCD display content of Wire Controller

Operation and Instruction:

"ON/OFF" Button:

1) Control the On/Off status of the system.

2) Press and hold the On/Off button when the wire controller is powered on, to go into the self-test mode. And then you can release the button.

"MODE" Button:

When the air conditioning is powered on, every time you press mode button or the mode button of remote controller, the mode will change in the following sequence.

Auto Mode→Refrigeration→Dehumidification→Heating→Ventilation→Auto Mode

"TEMP+" and "TEMP-" Button ("▲", "▼"):

1) Boot state, press "▲" and "▼"Button, increase/decrease the setting temperature . Refrigeration, Dehumidification, Ventilation and Heating mode Scope of temperature setting: 16 ℃ ~ 32 ℃ ; The setting temperature do not adjust in Auto Mode .

2) Press the "▲" and "▼" button for 3s simultaneously to lock this button. At this time, It will display the locking icon in LCD. Deactivate this button, and press the "▲" and "▼" button again simultaneously.

"TIMER" Button

Set Timing On or Timing Off. The wire controller to set the time range as 1-24h.

1) Press the Timer button in the Off status to go into the Timing On for 1 hour, and then press the Timer button plus 1 until it is timing on for 24h. At this time, if you press the Timer button, it will deactivate Timing On.

2) Press the Timer button in the On status to go into the Timing Off for 1 hour, and then press the Timer button plus 1 until it is timing off for 24h. At this time, if you press the Timer button, it will deactivate Timing Off.

"FAN SPEED" Button:

1) The Fan Speed button is valid in the "Cooling mode", "Heating mode" and "Ventilation mode".

2) Press the Fan Speed button of the wire controller or the Volume button of the remote controller in the Cooling mode、Heating mode or Ventilation mode, and the volume changes as follows:

High speed→Middle speed→Low speed→Auto wind

3) There is no Auto wind in the Ventilation mode.

"SWING" Button:

1) Press it to display the Swing icon. The Swing icon will swing back and forth.

2) Press the Swing button, and the upper and lower wind deflectors will swing within the specified range automatically, and the left and right wind deflectors will swing within the specified range automatically, and press it again to stop the swing.

26℃/CHECK Button Function:

1) Short press this button , Enter a state of energy saving of 26 ℃, namely the setting temperature is 26 ℃. this function under the boot of Refrigeration and Heating mode is effective.

2) Long press this button , will enter the query condition; It will exit the query condition , when you press this button again and five seconds is not operating in the condition of the query.

By pressing "▲" and "▼"Button to check the temperature in the query condition. 1 is Indoor environment temperature , 2 is Indoor pipe temperature , 3 is outdoor pipe temperature

Description of DIP Switch:

	2 ON	2 OFF
3 ON	-4℃	-2℃
3 OFF	2℃	0℃
	ON	OFF
1	The old protocol	The new protocol
4	with power failure memory	without power failure memory

1) The second and third bits of the DIP switch will select the compensation value of the indoor temperature. The compensation value is -4℃ when the second and third bits are ON, and the compensation value is 0℃ when the second and third bits are OFF. The compensation value is 2℃ when the second bit is ON and the third bit is OFF, and the compensation value is -2℃ when the second bit is OFF and the third bit is On (for the wire controller sensor only).

2) The first bit of the DIP switch indicates to select the new or old protocol. Light commercial units select the new protocol.

3) The fourth bit ON of the DIP switch indicates it is With Power Failure Memory function, and the fourth bit OFF indicates it is Without Power Failure Memory.

NOTE: Just need to dial the code when matching the old type . Detailed please see after-sales guidance !

II. Installation of Wire Controller

Safety Precautions

! Read the safety precautions carefully before installation.

! The following is the important content to be paid for the safety, be sure to follow it.

! The meaning of each part:

⚠Warning:	Indicate it may cause the death or serious injury for theimproper operation.
⚠Note:	Indicate it may cause the death or serious injury for theimproper operation.

⚠Notes:

- Please do not install the wire controller in damp or direct sunlight places.
- Please do not hit, throw and frequent disassembling the wire controller.
- Please do not operating the wire controller with Wet hand ; Don't make any fluid into the wire controller .
- Please do not do dismantling the wire controller without authorization. Please consult after-sales maintenance personnel If you have a problem .
- To prevent water and dust into the wire controller, Affect the wire controller normal use. Please dismantle the wire controller When the indoor decoration and maintenancee .

Installation and disassembly of the wire controller

1、The installation position and requirements of the wire controller

1) Please do not install the wire controller in damp or direct sunlight places.

2) Please do not install the wire controller in the places, where is near the high temperature or easy to splash water.

3) To avoid the interference of the neighbors' remote controller which has the same model , then cause abnormal work. Please do not install the wire controller where the face up to the window.

4) Before installation , please cut off the power which is Buried in the wall mounting holes. The whole installation process does not allow operation with power.

5) In order to avoid the unit by reason of electromagnetic interference caused by abnormal work . When wiring , please pay attention to the following matters.

A) Ensure that communication line access right, otherwise will lead to communication failures.

B) If the air conditioning unit is installed on the places , which is influence by electromagnetic interference . the wire controller signal lines must use shielded twisted-pair cable .

6) The standard accessories which is installation need to prepare : installed inside a wall socket bottom box, controller base plate, screw the M4 x 25, control panel.

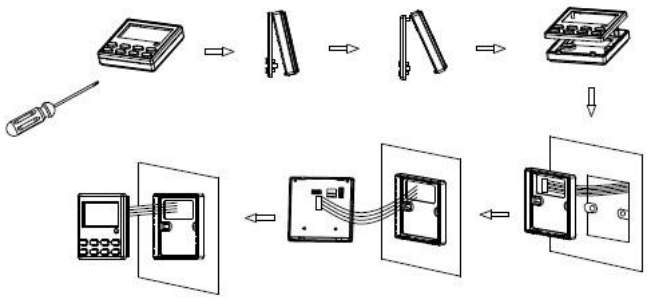
2、The installation of the wire controller

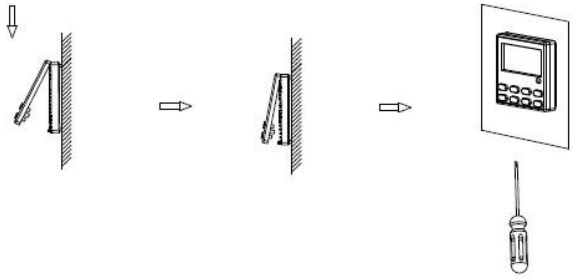
First of all, the wire controller signal line connection mode is as follows:

1) Open interior electrical lifted the lid, and the signal wires through the rubber ring;

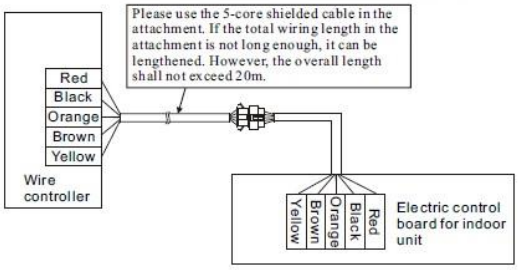
2) Plug the wire controller signal lines within the five core needle base on the indoor machine circuit boards, and using cable tie line tied tightly fixed.

Next, the wire controller installation steps as shown in the figure below:





Connect the wire controller in the way as shown in the figure below



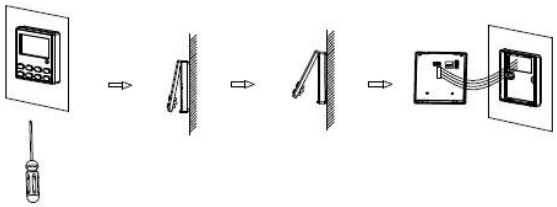
Brief description of the installation process is as follows

1) The signal lines of short through rectangle hole of the wire controller bottom plate, and then pull out five core twisted pair from the wall installation hole. Finally connect the line and the other end.

2) Use screws M4 x 25 to fix the controller base plate on the mounting holes of the wall.

3) Put the wire controller panel and floor buttons together, and this installation is complete. When installation, please reserve a certain length of the line at the bottom of box, to facilitate maintenance later removed.

3、Disassembly of the wire controller



!After the completion of the installation, confirm there is no abnormity for the commissioning, and deliver the instruction to customers for storage.

⚠Note:

- It may cause the rear cover deformed if the screw is tightened too much.
- It is necessary to reserve a certain length for the connecting cable of the wire controller during the installation, so as to take down the wire controller for the maintenance.