R410A 50Hz Universal Outdoor Series

Technical Manual

2013 Version

LCAC/2.0/201308

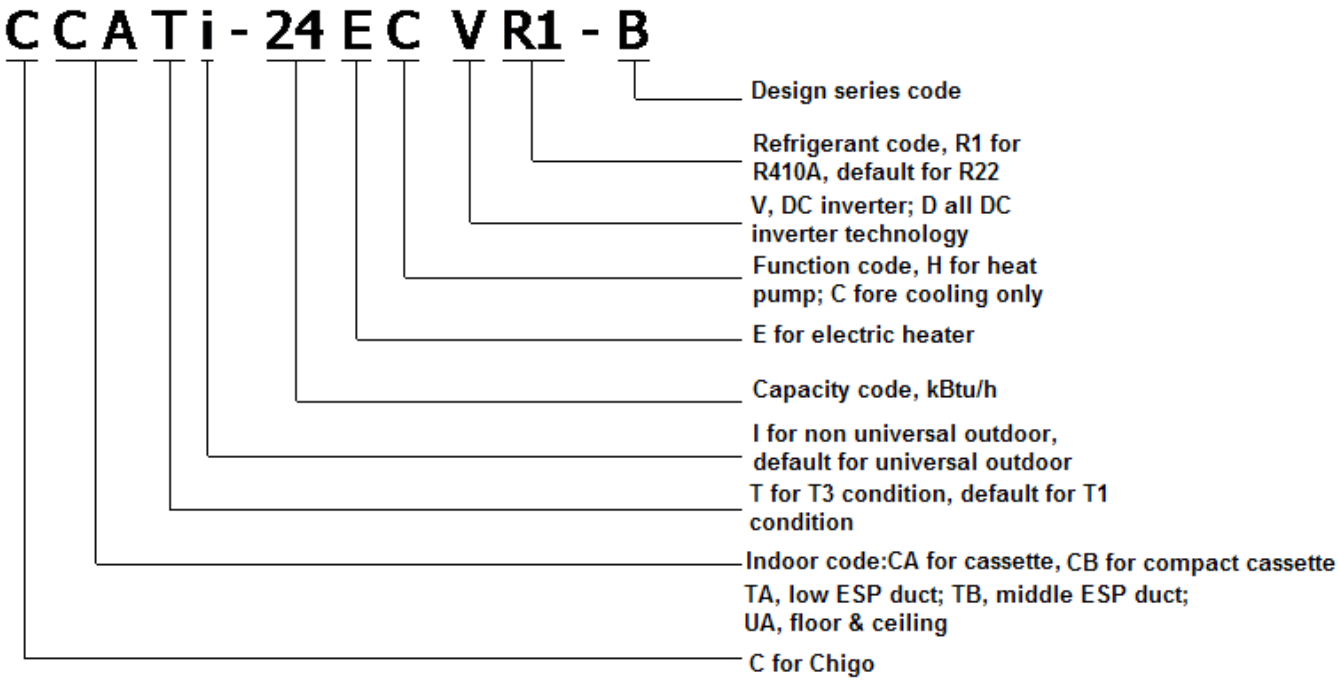
Content

R410A 50Hz Universal Outdoor series

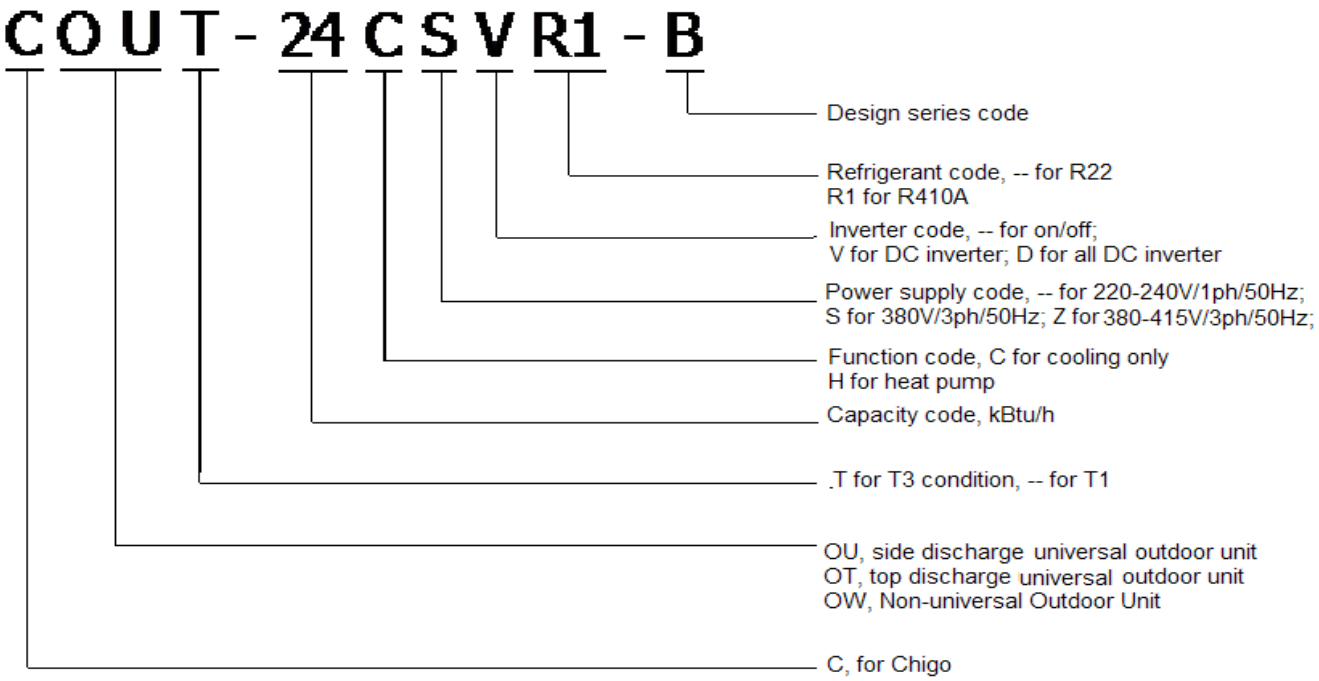
PART 1.General Information

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-18HR1	580×275×580	25/27	220~240V-1Ph-50Hz
CCA-18HR1	840×230×840	28/31	220~240V-1Ph-50Hz
CCA-24HR1	840×230×840	28/31	220~240V-1Ph-50Hz
CCA-36HR1	840×285×840	31/35	220~240V-1Ph-50Hz
CCA-48HR1	840×285×840	32/36	220~240V-1Ph-50Hz
CCA-60HR1	840×285×840	32/36	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	1189×260×663	32/36	220~240V-1Ph-50Hz
CTB-24HR1	1189×260×663	33/37	220~240V-1Ph-50Hz
CTB-36HR1	1425×260×663	44/48	220~240V-1Ph-50Hz
CTB-48HR1	1425×260×663	44/48	220~240V-1Ph-50Hz
CTB-60HR1	1425×260×663	44/48	220~240V-1Ph-50Hz
CTB-48HR1-B	1387×609×302	46/48	220~240V-1Ph-50Hz
CTB-60HR1-B	1387×609×302	46/48	220~240V-1Ph-50Hz
CTH-48HR1	1175×370×610	45/49	220~240V-1Ph-50Hz
CTH-60HR1	1175×370×610	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-18HR1	866×304×535	41/43	220~240V-1Ph-50Hz
COU-24HR1	930×370×700	52/56	220~240V-1Ph-50Hz
COU-36HR1	1070×400×995	92/100	220~240V-1Ph-50Hz
COU-36HSR1	1070×400×995	92/100	380~415V-3Ph-50Hz
COU-48HSR1	911×400×1335	99/110	380~415V-3Ph-50Hz
COU-60HSR1	911×400×1335	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 
Medium ESP Duct （CTB-48HR1-B,CTB-60HR1-B） 	High ESP Duct 
Floor & Ceiling 	Floor & Ceiling 

3.2.Outdoor unit

COU-18HR1

COU-24HR1

COU-36HR1、COU-36HSR1

COU-48HSR1、COU-60HSR1

4.Features

4.1 High quality coils

The coil is constructed of advanced inner grooved copper tube and aluminum fins.

4.2 Low operation sound level: Well-known stable and quiet running fan motor.

4.3 Well-known compressor, Sanyo & Hitachi.

4.4 Compact design: Smaller dimension and larger stuffing capacity.

4.5 Universal outdoor unit design.

4.6 R410A environment friendly refrigerant.

4.7 CE certification, ROHS certification.

Part 2 Indoor Unit

4-Way Cassette Type

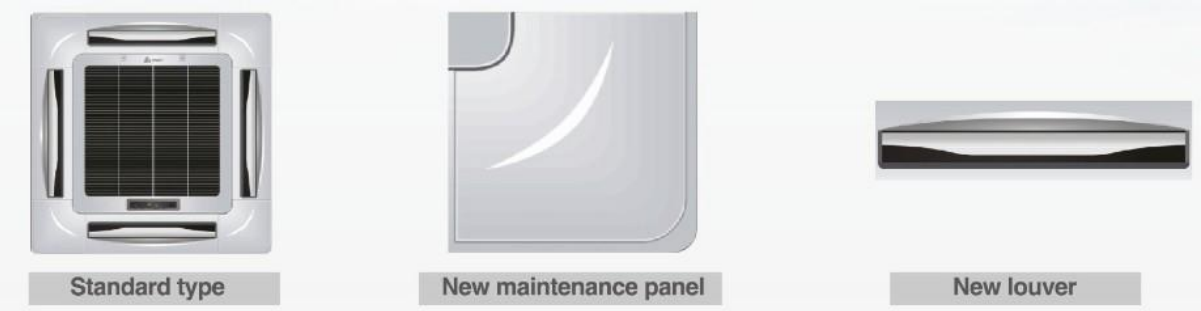
1. Features

(1) Brand-new panel design

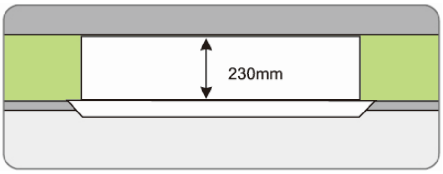
Simple, featly and voguish appearance suit for different requirements, it's mostly used for office, shopping center, restaurant, meeting room and etc.

18kBtu, compact type, 650mm*650mm

18kBtu~60kBtu, standard type, 950mm*950mm



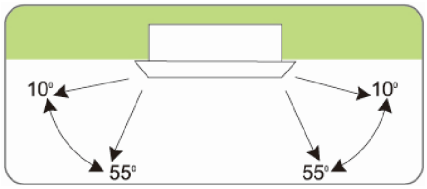
(2) Ultra-thin body design, the min. height is only 230mm, save installation space.



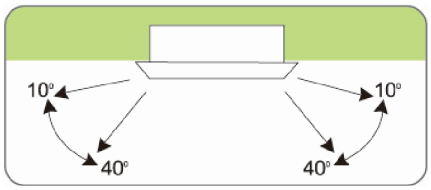
(3) 4-way air flow, cold air can reach each corner of the room, providing a stable and comfortable environment.

(4) Intelligent auto-swing function, three modes for choice.

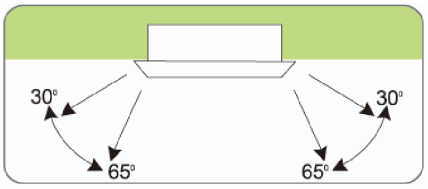
Standard mode



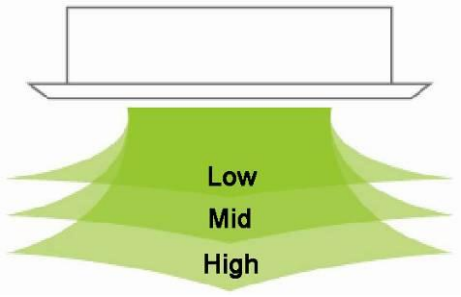
Anti-point blow mode



Ceiling against mode

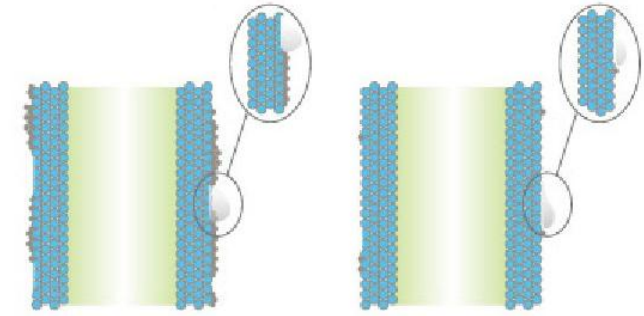


(5) 3 fan speed，meet for different requirement.

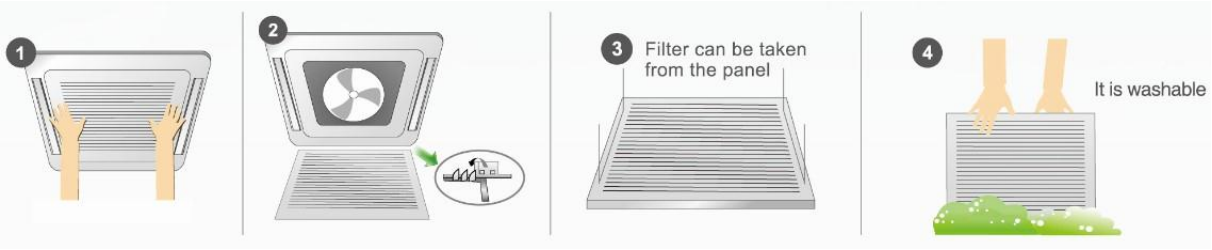


(6) New streamlined fan design.

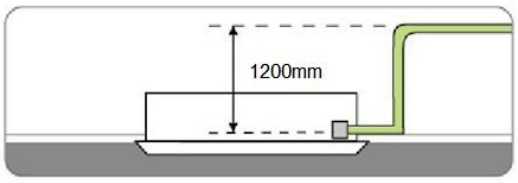
(7) Energy saving and healthy, adopting hydrophilic aluminum fins increasing heat-exchange efficiency.



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



(9) Built-in water pump, water head up to 1200mm (Compact type, 700mm).



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

⑾ Add 4 interfaces in body, can be connected with duct to another room. Fresh air makes air quality more healthy and comfortable.

⑿ Multi protection and auto-restart function.

⒀ Standard for wireless controller; option for wired controller.

Standard

optional

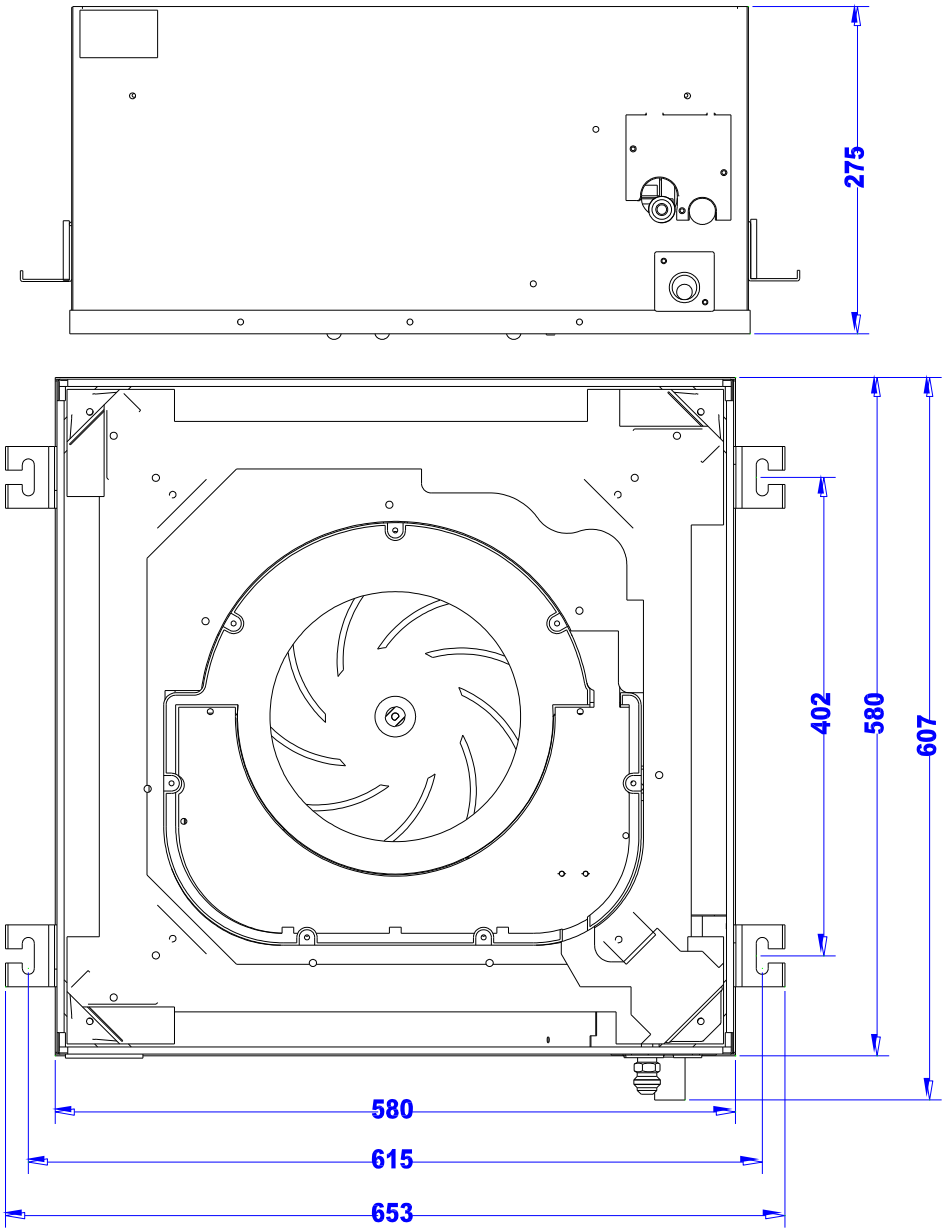
2. Specification

Model			CCB-18HR1	CCA-18HR1	CCA-24HR1
Indoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50
Cooling	Capacity	Btu/h	18000	18000	24000
		KW	5.3	5.3	7.1
	Input	W	75	65	150
	Rated current	A	0.4	0.4	0.7
	EER	W/W	2.67	2.70	2.82
Heating	Capacity	Btu/h	20000	20000	26000
		KW	5.9	5.9	7.7
	Input	W	75	65	150
	Rated current	A	0.4	0.4	0.7
	COP	W/W	3.27	3.31	3.51
Indoor fan motor	Model		YDK-35T-4 1	YDK-35Q-8P3-1	YDK-55Q-6P3
	Input	W	75	65	150
	Capacitor	μF	2.5	2.5	3
	Speed(Hi/Me/Lo)	r/min	1050/950/830	480/430/380	650/580/480
Indoor coil	Number of rows		2	2	2
	Tube pitch(a) x row pitch(b)	mm	21×12.7	21×12.7	21×12.7
	Fin spacing	mm	1.55	1.45	1.45
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7	Φ7	Φ7
			inner grooved	inner grooved	inner grooved
	Number of circuits		5	8	8
Indoor air flow(High speed)		m^3/h	700	810	1200
Indoor noise level		dB(A)	43～48	38～45	44～48
Indoor unit	Dimension(W*H*D)	Body(mm)	580×580×275	840×840×230	840×840×230
		Panel(mm)	650×650×30	950×950×50	950×950×50
	Packing(W*H*D)	Body(mm)	745×675×375	920×920×265	920×920×265
		Panel(mm)	750×750×95	1030×1030×105	1030×1030×105
	Net/Gross weight	Body(Kg)	25/27	28/31	28/31
		Panel(Kg)	2.7/4.0	5.4/8.0	5.4/8.0
Refrigerant piping	Liquid side/Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ9.52/Φ15.88
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	20-35	28-50
Stuffing Quantity(20'/40'/40'HQ)		set	120/240/270	75/155/170	75/155/170

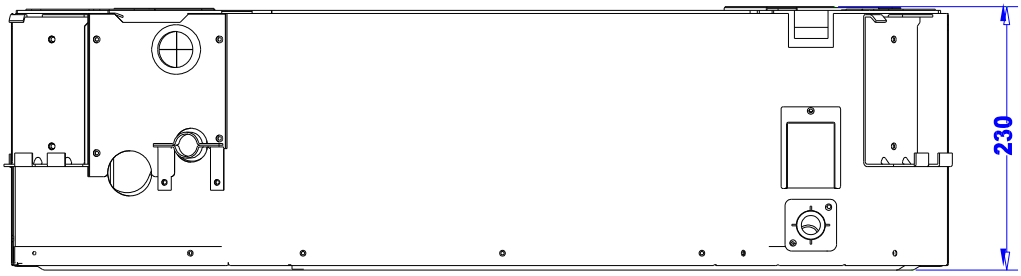
Model			CCA-36HR1	CCA-48HR1	CCA-60HR1
Indoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50
Cooling	Capacity	Btu/h	36000	48000	60000
		KW	10.5	14	16
	Input	W	160	180	180
	Rated current	A	0.8	0.8	0.8
	EER	W/W	2.71	2.70	2.72
Heating	Capacity	Btu/h	39000	52000	60000
		KW	11.5	15.2	16.0
	Input	W	160	180	180
	Rated current	A	0.8	0.8	0.8
	COP	W/W	3.31	2.92	2.78
Indoor fan motor	Model		YDK-75T-6	YDK-75Q-6P3-1	YDK-75Q-6P3-1
	Input	W	160	180	180
	Capacitor	μF	4	5	5
	Speed(Hi/Me/Lo)	r/min	760/680/580	850/750/650	850/750/650
Indoor coil	Number of rows		2	2	2
	Tube pitch(a) x row pitch(b)	mm	21×12.7	21×12.7	20×17.32
	Fin spacing	mm	1.45	1.45	1.5
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7	Φ7	Φ7.94
			inner grooved	inner grooved	inner grooved
	Number of circuits		8	8	8
Indoor air flow(High speed)		m^3/h	1700	1900	1900
Indoor noise level		dB(A)	44～48	45～52	45～52
Indoor unit	Dimension(W*H*D)	Body(mm)	840×840×285	840×840×285	840×840×285
		Panel(mm)	950×950×50	950×950×50	950×950×50
	Packing(W*H*D)	Body(mm)	920×920×310	920×920×310	920×920×310
		Panel(mm)	1030×1030×105	1030×1030×105	1030×1030×105
	Net/Gross weight	Body(Kg)	31/35	32/36	32/36
		Panel(Kg)	5.4/8.0	5.4/8.0	5.4/8.0
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
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	40-70	55~95	60~105
Stuffing Quantity(20'/40'/40'HQ)		set	65/130/150	65/130/150	65/130/150

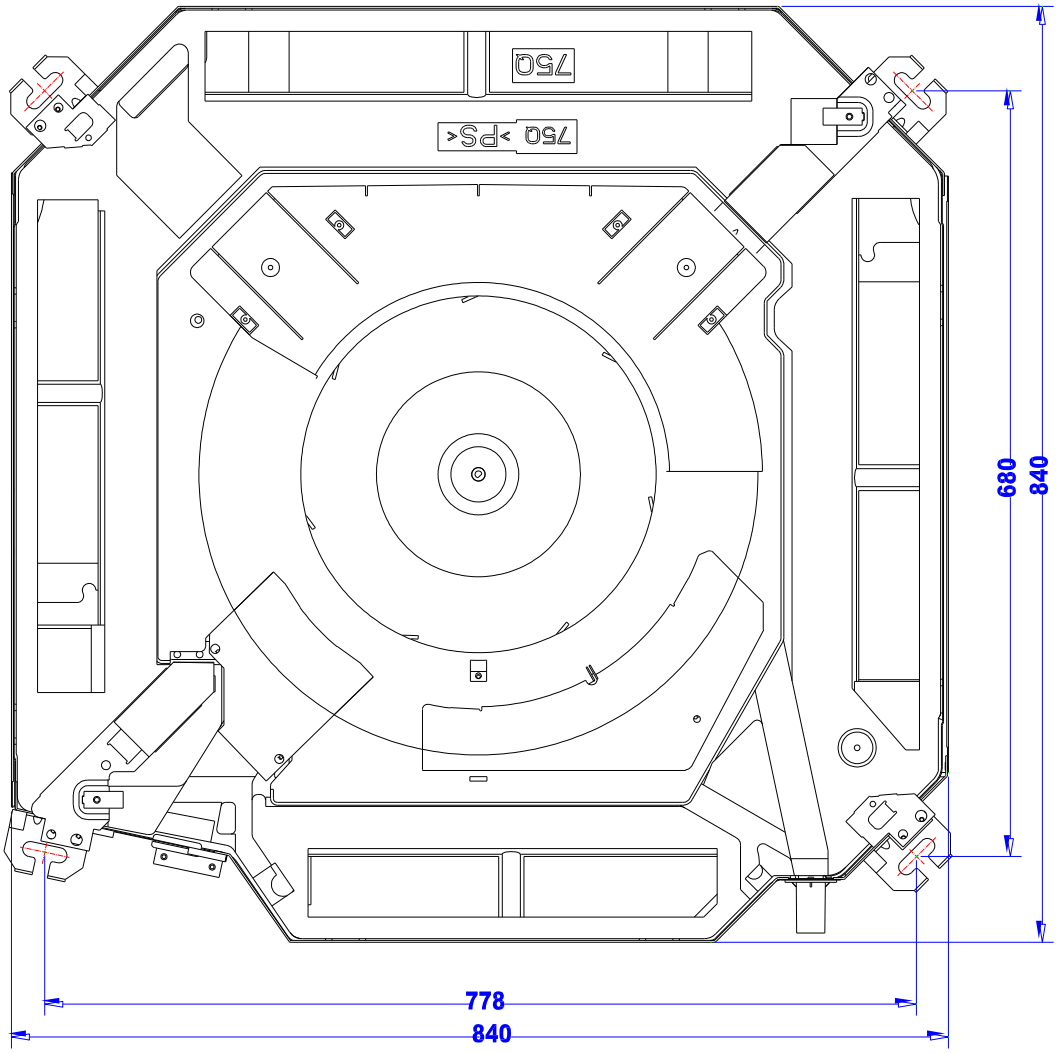
3.Dimension

3.1 CCB-18HR1

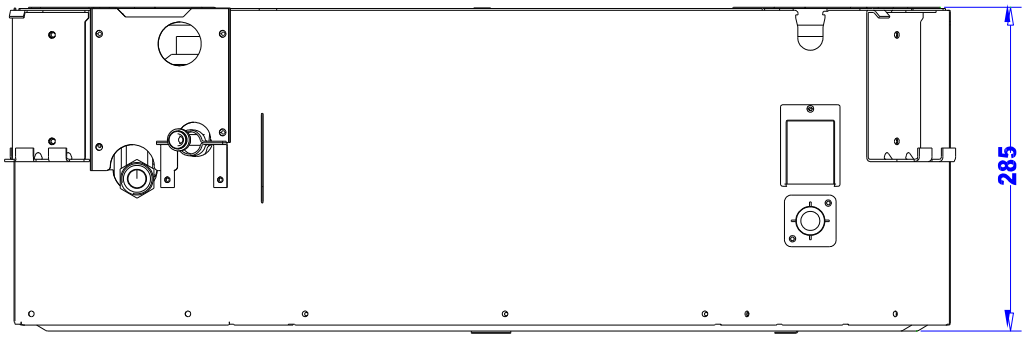


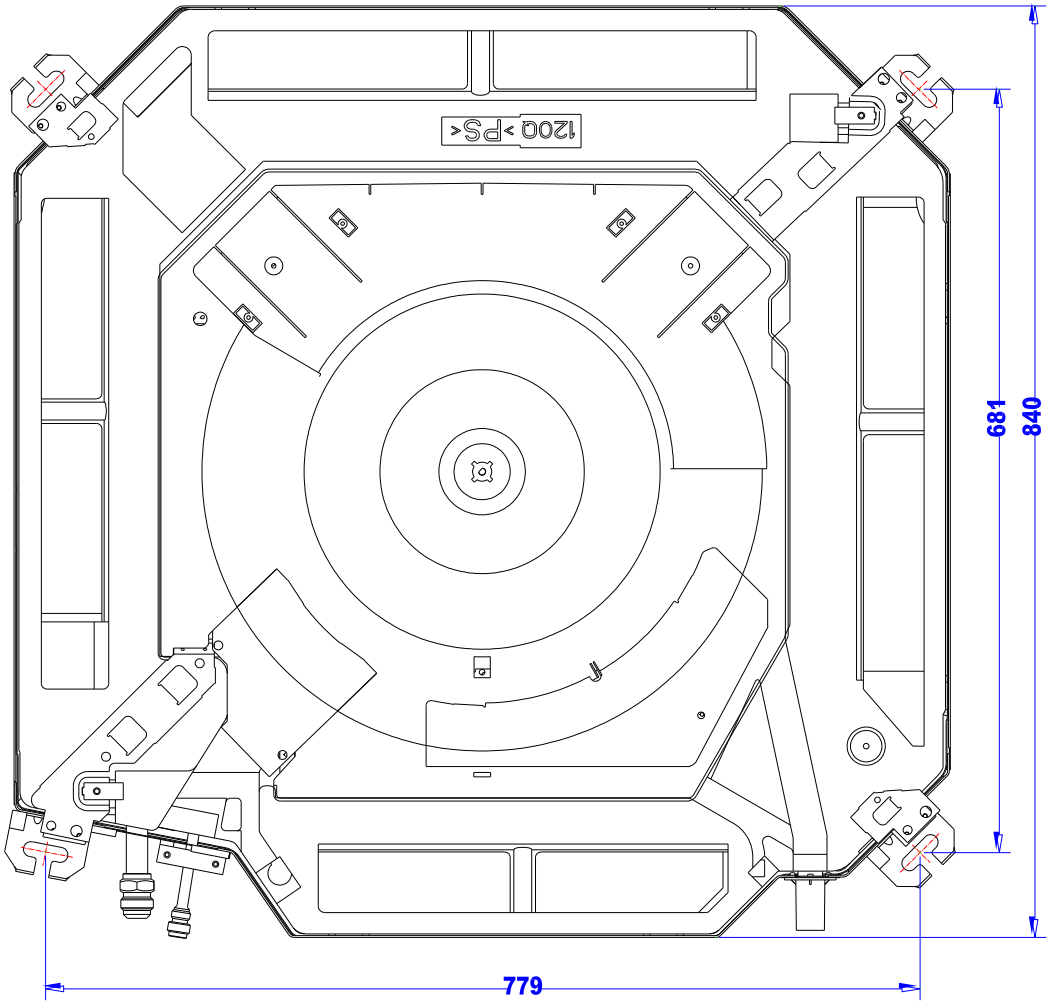
3.2 CCA-18HR1,CCA-24HR1





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.

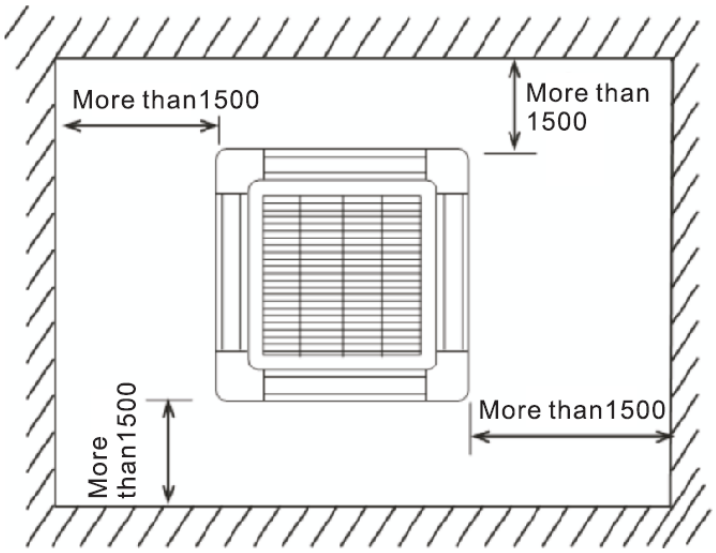
4.2 The ceiling is horizontal, and its structure can endure the weight of the indoor unit.

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.

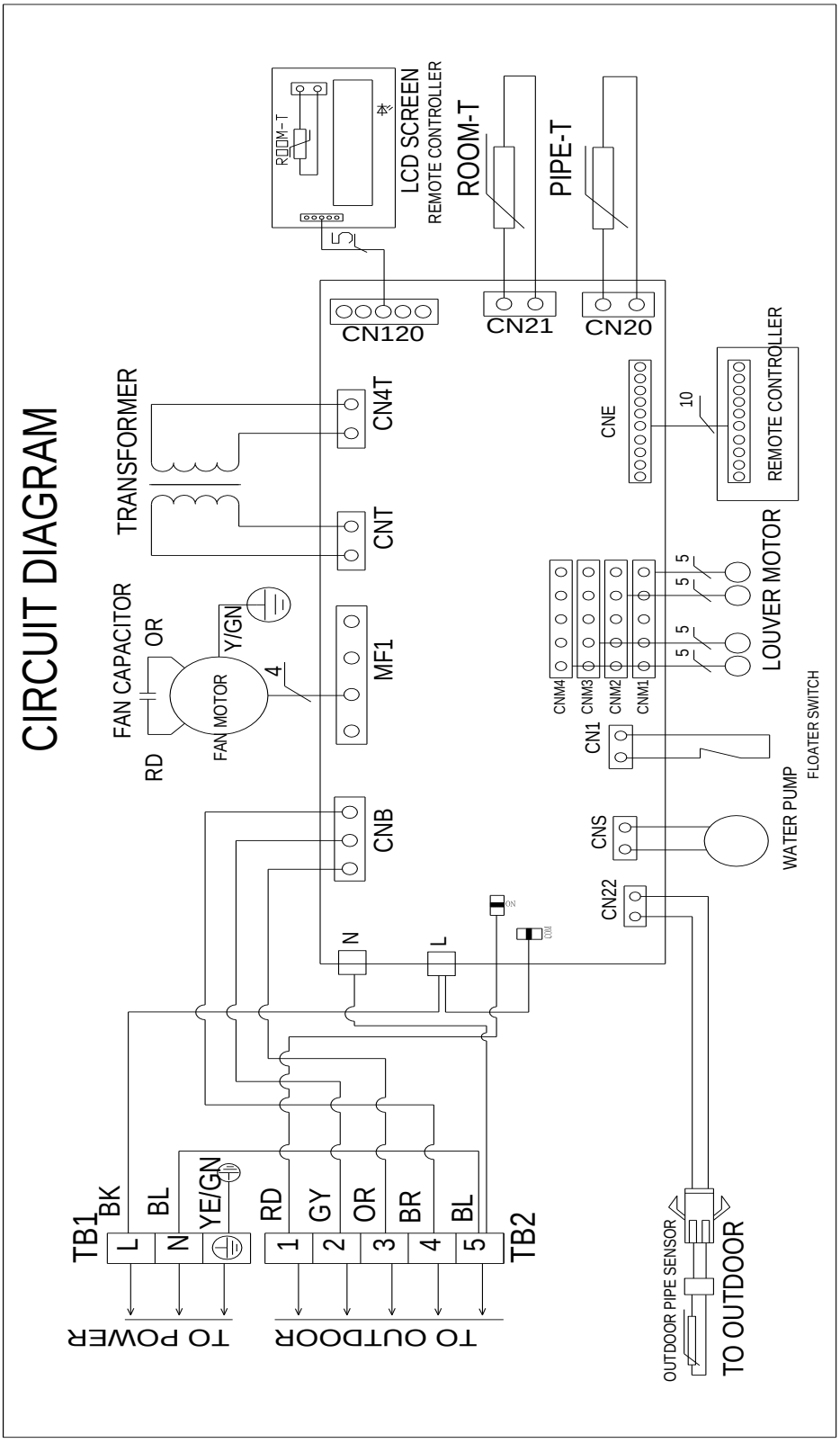
4.5 The connecting pipe and drainpipe could be extracted out easily.

4.6 There is no direct radiation from heaters.

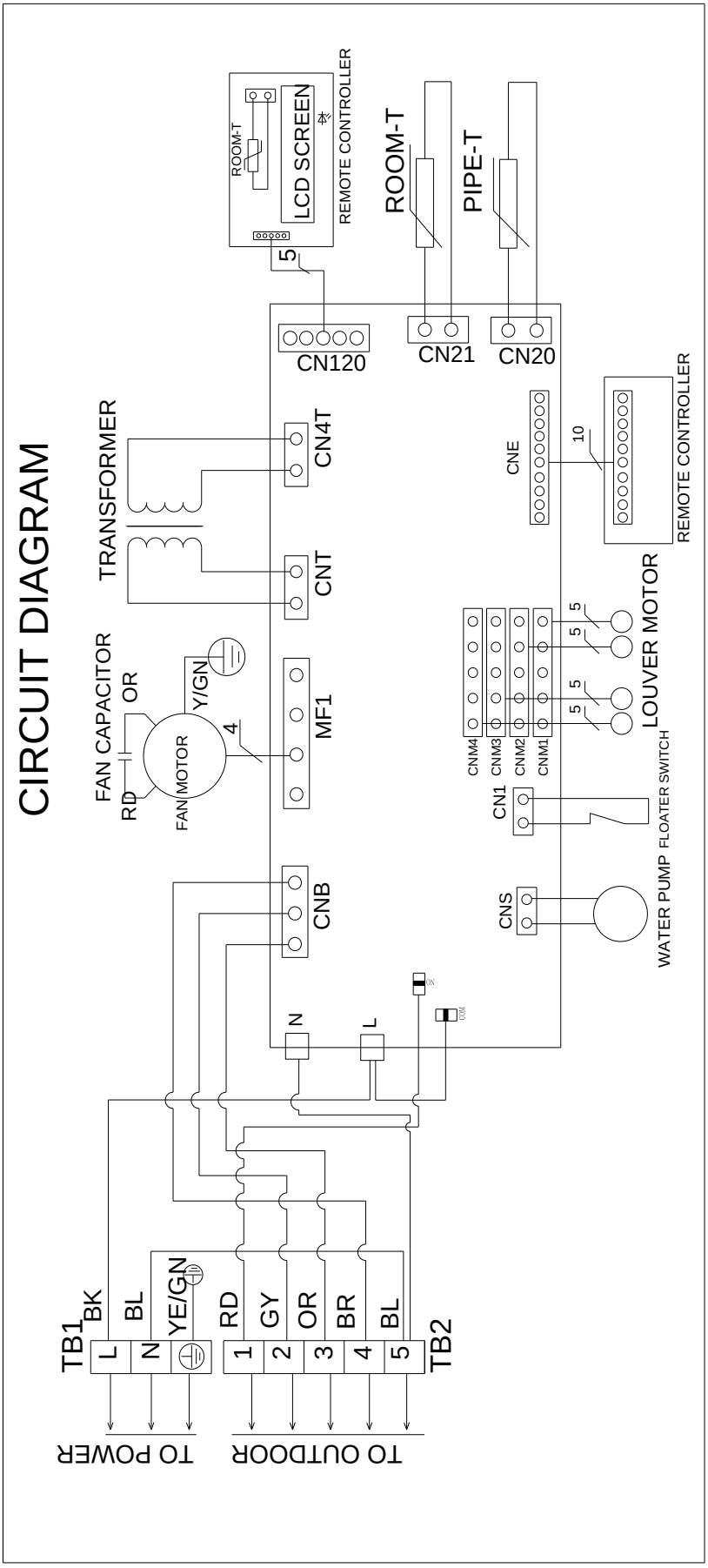


5. Wiring Diagrams

5.1 CCB-18HR1, CCA-18HR1



5.2 CCA-24HR1, CCA-36HR1, CCA-48HR1, CCA-60HR1



6. Capacity Table

Cooling

6.1 CCB-18HR1

MODEL		CCB-18HR1			
COOLING		OUTDOOR TEMPERATURE DRY			
Indoor Conditions		21ºC	28ºC	35ºC	43ºC
21ºC D 15ºC W	Total capacity kW	5.2	4.86	4.52	4.28
	Sensitive capacity kW	4.15	3.89	3.61	3.42
	Input kW.	1.18	1.46	1.69	1.95
24ºC D 17ºC W	Total capacity kW	5.7	5.34	4.94	4.68
	Sensitive capacity kW	4.55	4.25	3.95	3.75
	Input kW.	1.24	1.53	1.79	2.06
27ºC D 19ºC W	Total capacity kW	6.19	5.79	5.3	5.08
	Sensitive capacity kW	4.95	4.62	4.29	4.07
	Input kW.	1.31	1.61	1.8	2.17
29ºC D 19ºC W	Total capacity kW	6.66	6.22	5.78	5.46
	Sensitive capacity kW	5.32	4.97	4.63	4.37
	Input kW.	1.41	1.74	2.03	2.33
32ºC D 23ºC W	Total capacity kW	7.12	6.66	6.19	5.86
	Sensitive capacity kW	5.59	5.36	4.95	4.68
	Input kW.	1.51	1.89	2.17	2.49

6.2 CCA-18HR1

MODEL		CCA-18HR1			
COOLING		OUTDOOR TEMPERATURE DRY			
Indoor Conditions		21ºC	28ºC	35ºC	43ºC
21ºC D 15ºC W	Total capacity kW	5.05	4.74	4.39	4.15
	Sensitive capacity kW	4.03	3.79	3.51	3.33
	Input kW.	1.1	1.35	1.56	1.81
24ºC D 17ºC W	Total capacity kW	5.51	5.19	4.82	4.56
	Sensitive capacity kW	4.42	4.14	3.85	3.65
	Input kW.	1.156	1.42	1.66	1.9
27ºC D 19ºC W	Total capacity kW	6.03	5.3	5.24	4.95
	Sensitive capacity kW	5.02	4.51	4.18	3.95
	Input kW.	1.22	1.78	1.72	2.01
29ºC D 19ºC W	Total capacity kW	6.49	5.84	5.51	5.28
	Sensitive capacity kW	5.18	4.66	4.41	4.22
	Input kW.	1.31	1.75	1.98	2.21
32ºC D 23ºC W	Total capacity kW	6.93	6.04	5.79	5.71
	Sensitive capacity kW	5.52	4.82	4.63	4.5
	Input kW.	1.4	2	2.21	2.3

6.3 CCA-24HR1

MODEL		CCA-24HR1			
COOLING		OUTDOOR TEMPERATURE DRY			
Indoor Conditions		21ºC	28ºC	35ºC	43ºC
21ºC D 15ºC W	Total capacity kW	7.29	6.94	6.61	6.34
	Sensitive capacity kW	5.4	5.34	5.26	5.32
	Input kW.	2.19	2.38	2.52	2.58
24ºC D 17ºC W	Total capacity kW	7.51	7.16	6.79	6.37
	Sensitive capacity kW	5.62	5.55	5.51	5.35
	Input kW.	2.34	2.53	2.61	2.72
27ºC D 19ºC W	Total capacity kW	7.66	7.29	7.10	6.62
	Sensitive capacity kW	5.65	5.58	5.53	5.4
	Input kW.	2.38	2.52	2.36	2.78
29ºC D 19ºC W	Total capacity kW	7.68	7.35	7.22	6.63
	Sensitive capacity kW	6.45	6.24	6.21	6.05
	Input kW.	2.42	2.58	2.69	2.79
32ºC D 23ºC W	Total capacity kW	7.78	7.54	7.36	6.83
	Sensitive capacity kW	6.59	6.53	6.46	6.33
	Input kW.	2.48	2.59	2.79	2.89

6.4 CCA-36HR1

MODEL		CCA-36HR1			
COOLING		OUTDOOR TEMPERATURE DRY			
Indoor Conditions		21ºC	28ºC	35ºC	43ºC
21ºC D 15ºC W	Total capacity kW	10.81	10.25	9.75	9.33
	Sensitive capacity kW	7.98	7.92	7.78	7.83
	Input kW.	3.18	3.43	3.59	3.68
24ºC D 17ºC W	Total capacity kW	11.11	10.59	10.04	9.47
	Sensitive capacity kW	8.32	8.23	8.15	7.96
	Input kW.	3.34	3.58	3.73	3.92
27ºC D 19ºC W	Total capacity kW	11.31	10.81	10.50	9.75
	Sensitive capacity kW	8.34	8.33	8.15	7.09
	Input kW.	3.41	3.63	3.65	4.01
29ºC D 19ºC W	Total capacity kW	11.42	10.95	10.69	9.85
	Sensitive capacity kW	9.58	9.26	9.22	8.94
	Input kW.	3.39	3.69	3.83	4.08
32ºC D 23ºC W	Total capacity kW	11.52	11.11	10.95	10.02
	Sensitive capacity kW	9.79	9.65	9.62	9.33
	Input kW.	3.58	3.73	4.01	4.16

6.5 CCA-48HR1

MODEL		CCA-48HR1			
COOLING		OUTDOOR TEMPERATURE DRY			
Indoor Conditions		21ºC	28ºC	35ºC	43ºC
21ºC D 15ºC W	Total capacity kW	14.41	13.71	13.01	12.43
	Sensitive capacity kW	10.65	10.54	10.39	10.45
	Input kW.	4.14	4.48	4.7	4.83
24ºC D 17ºC W	Total capacity kW	14.83	14.12	13.43	12.58
	Sensitive capacity kW	11.12	11.01	10.88	10.56
	Input kW.	4.4	4.68	4.88	5.14
27ºC D 19ºC W	Total capacity kW	15.11	14.41	14	13.01
	Sensitive capacity kW	11.17	11.09	10.9	10.65
	Input kW.	4.48	4.73	5.00	5.24
29ºC D 19ºC W	Total capacity kW	15.24	14.54	14.26	13.15
	Sensitive capacity kW	12.8	12.36	12.25	11.96
	Input kW.	4.58	4.83	5.04	5.34
32ºC D 23ºC W	Total capacity kW	15.38	14.85	14.57	13.42
	Sensitive capacity kW	13.07	12.9	12.82	12.48
	Input kW.	4.69	4.91	5.23	5.44

6.6 CCA-48HR1

MODEL		CCA-60HR1			
COOLING		OUTDOOR TEMPERATURE DRY			
Indoor Conditions		21ºC	28ºC	35ºC	43ºC
21ºC D 15ºC W	Total capacity kW	16.48	15.68	14.88	14.24
	Sensitive capacity kW	12.16	12.07	11.91	11.97
	Input kW.	4.75	5.14	5.37	5.54
24ºC D 17ºC W	Total capacity kW	16.96	16.16	15.36	14.40
	Sensitive capacity kW	12.72	12.61	12.45	12.09
	Input kW.	5.03	5.37	5.60	5.89
27ºC D 19ºC W	Total capacity kW	17.28	16.48	16.00	14.88
	Sensitive capacity kW	12.79	12.69	12.48	12.21
	Input kW.	5.14	5.43	5.81	6.00
29ºC D 19ºC W	Total capacity kW	17.44	16.64	16.32	15.04
	Sensitive capacity kW	14.65	14.15	14.03	13.69
	Input kW.	5.26	5.54	5.77	6.11
32ºC D 23ºC W	Total capacity kW	17.60	16.96	16.64	15.36
	Sensitive capacity kW	14.96	14.75	14.64	14.29
	Input kW.	5.37	5.60	6.00	6.23

Heating

6.7 CCA-18HR1

MODEL		CCA-18HR1				
HEATING		OUTDOOR CONDITIONS				
Indoor Conditions		24ºC D 18ºC W	7ºC D 6ºC W	2ºC DB 1ºC WB	-5ºC D -6ºC W	-7ºC D -8ºC W
15ºC	Capacity kW	9.85	6.55	5.73	4.92	4.59
	Input kW.	3.1	2.07	1.9	1.75	1.65
18ºC	Capacity kW	9.23	6.15	5.39	4.62	4.31
	Input kW.	2.91	1.95	1.8	1.65	1.56
20ºC	Capacity kW	8.54	5.8	4.99	4.23	3.99
	Input kW.	2.65	1.7	1.65	1.53	1.44
22ºC	Capacity kW	7.85	5.25	4.59	3.93	3.68
	Input kW.	2.48	1.65	1.53	1.41	1.32
27ºC	Capacity kW	6.84	4.56	3.99	3.42	3.2
	Input kW.	2.16	1.44	1.32	1.23	1.15

6.8 CCB-18HR1

MODEL		CCB-18HR1				
HEATING		OUTDOOR CONDITIONS				
Indoor Conditions		24ºC D 18ºC W	7ºC D 6ºC W	2ºC DB 1ºC WB	-5ºC D -6ºC W	-7ºC D -8ºC W
15ºC	Capacity kW	10.31	6.85	6.01	5.15	4.81
	Input kW.	3.24	2.13	2.01	1.83	1.73
18ºC	Capacity kW	9.68	6.44	5.62	4.84	4.52
	Input kW.	3.02	2.02	1.87	1.72	1.62
20ºC	Capacity kW	8.95	5.8	5.22	4.46	4.18
	Input kW.	2.81	1.73	1.73	1.59	1.51
22ºC	Capacity kW	8.22	5.27	4.81	4.12	3.82
	Input kW.	2.58	1.72	1.6	1.47	1.38
27ºC	Capacity kW	7.15	4.78	4.16	3.56	3.35
	Input kW.	2.24	1.5	1.39	1.27	1.21

6.9 CCA-24HR1

MODEL		CCA-24HR1				
HEATING		OUTDOOR CONDITIONS				
Indoor Conditions		24ºC D 18ºC W	7ºC D 6ºC W	2ºC DB 1ºC WB	-5ºC D -6ºC W	-7ºC D -8ºC W
15ºC	Capacity kW	10.25	8.21	6.78	6.12	5.76
	Input kW.	2.38	2.12	2.07	1.95	1.84
20ºC	Capacity kW	9.95	7.8	6.38	5.98	5.51
	Input kW.	2.45	2.15	2.11	2.07	1.94
27ºC	Capacity kW	9.34	7.43	6.01	5.82	5.18
	Input kW.	2.63	2.25	2.18	2.12	2.05

6.10 CCA-36HR1

MODEL		CCA-36HR1				
HEATING		OUTDOOR CONDITIONS				
Indoor Conditions		24ºC D 18ºC W	7ºC D 6ºC W	2ºC DB 1ºC WB	-5ºC D -6ºC W	-7ºC D -8ºC W
15ºC	Capacity kW	15.15	12.22	10.01	9.08	8.36
	Input kW.	3.62	3.21	3.03	2.94	2.71
20ºC	Capacity kW	14.68	11.55	9.36	8.79	8.09
	Input kW.	3.95	3.24	3.15	3.04	2.96
27ºC	Capacity kW	13.72	10.89	8.79	8.56	7.61
	Input kW.	4.45	3.62	3.53	3.41	3.15

6.11 CCA-48HR1

MODEL		CCA-48HR1				
HEATING		OUTDOOR CONDITIONS				
Indoor Conditions		24ºC D 18ºC W	7ºC D 6ºC W	2ºC DB 1ºC WB	-5ºC D -6ºC W	-7ºC D -8ºC W
15ºC	Capacity kW	19.82	16.02	13.15	11.92	11.15
	Input kW.	5.85	5.08	4.35	4.11	3.87
20ºC	Capacity kW	19.22	15.4	12.38	11.56	10.69
	Input kW.	6.38	5.26	4.82	4.38	4.15
27ºC	Capacity kW	18.03	14.35	11.62	11.32	10.12
	Input kW.	6.79	5.88	5.22	4.78	4.47

6.12 CCA-60HR1

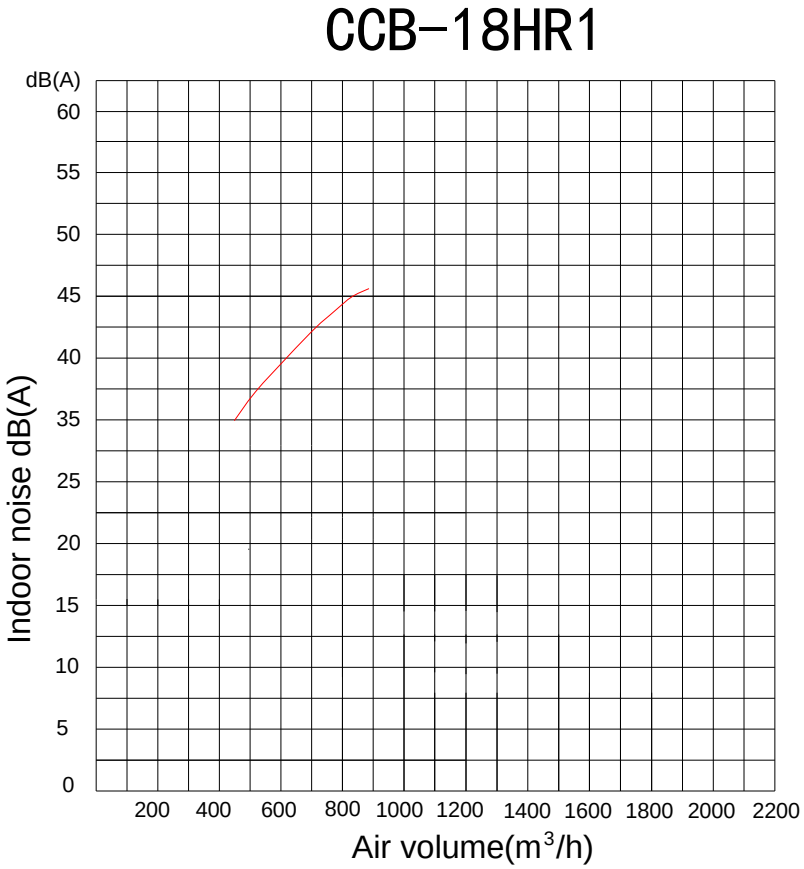
MODEL		CCA-60HR1				
HEATING		OUTDOOR CONDITIONS				
Indoor Conditions		24ºC D 18ºC W	7ºC D 6ºC W	2ºC DB 1ºC WB	-5ºC D -6ºC W	-7ºC D -8ºC W
15ºC	Capacity kW	22.66	18.32	14.98	13.59	12.72
	Input kW.	6.68	5.81	5.02	4.72	4.44
20ºC	Capacity kW	21.96	17.6	14.12	13.23	12.21
	Input kW.	7.33	5.93	5.53	5.12	4.76
27ºC	Capacity kW	20.56	16.41	13.24	12.87	11.52
	Input kW.	7.76	6.73	5.97	5.51	5.15

7. Electric Characteristics

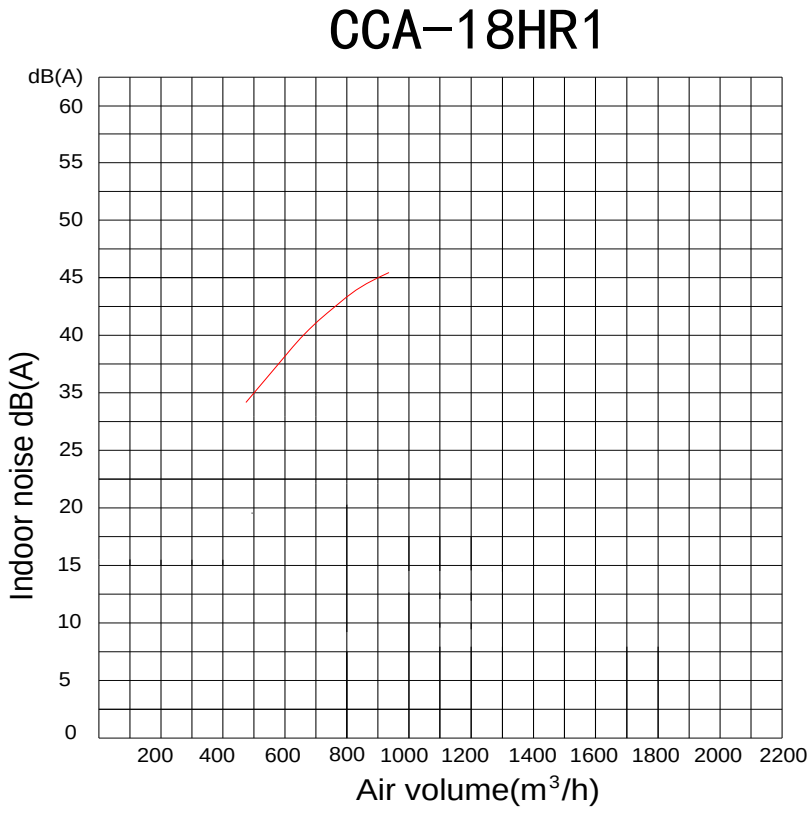
Model	Indoor Units				Indoor Fan Motor
	Hz	Voltage	Min.	Max.	kW
CCB-18HR1	50	220-240V	198V	254V	0.075
CCA-18HR1	50	220-240V	198V	254V	0.065
CCA-24HR1	50	220-240V	198V	254V	0.15
CCA-36HR1	50	220-240V	198V	254V	0.16
CCA-48HR1	50	220-240V	198V	254V	0.18
CCA-60HR1	50	220-240V	198V	254V	0.18

8.Sound Levels

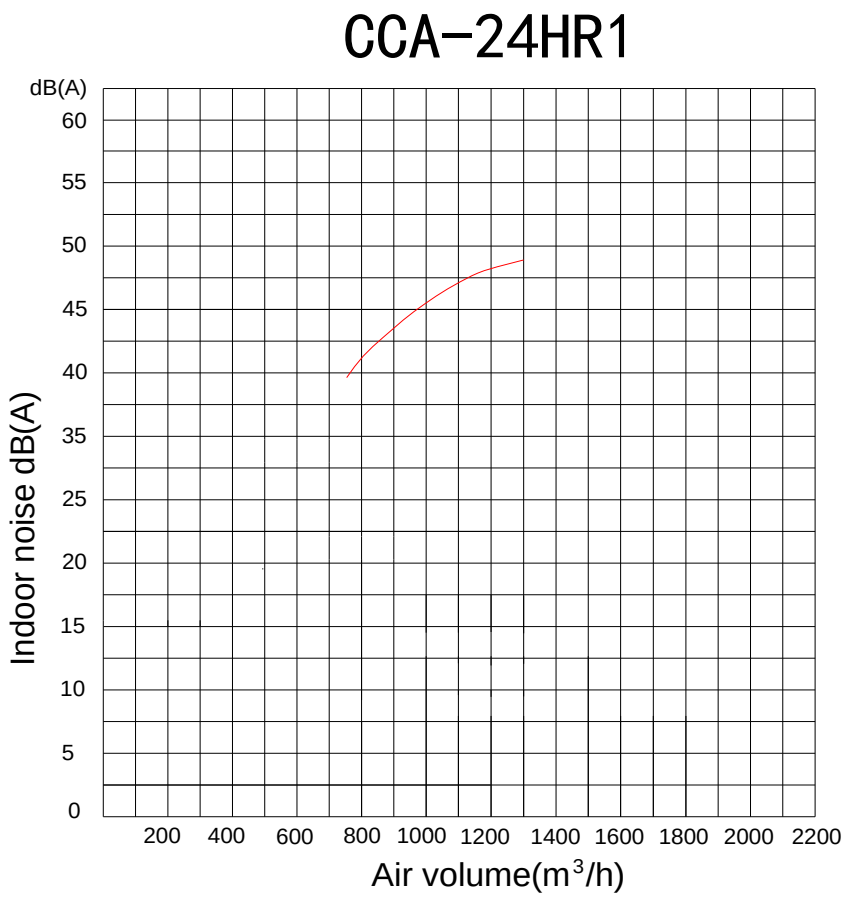
8.1 CCB-18HR1



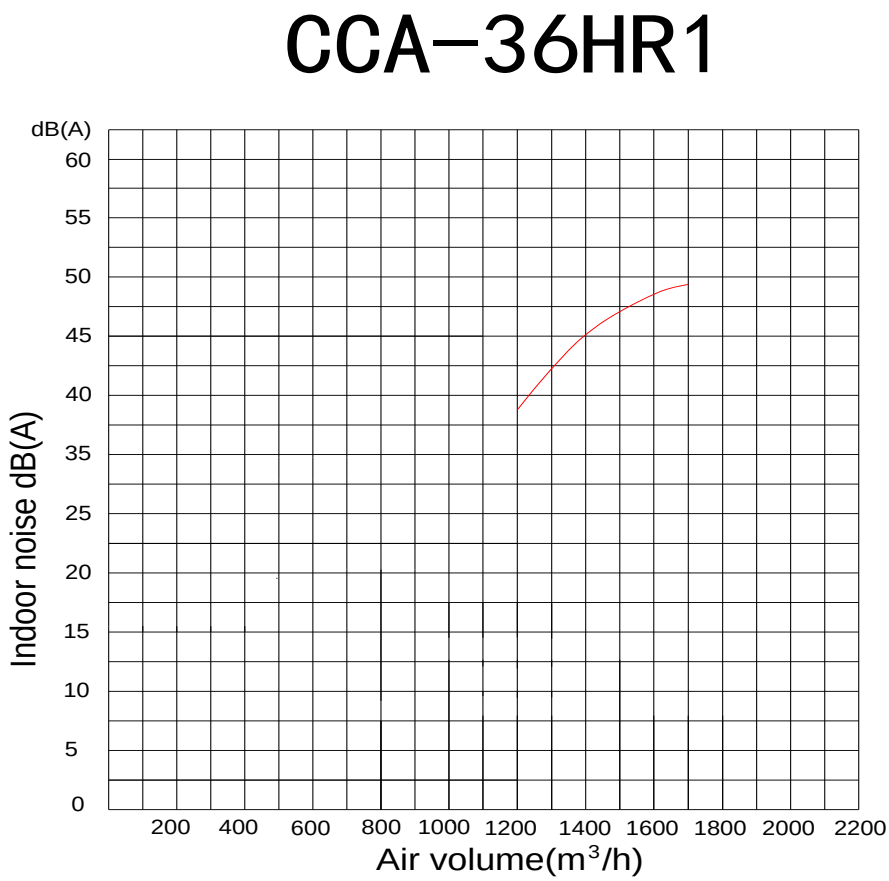
8.2 CCA-18HR1



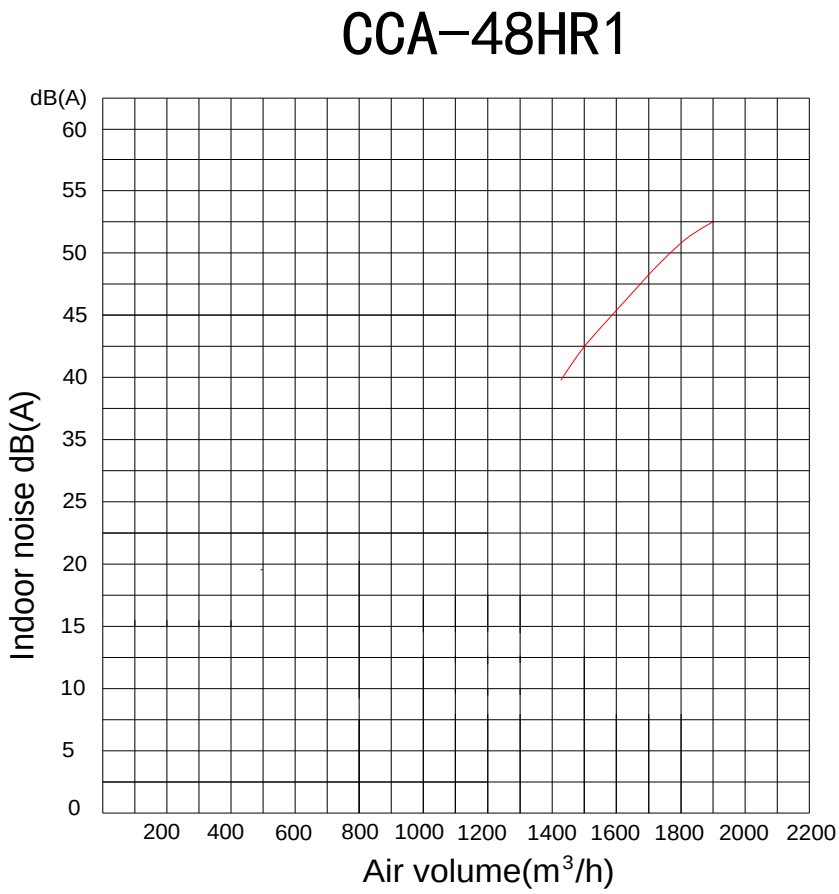
8.3 CCA-24HR1



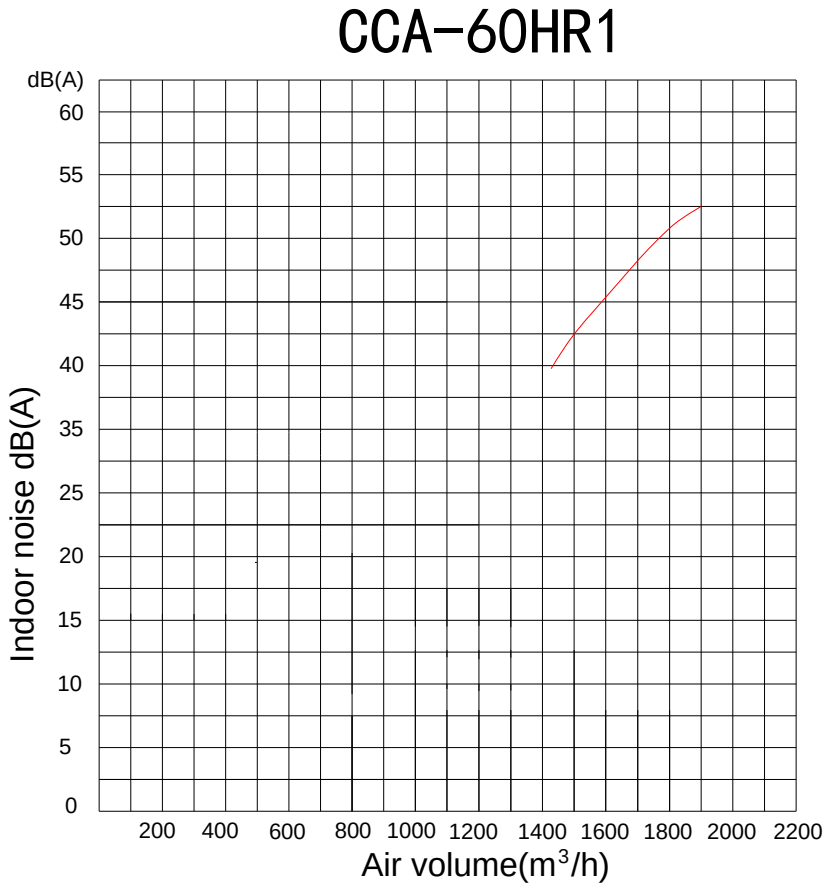
8.4 CCA-36HR1



8.5 CCA-48HR1

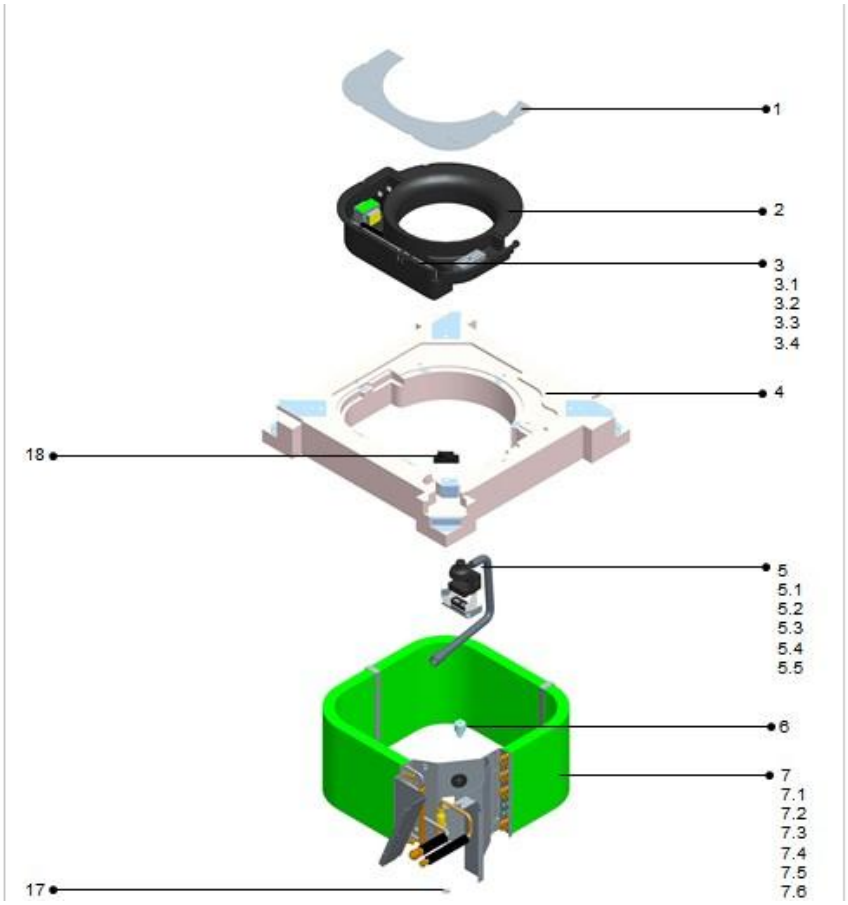


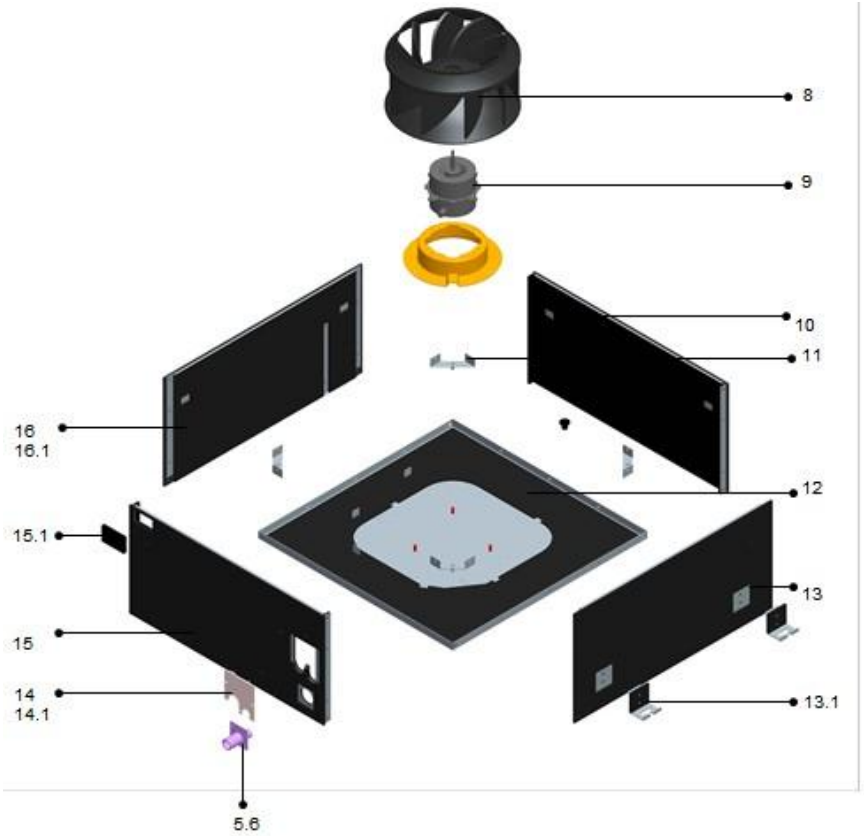
8.6 CCA-60HR1



9.Exploded View

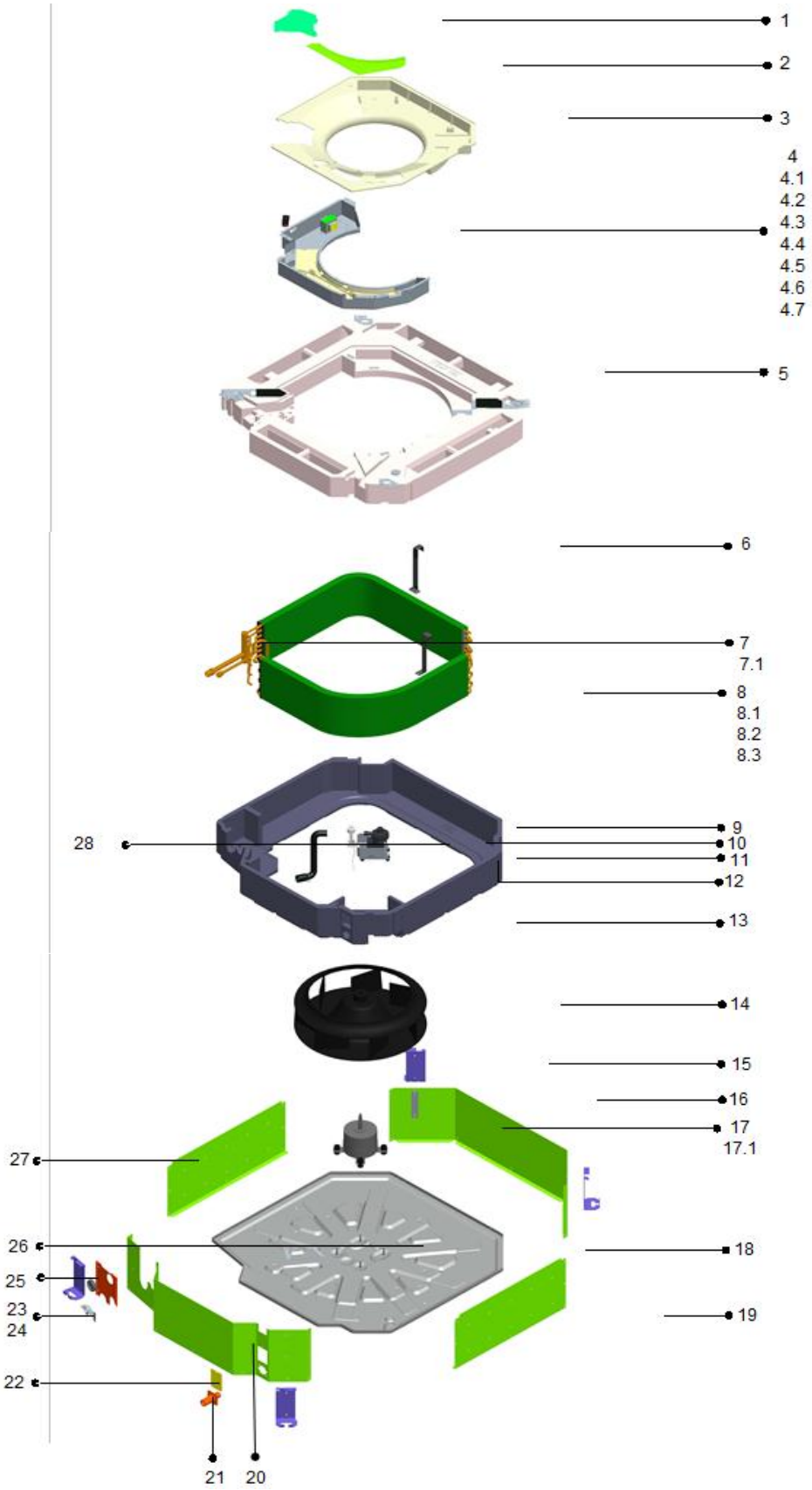
9.1 CCB-18HR1





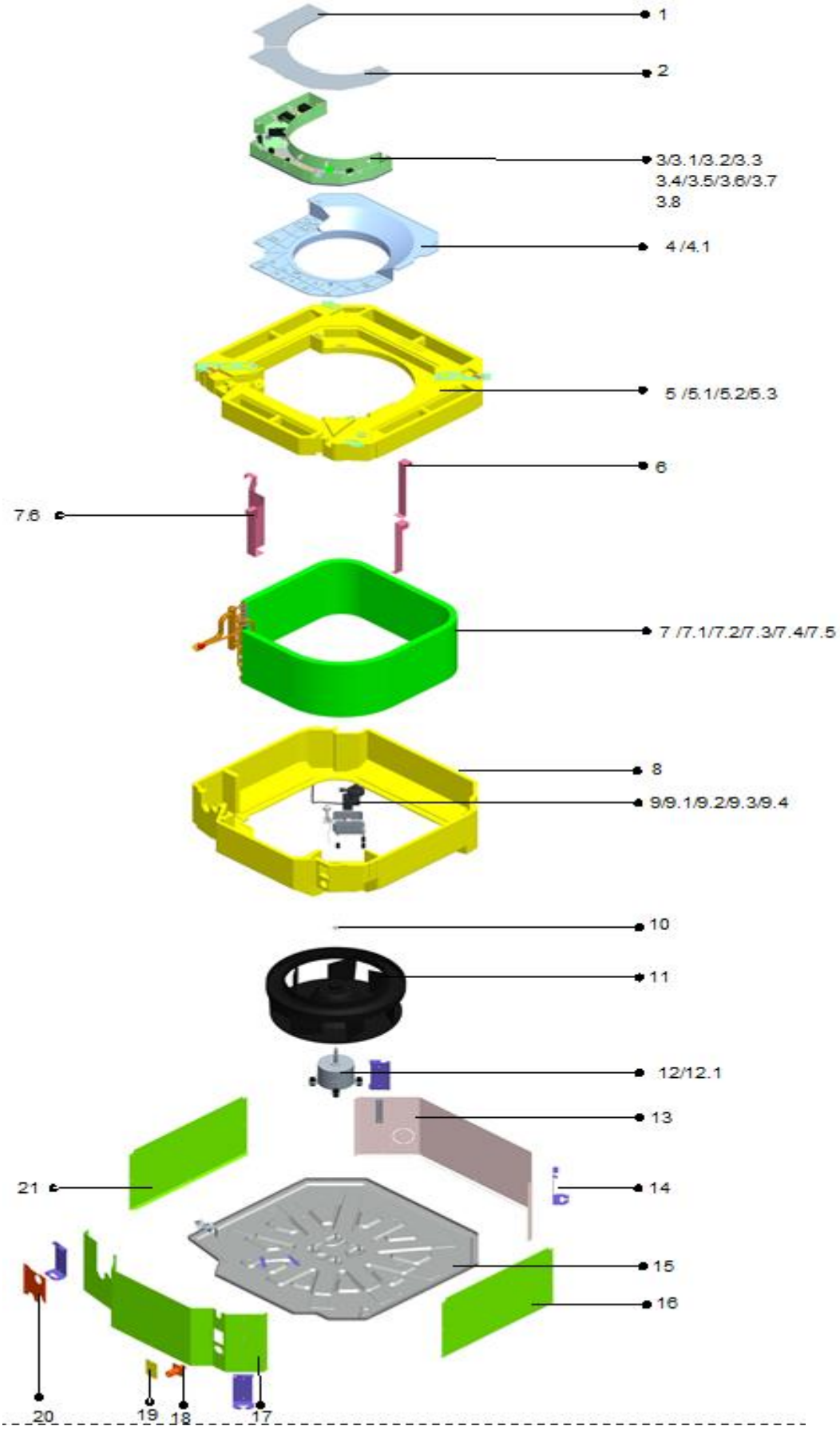
No.	Part Name	Quantity	No.	Part Name	Quantity
1	E-parts box cover assy	1	7.3	Inclined end-plate assy	1
2	E-parts box	1	7.4	Evaporator compacting bar assy	2
3	E-parts assy	1	7.5	Evaporator subassembly	1
3.1	Temperature sensor	1	8	Centrifugal fan	1
3.2	Temperature sensor	1	9	Indoor fan motor	1
3.3	PTC 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	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	1	16	BratticeⅢ components	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



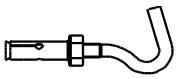
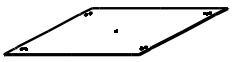
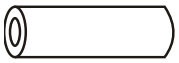
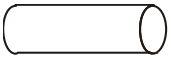
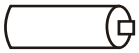
No.	Part Name	Quantity	No.	Part Name	Quantity
1	Warning panel	1	8.3.4	Installation tube for probe	1
2	Circuit diagram panel	1	9	Water pump	1
3	Small wind inlet guide	1	10	Liquid-level sensor	1
4	E-parts components	1	11	Water pump fan motor holder	1
4.1	E-parts box welding assy	1	12	Underlay for water pump support	3
4.2	No.3 groove clamp	1	13	Upper foam	1
4.3	(ROHS)Transformer	1	14	Centrifugal fan	1
4.4	Fan motor capacitor	1	15	Hanger	4
4.5	Terminal (DJ-75W-3PA)	1	16	Rear brattice	1
4.6	Terminal (DJ-75W-5PA)	1	17	Fan motor for indoor unit (YDK-55T-6)	1
4.7	Electric control board for indoor unit	1	17.1	Fan motor foot underlay	1
4.8	E-parts box	1	18	Chassis assy	1
5	Water pan assy	1	19	Right clapboard	1
6	Auxiliary fixing board for evaporator	2	20	Front brattice	1
7	Main fixing board assy	1	21	Discharge pipe joint	1
7.1	Main fixing board for evaporator	1	22	Side maintenance board for water pump	1
8	Evaporator components	1	23	Lower clamp	1
8.1	Rubber insulating pipe	1	24	Upper clamp	1
8.2	Insulating pipe	1	25	Valve panel	1
8.3	Welding parts for evaporator	1	26	Wire board	2
8.3.1	Collecting pipe assy for evaporator	1	27	Left clapboard	1
8.3.2	Distributing pipe assy for evaporator	1	28	Water outlet pipe	1
8.3.3	Evaporator	1			

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



No.	Part Name	Quantity	No.	Part Name	Quantity
1	E-parts box cover assy 1	1	7.4.3	Collecting pipe assy for evaporator	1
2	E-parts box cover assy 2	1	7.4.4	Distributing pipe assy for evaporator	1
3	E-parts components	1	7.5	Protection rubber	1
3.1	(ROHS)Transformer	1	7.6	Main fixing board assy	1
3.2	Fan motor capacitor	1	8	Upper foam assy	1
3.3	Terminal (DJ-75W-3PA)	1	8.1	Upper foam	1
3.4	Terminal (DJ-75W-5PA)	1	9	pre-installed assy of pump	1
3.5	Electric control board for indoor unit	1	9.1	Water pump fan motor holder	1
3.6	Temperature sensor	1	9.2	Water pump	1
3.7	Temperature sensor	1	9.3	Liquid-level sensor	1
3.8	E-parts box welding base	1	9.4	Underlay for water pump support	3
4	wind inlet guide assy	1	10	fan snap ring	1
4.1	wind inlet guide	1	11	Centrifugal fan	1
5	Water pan assy	1	12	motor pre-installed assy	1
5.1	Defrosting tray foam（ROHS）	1	12.1	Fan motor for indoor unit (YDK-75T-6)	1
5.2	water outlet plug	1	13	Rear brattice	1
5.3	foam pendant	2	14	Hanger	4
6	Auxiliary fixing board for evaporator	2	15	Chassis assy	1
7	Evaporator components	1	16	Right clapboard	1
7.1	Insulating pipe	1	17	Front brattice	1
7.2	Rubber insulating pipe	1	18	Discharge pipe joint	1
7.3	Stick cotton	1	19	Side maintenance board for water pump	1
7.4	Welding parts for evaporator	1	20	Valve panel	1
7.4.1	Installation tube for probe	1	21	Left clapboard	1
7.4.2	evaporator	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

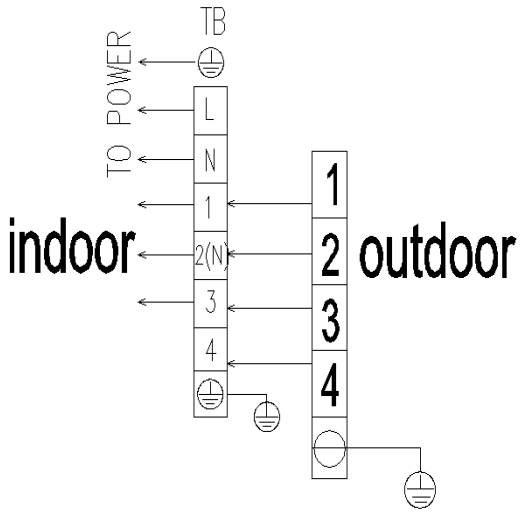
11.The Specification of Power

Type		CCA-18HR1	CCB-18HR1	CCA-24HR1
Power	Phase	1-phase	1-phase	1-phase
	Frequency and Voltage	220-240V, 50Hz		
Indoor Unit Power Wiring (mm^2)		$3\times1.5mm^2$	$3\times1.5mm^2$	$3\times1.0mm^2$
Indoor/Outdoor Connecting Wiring (mm^2)		$1\ mm^2$	$1\ mm^2$	$1\ mm^2$

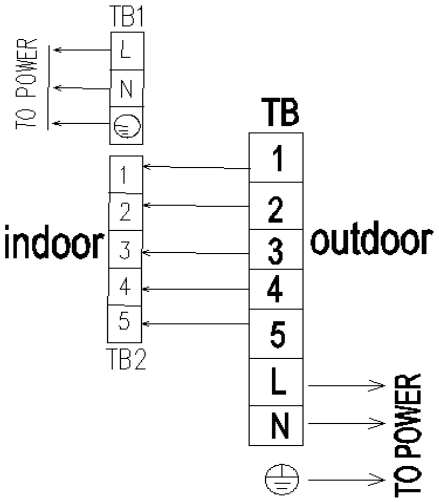
Type		CCA-36HR1	CCA-48HR1	CCA-60HR1
Power	Phase	1-phase	1-phase	1-phase
	Frequency and Voltage	220-240V, 50Hz		
Indoor Unit Power Wiring (mm^2)		$3\times1.0mm^2$	$3\times1.0mm^2$	$3\times1.0mm^2$
Indoor/Outdoor Connecting Wiring (mm^2)		$1\ mm^2$	$1\ mm^2$	$1\ mm^2$

12.Field Wiring

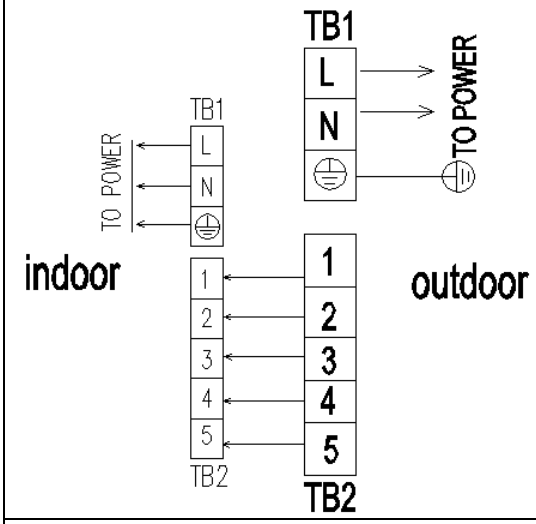
CCB-18HR1&COU-18HR1
CCA-18HR1&COU18HR1



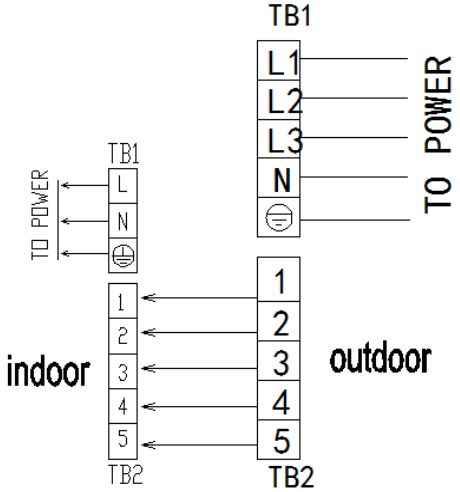
CCA-24HR1&COU-24HR1



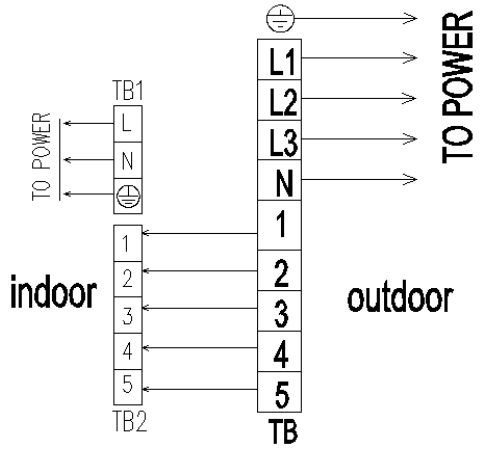
CCA-36HR1&COU-36HR1



CCA-36HR1&COU-36HSR1



CCA-48HR1&COU-48HSR1
CCA-60HR1&COU-60HSR1



13.Troubleshooting

Fault codes table

No.	Type	Content	LED Flashing	LCD display	Remark
1	Fault	Room temperature sensor fault	Timing lamp flashing/1Hz	E2	Automatic recovery after the problem resolved
2	Fault	Indoor coil temperature sensor fault	Running lamp flashing/1Hz	E3	
3	Fault	Outdoor coil temperature sensor fault	Defrosting lamp flashing/1Hz	E5	
4	Fault	Water full protection	Alarm lamp flashing/1Hz	F5	
5	Fault	Outdoor protection	Defrosting lamp and Alarm lamp both flashing/1Hz	F2	
6	Fault	Communication fault	Running lamp and Defrosting lamp both flashing/1Hz	E1	Manual eliminate
7	Fault	EEPROM communication fault	Running lamp and Timing lamp both flashing/1Hz	P6	Recovery after interruption of power supply
8	Indication	Enforced cooling	Running lamp and Alarm lamp both flashing/1Hz	NO	
9	Indication	Anti- cool air in heating mode	Defrosting preheat lamp ON	P1	
10	Indication	Defrosting	Defrosting preheat lamp ON	P3	

Duct Type

1.Features

Low Static Pressure Duct

Medium Static Pressure Duct

High Static Pressure Duct

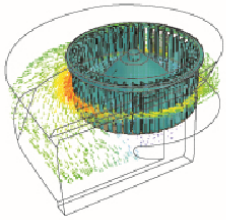
1. Ultra-thin body design

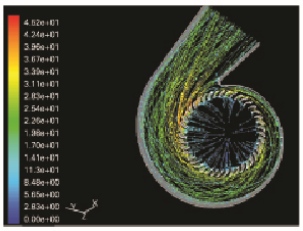
Low ESP Type

Medium ESP Type

High ESP Type

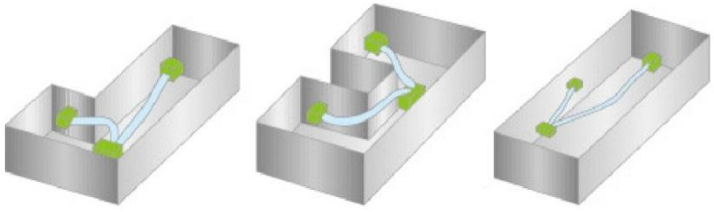
2. Adopting aviation centrifugal fans, and CFD technology design, increasing air-volume and decreasing noise level, noise level only **29**dB(A).





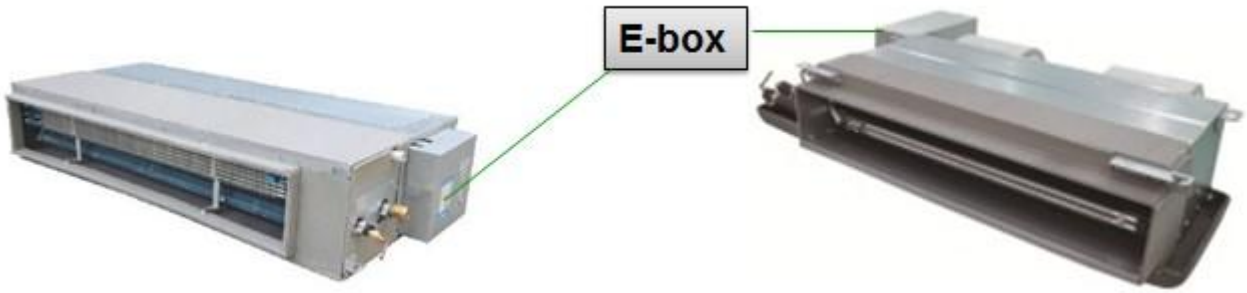
3. Three fan speed, meet different requirement.

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

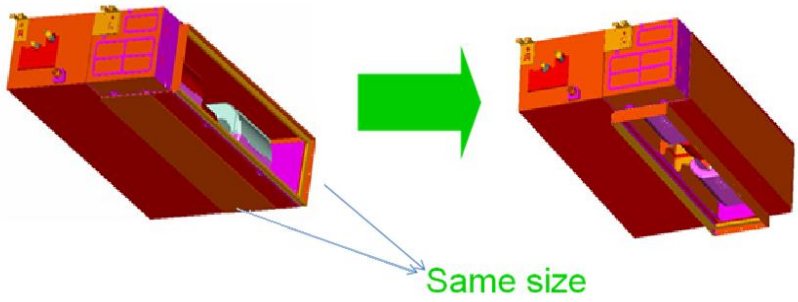


5. Filter can be taken out easily for clear. Easy maintenance.

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

2.Specification

Model			CTA-18HR1	CTA-24HR1	CTB-18HR1	CTB-24HR1
Indoor power supply		V/Ph/Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz
Cooling	Capacity	Btu/h	18000	24000	18000	24000
		KW	5.3	7.1	5.3	7.1
	Input	W	70	150	250	250
	Rated current	A	0.4	0.7	1.1	1.1
	EER	W/W	2.69	2.78	2.69	2.68
Heating	Capacity	Btu/h	20000	26000	20000	26000
		KW	5.9	7.7	5.9	7.7
	Input	W	70	150	250	250
	Rated current	A	0.4	0.7	1.1	1.1
	COP	W/W	3.30	3.47	3.30	3.32
Indoor fan motor	Model		YSK110-35P-4 P3H95-1	YSK-110-50P-4 P3H95-1	YSK110-90F-4 P3H105	YSK110-90F-4 P3H105
	Input	W	70	150	250	250
	Capacitor	μF	1.8	3	5	5
	Speed(Hi/Me/Lo)	r/min	1320/1220/1020/850	1170/970/810/710	1100/940/850/800	1100/940/850/800
Indoor coil	Number of rows		3	3	3	3
	Tube pitch(a)xrow pitch(b)	mm	21×12.7	21×12.7	22×19.05	22×19.05
	Fin spacing	mm	1.6	1.6	1.7	1.7
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7	Φ7	Φ7.94	Φ7.94
			inner grooved	inner grooved	inner grooved	inner grooved
	Number of circuits		4	5	6	6
Indoor air flow(High speed)		m^3/h	730	1150	900	1200
Static Pressure		Pa	0-20	0-20	30-70	30-70
Indoor noise level		dB(A)	37～46	38～48	40～48	40～48
Indoor unit	Dimension(W*H*D)	Body(mm)	1204×510×181	1532×510×181	1189×663×260	1189×663×260
	Packing(W*H*D)	Body(mm)	1330×605×250	1645×605×250	1255×720×325	1255×720×325
	Net/Gross weight	Body(Kg)	20/24	24/27.5	32/36	33/37
Max pressure		MPa	4.0	4.0	4.0	4.0
Refrigerant type			R410A	R410A	R410A	R410A
Refrigerant piping	Liquid side/Gas side	mm	Φ6.35/Φ12.7	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88
Drainage pipe		mm	25	25	25	25

Controller		Standard for wired controller(remote controller for option)			
Operation temp	°C	16～32	16～32	16～32	16～32
Ambient temp	°C	-7～43	-7～43	-7～43	-7～43
Application area	m^2	20-35	28~50	20-35	28-50
Stuffing Quantity(20'/40'/40'HQ)	set	115/250/320	90/190/255	75/165/189	75/165/189

Model			CTB-36HR1	CTB-48HR1	CTB-60HR1
Indoor power supply		V/Ph/Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz
Cooling	Capacity	Btu/h	36000	48000	60000
		KW	10.5	14	16
	Input	W	300	340	340
	Rated current	A	1.4	1.6	1.6
	EER	W/W	2.59	2.62	2.65
Heating	Capacity	Btu/h	39000	52000	60000
		KW	11.5	15.2	16.0
	Input	W	300	340	340
	Rated current	A	1.4	1.6	1.6
	COP	W/W	3.18	2.83	2.72
Indoor fan motor	Model		YDK110-75F-4P3H105L-1 +YSK120-150F-4P3H105-1	YDK110-75F-4P3H105L +YSK120-150F-4P3H105	YDK110-75F-4P3H105L +YSK120-150F-4P3H105
	Input	W	300	340	340
	Capacitor	μF	3+5	3+5	3+5
	Speed(Hi/Me/Lo)	r/min	1310/1170/1090/1040 +1300/1200/1110/1060	1340/1270/1200/1130 +1340/1240/1140/1040	1340/1270/1200/1130 +1340/1240/1140/1040
Indoor coil	Number of rows		3	3	3
	Tube pitch(a) x row pitch(b)	mm	22×19.05	25×21.65	25×21.65
	Fin spacing	mm	1.7	1.8	1.8
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7.94	Φ9.52	Φ9.52
			inner grooved	inner grooved	inner grooved
	Number of circuits		6	5	5
Indoor air flow(High speed)		m^3/h	1900	2000	2000
Static Pressure		Pa	30	30	30
Indoor noise level		dB(A)	40～50	40～50	40～50

Indoor unit	Dimension(W*H*D)	Body(mm)	1425×663×260	1425×663×260	1425×663×260
	Packing(W*H*D)	Body(mm)	1490×720×325	1490×720×325	1490×720×325
	Net/Gross weight	Body(Kg)	44/48	44/48	44/48
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	40-70	55~95	60~105
Stuffing Quantity(20'/40'/40'HQ)		set	75/165/168	75/165/168	75/165/168

Model			CTB-48HR1-B	CTB-60HR1-B
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	500	500
	Rated current	A	2.3	2.3
	EER	W/W	2.55	2.58
Heating	Capacity	Btu/h	52500	60000
		KW	15.4	16.0
	Input	W	500	500
	Rated current	A	2.3	2.3
	COP	W/W	2.75	2.54
Indoor fan motor	Model		YSK139-300F-4P3H95	YSK139-300F-4P3H95
	Input	W	500	500
	Capacitor	μF	15	15
	Speed(Hi/Me/Lo)	r/min	1050/830/720	1050/830/720
Indoor coil	Number of rows		3	3
	Tube pitch(a)xrow pitch(b)	mm	22×19.05	22×19.05
	Fin spacing	mm	1.6	1.6
	Fin type		Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7.94	Φ7.94
			inner grooved	inner grooved
	Number of circuits		6	6
Indoor air flow(High speed)		m^3/h	2000	2000

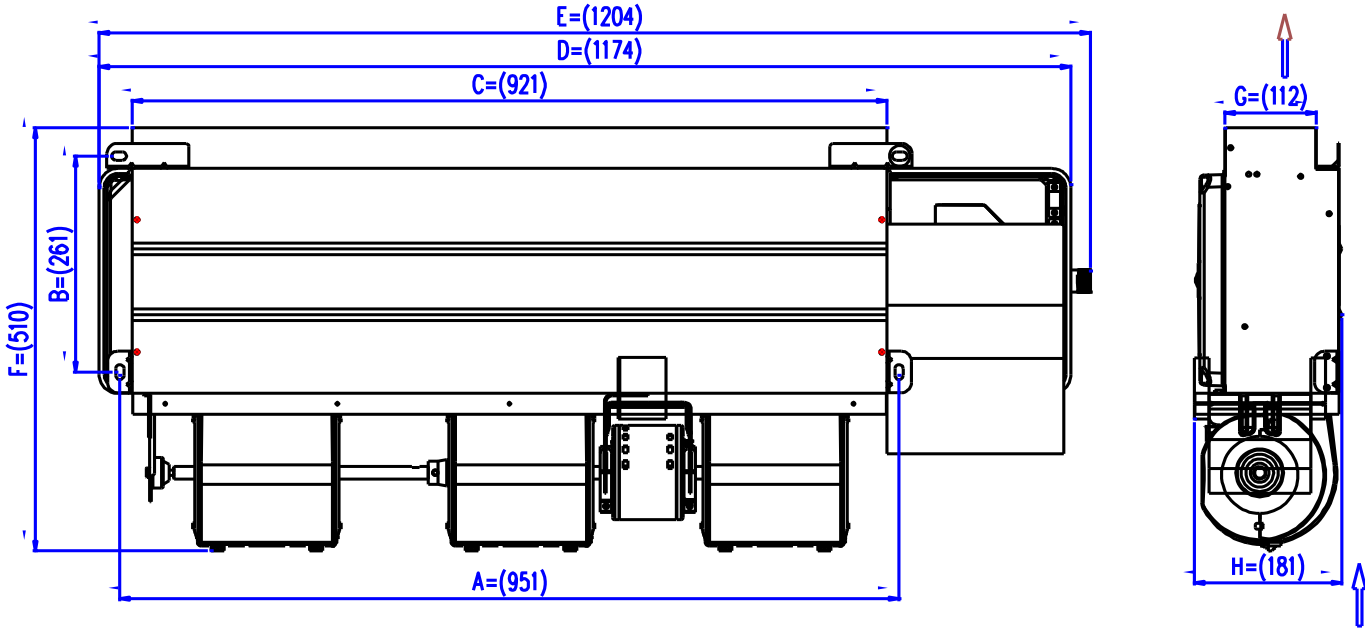
Static Pressure		Pa	100	100
Indoor noise level		dB(A)	44/52	44/52
Indoor unit	Dimension(W*H*D)	Body(mm)	1387×609×302	1387×609×302
	Packing(W*H*D)	Body(mm)	1460×655×380	1460×655×380
	Net/Gross weight	Body(Kg)	46/48	46/48
Max pressure		MPa	4.0	4.0
Refrigerant type			R410A	R410A
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ19.05	Φ9.52/Φ19.05
Drainage pipe		mm	25	25
Controller			Standard for wired controller(remote 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	75/165/168	75/165/168

Model			CTH-48HR1	CTH-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	500	500
	Rated current	A	2.3	2.3
	EER	W/W	2.55	2.58
Heating	Capacity	Btu/h	52500	60000
		KW	15.2	16.0
	Input	W	500	500
	Rated current	A	2.3	2.3
	COP	W/W	2.77	2.65
Indoor fan motor	Model		YSK139-300F-4P3H95	YSK139-300F-4P3H95
	Input	W	500	500
	Capacitor	μF	15	15
	Speed(Hi/Me/Lo)	r/min	1050/830/720	1050/830/720
Indoor coil	Number of rows		3	3
	Tube pitch(a) x row pitch(b)	mm	22×19.05	22×19.05
	Fin spacing	mm	1.6	1.6
	Fin type		Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7.94	Φ7.94
			inner grooved	inner grooved
	Number of circuits		6	6

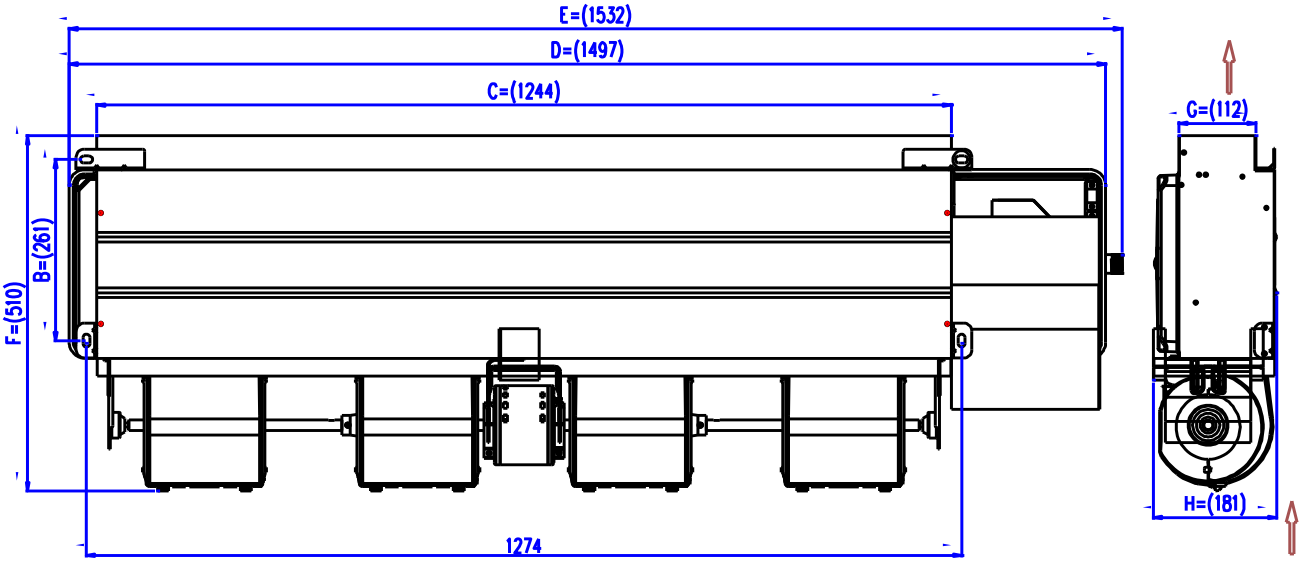
Indoor air flow(High speed)		m^3/h	2300	2300
Static Pressure		Pa	120	120
Indoor noise level		dB(A)	44～52	44～52
Indoor unit	Dimension(W*H*D)	Body(mm)	1175×610×370	1175×610×370
	Packing(W*H*D)	Body(mm)	1245×655×445	1245×655×445
	Net/Gross weight	Body(Kg)	45/49	45/49
Refrigerant type			R410A	R410A
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ19.05	Φ9.52/Φ19.05
Drainage pipe		mm	25	25
Controller			Standard for wired controller(remote 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	75/165/168	75/165/168

3.Dimensions

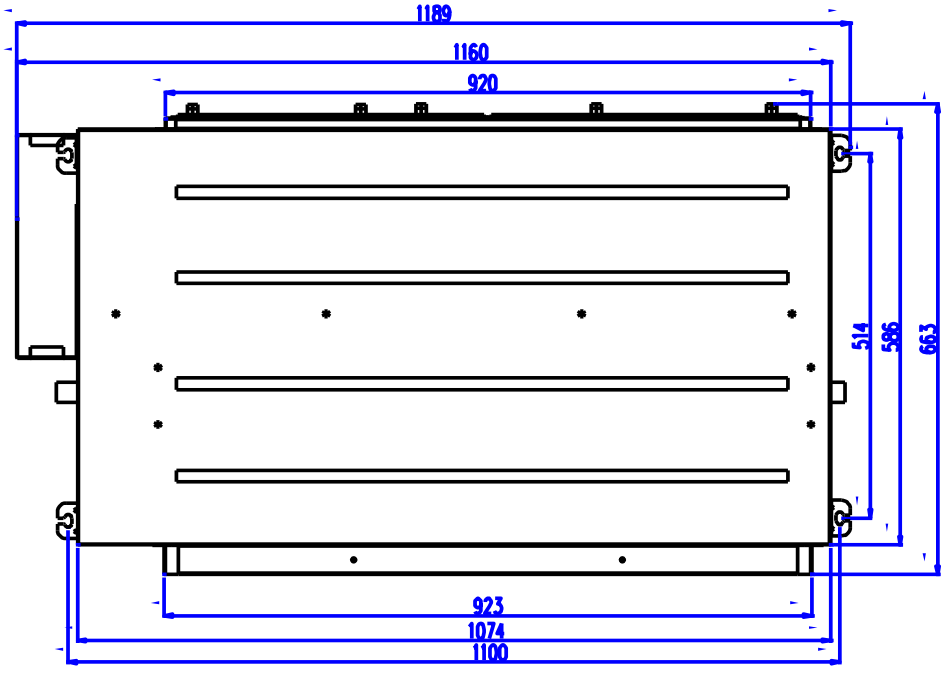
3.1 CTA-18HR1



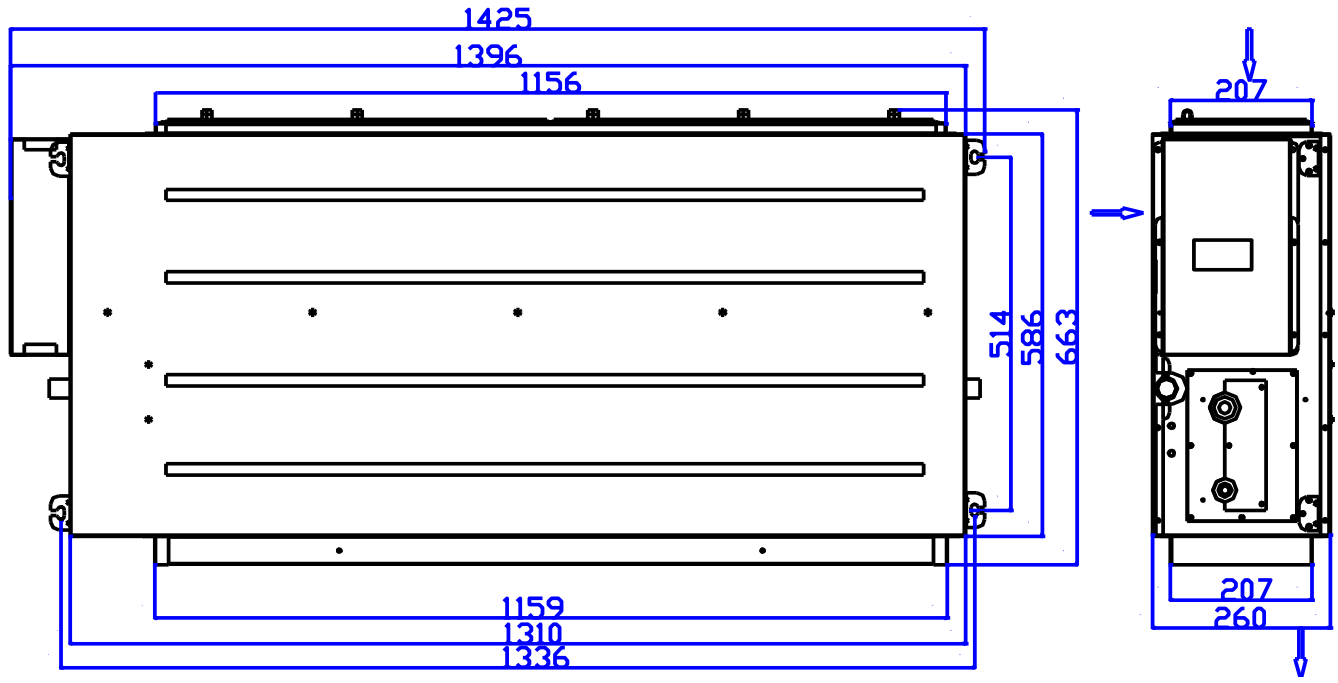
3.2 CTA-24HR1



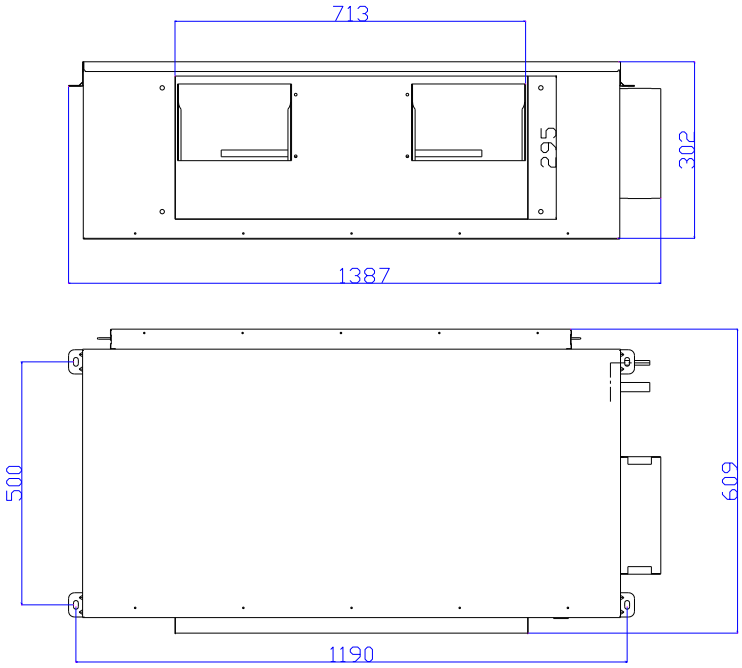
3.3 CTB-18HR1, CTB-24HR1



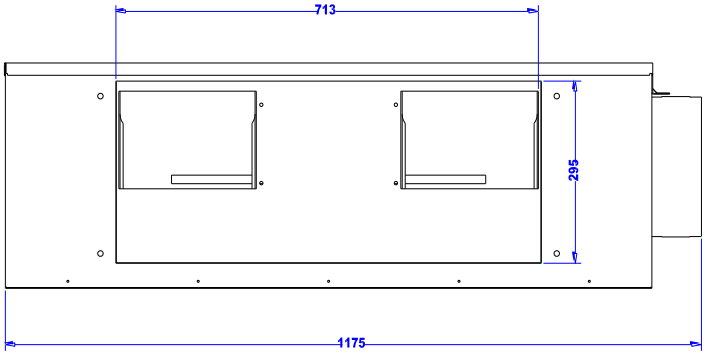
3.4 CTB-36HR1, CTB-48HR1, CTB-60HR1

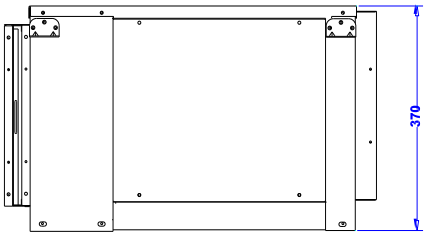


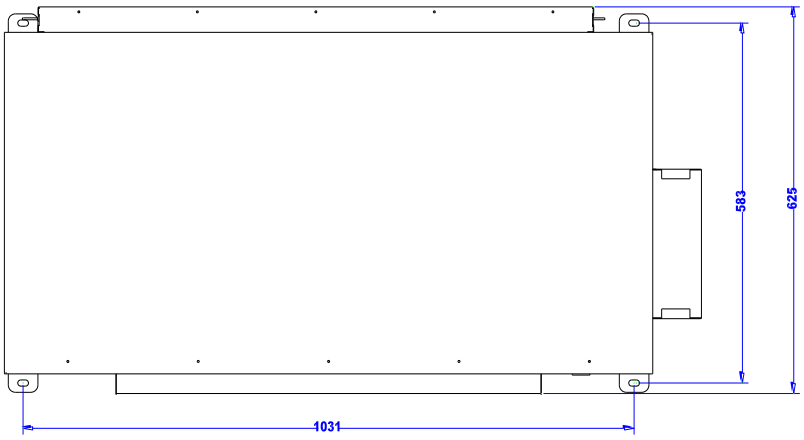
3.5 CTB-48HR1-B, CTB-60HR1-B



3.6 CTH-48HR1, CTH-60HR1

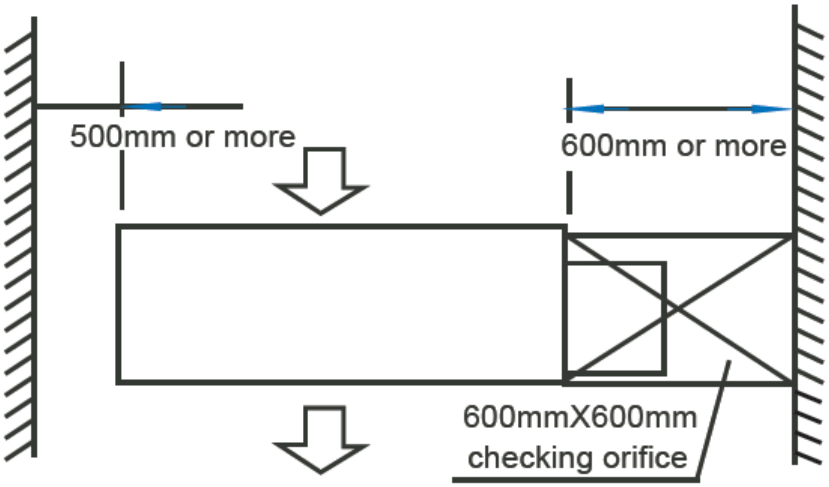






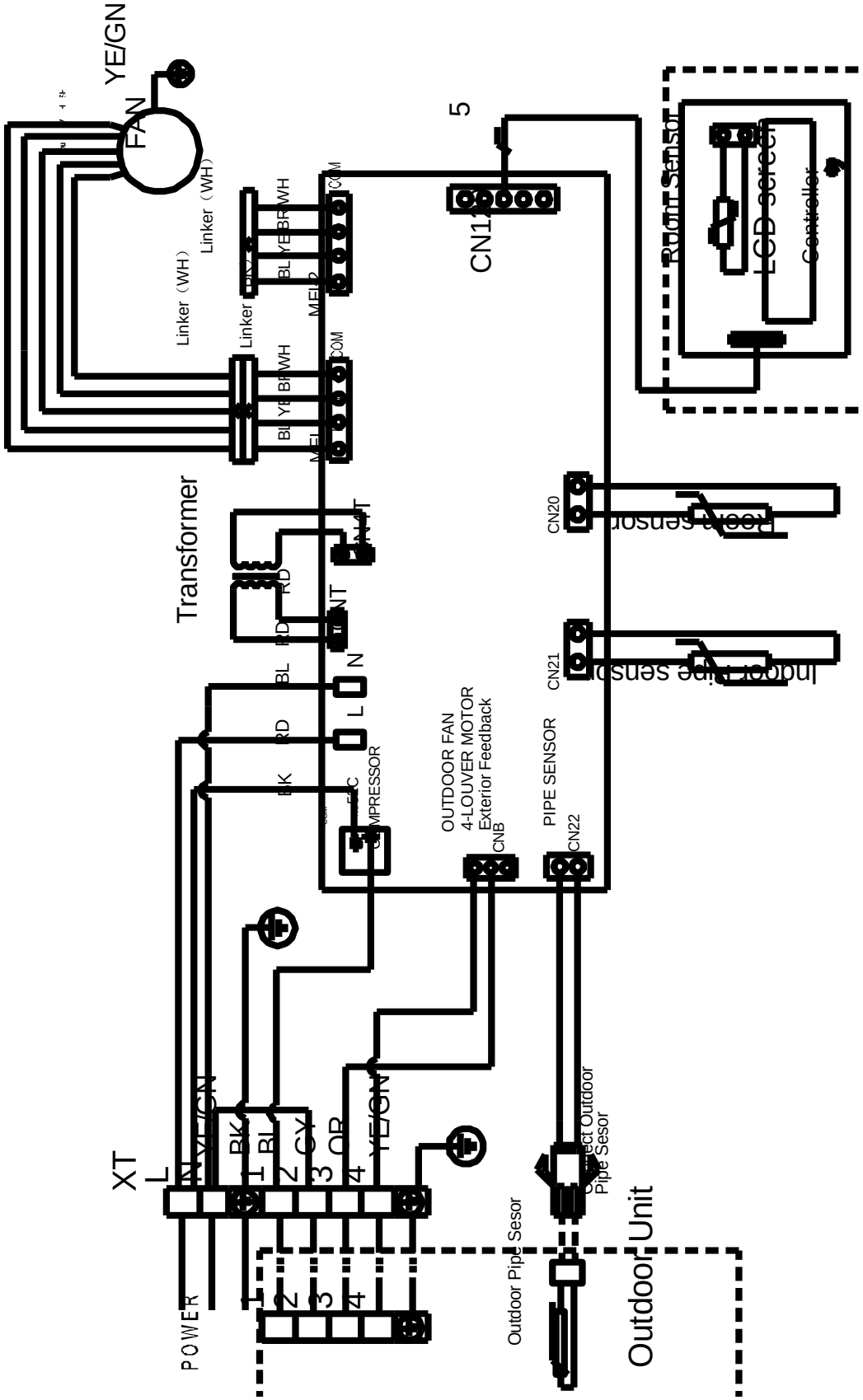
4. Service Space

Ensure enough space required for installation and maintenance.

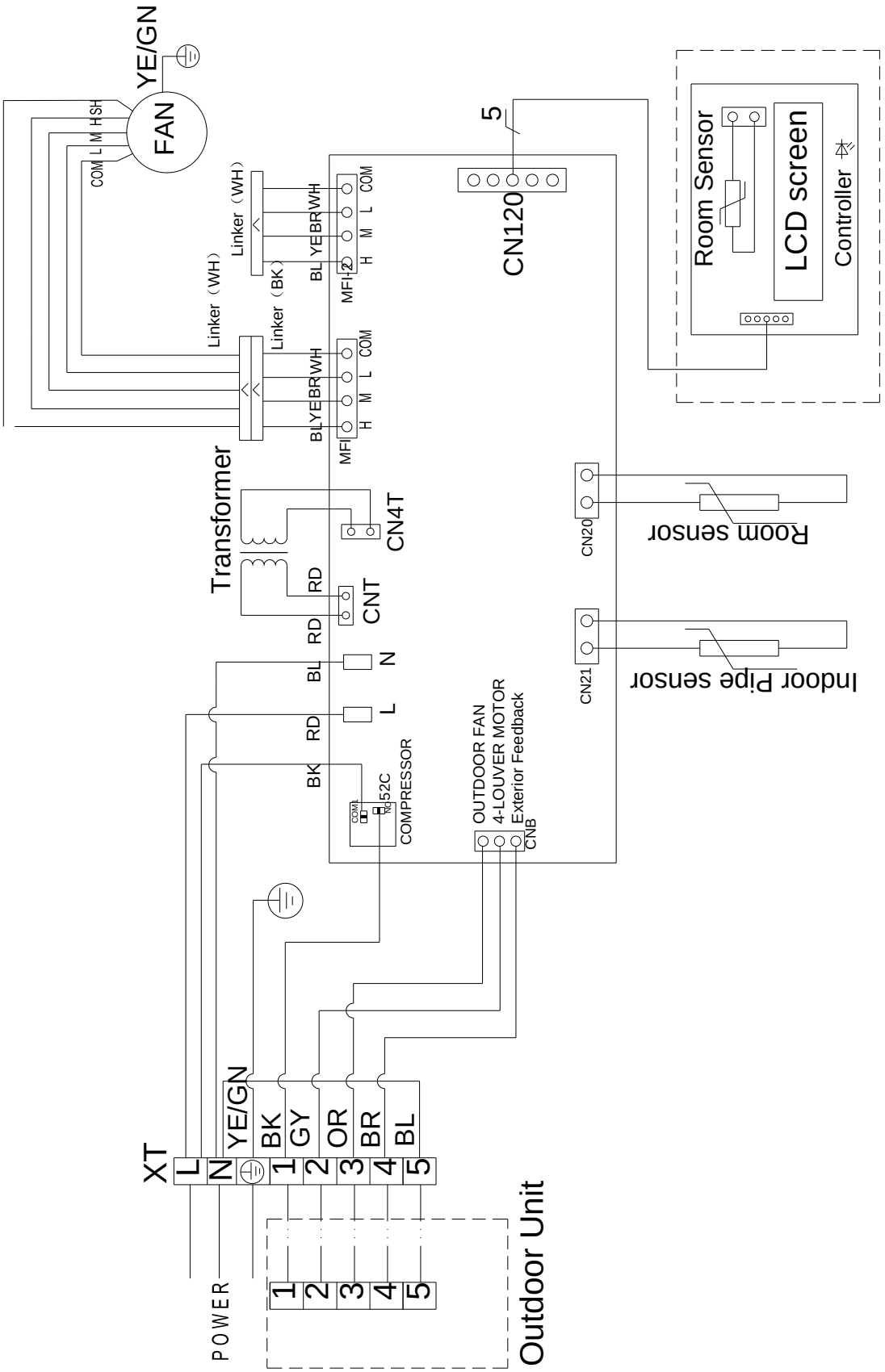


5.Wiring Diagrams

5.1 CTA-18HR1, CTB-18HR1



5.2 CTA-24HR1


YE/GN
FAN
SH
H
M
L
COM
Linker（WH）
Linker（BK）
Linker（WH）
MFI
COM
L
M
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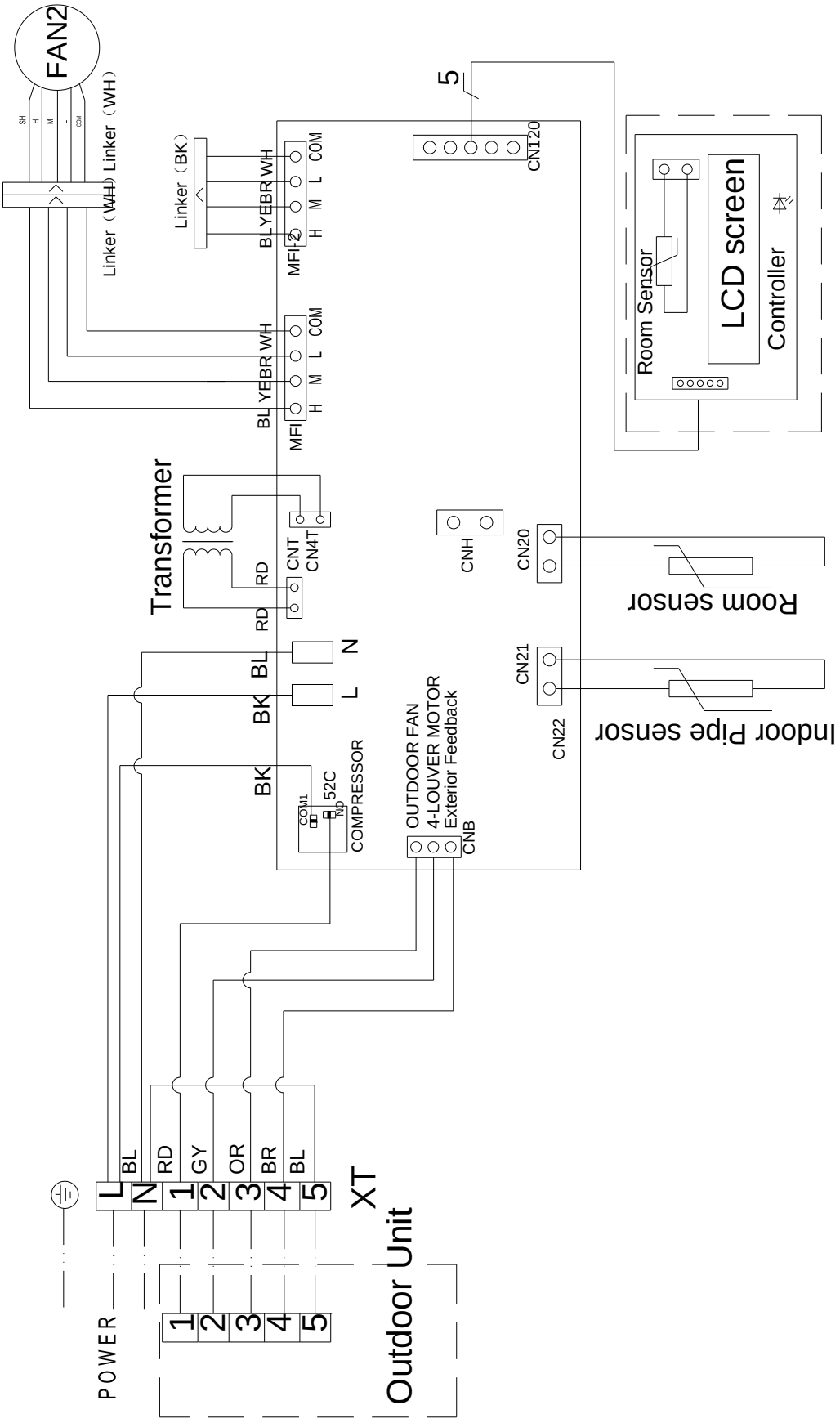
WH
BR
YE
BL
5
CN120
Room Sensor
LCD screen
Controller
Transformer
CN4T
CNT
RD
RD
BL
N
RD
L
BK
COMPRESSOR
OUTDOOR FAN
4-LOUVER MOTOR
Exterior Feedback
CNB
CN20
Room sensor
CN21
Indoor Pipe sensor
XT
L
N
YE/GN
BK
GY
OR
BR
BL
1
2
3
4
5
POWER
Outdoor Unit

5.3 CTB-24HR1


FAN2
SH
H
M
L
COM
Linker（WH）
Linker（WH）
Linker（BK）
BL YE BR WH
MFI
H M L COM
5
CN120
LCD screen
Controller
Room Sensor
BL YE BR WH
MFI
H M L COM
Transformer
CNT
CN4T
RD
RD
CNH
CN20
Room sensor
BL
BK
BK
N
L
CN21
CN22
Indoor Pipe sensor
COM1
52C
TMP
COMPRESSOR
OUTDOOR FAN
4-LOUVER MOTOR
Exterior Feedback
CNB
BL
RD
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POWER
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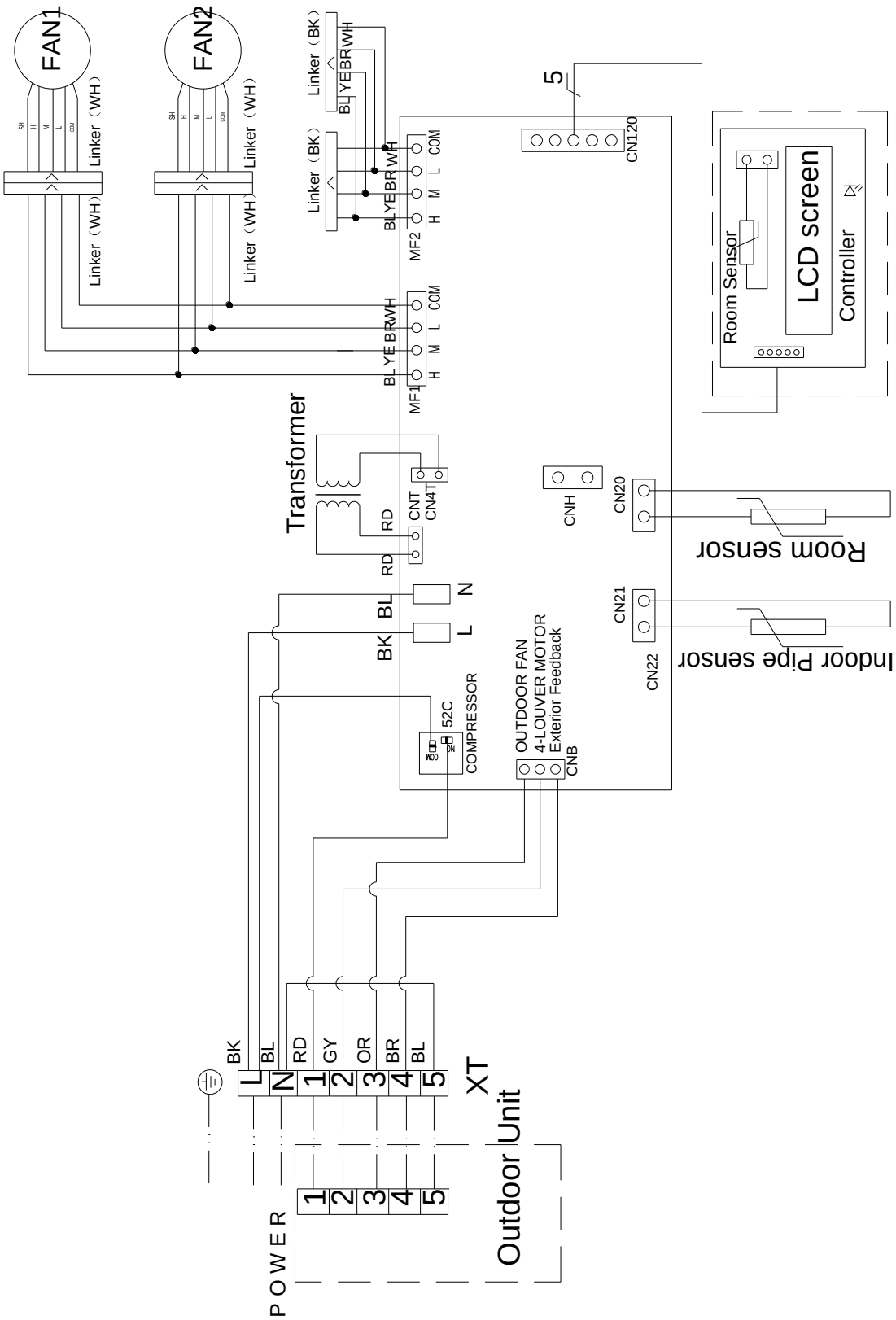
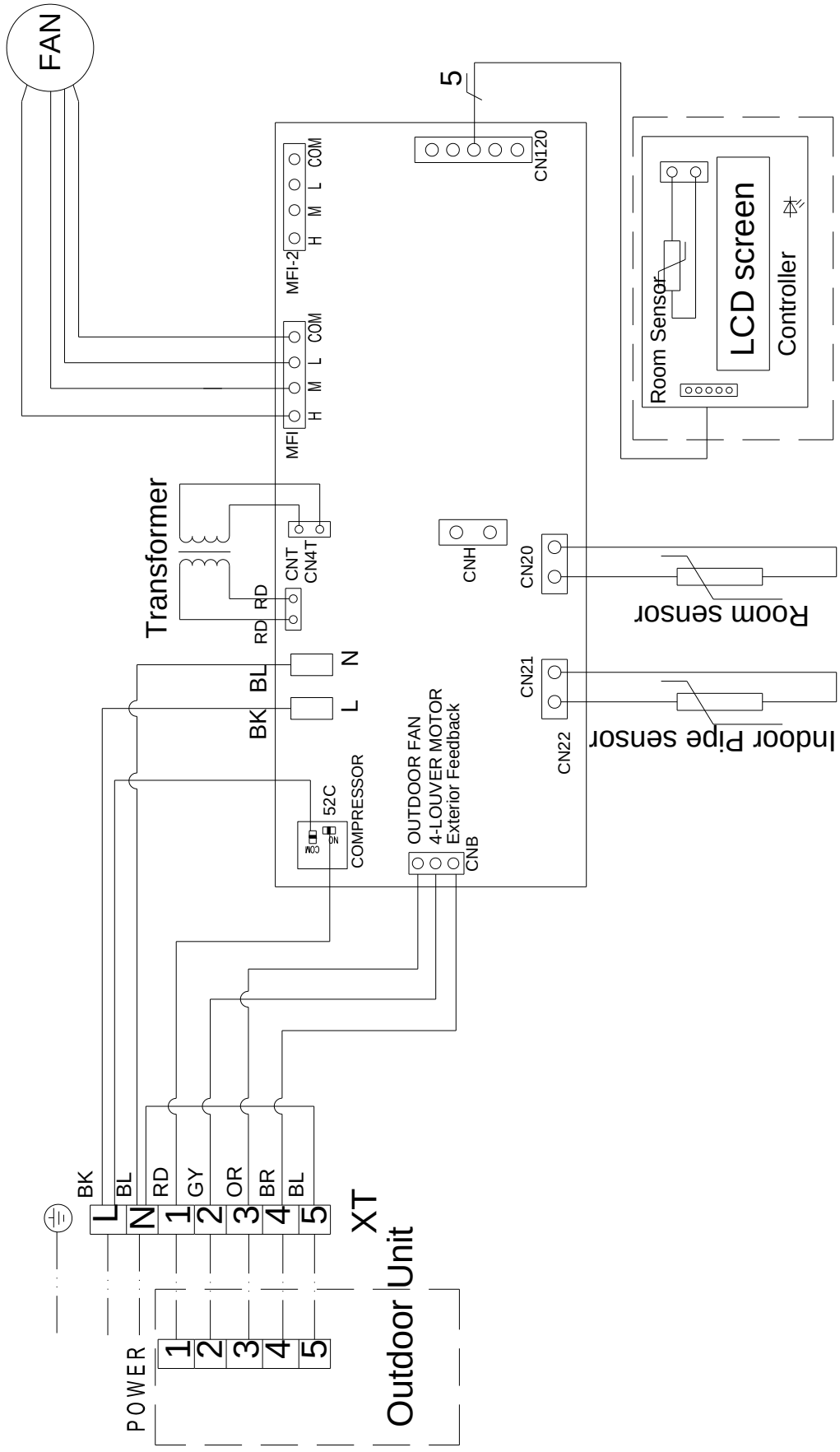
Outdoor Unit

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



5.5 CTB-48HR1-B, CTB-60HR1-B, 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	45ºC
21ºC DB 15ºC WB	Total capacity kW	5.19	4.92	4.76	4.48	4.28	4.18
	Sensitive capacity kW	4.12	3.93	3.81	3.56	3.41	3.31
	Input kW.	1.15	1.29	1.47	1.61	1.8	1.96
24ºC DB 17ºC WB	Total capacity kW	5.67	5.39	5.27	4.91	4.71	4.58
	Sensitive capacity kW	4.5	4.31	4.15	3.93	3.77	3.62
	Input kW.	1.21	1.36	1.54	1.73	1.91	2.07
27ºC DB 19ºC WB	Total capacity kW	6.13	5.85	5.64	5.3	5.1	4.94
	Sensitive capacity kW	4.82	4.68	4.5	4.13	4.09	3.96
	Input kW.	1.25	1.48	1.62	1.79	2.01	2.18
32ºC DB 23ºC WB	Total capacity kW	7.1	6.73	6.5	6.15	5.9	5.72
	Sensitive capacity kW	5.63	5.39	5.21	4.91	4.87	4.54
	Input kW.	1.48	1.68	1.87	2.1	2.32	2.54

6.2 CTA-24HR1

MODEL		CTA-24HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	6.87	6.54	6.32	5.94	5.75	5.53
	Sensitive capacity kW	5.51	5.24	5.03	4.75	4.55	4.45
	Input kW.	5.49	5.24	5.03	4.76	4.57	4.45
24ºC DB 17ºC WB	Total capacity kW	7.53	7.17	6.93	6.51	6.28	6.05
	Sensitive capacity kW	6.02	5.76	5.52	5.22	5.03	4.84
	Input kW.	1.67	1.90	2.16	2.36	2.61	2.86
27ºC DB 19ºC WB	Total capacity kW	8.18	7.80	7.52	7.11	6.84	6.61
	Sensitive capacity kW	6.53	6.24	6.02	5.66	5.44	5.27
	Input kW.	1.74	2.00	2.23	2.52	2.73	3.02
32ºC DB 23ºC WB	Total capacity kW	9.38	8.97	8.63	8.14	7.82	7.56
	Sensitive capacity kW	7.53	7.17	6.921	6.51	6.25	6.04
	Input kW.	2.02	2.32	2.61	2.87	3.16	3.44

6.3 CTB-18HR1

MODEL		CTB-18HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	5.34	5.11	4.98	4.72	4.44	4.32
	Sensitive capacity kW	4.33	4.19	3.98	3.73	3.55	3.41
	Input kW.	1.30	1.49	1.57	1.65	1.92	2.18
24ºC DB 17ºC WB	Total capacity kW	5.92	5.54	5.47	5.17	4.95	4.88
	Sensitive capacity kW	4.78	4.61	4.36	4.13	3.97	3.87
	Input kW.	1.11	1.38	1.74	1.83	2.13	2.37
27ºC DB 19ºC WB	Total capacity kW	6.43	6.28	6.01	5.83	5.61	5.34
	Sensitive capacity kW	5.03	4.78	4.54	4.13	3.98	3.76
	Input kW.	1.20	1.58	1.73	1.90	2.21	2.48
32ºC DB 23ºC WB	Total capacity kW	7.3	6.93	6.71	6.45	6.15	5.92
	Sensitive capacity kW	5.83	5.58	5.41	5.11	4.97	4.64
	Input kW.	1.58	1.72	1.89	2.23	2.45	2.60

6.4 CTB-24HR1

MODEL		CTB-24HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	6.84	6.55	6.31	5.95	5.72	5.53
	Sensitive capacity kW	5.47	5.24	5.04	4.76	4.57	4.43
	Input kW.	1.57	1.79	2.01	2.25	2.46	2.7
24ºC DB 17ºC WB	Total capacity kW	7.52	7.18	6.91	6.52	6.28	6.06
	Sensitive capacity kW	6	5.73	5.53	5.22	5.03	4.87
	Input kW.	1.65	1.9	2.13	2.37	2.61	2.88
27ºC DB 19ºC WB	Total capacity kW	8.16	7.79	7.54	7.1	6.83	6.58
	Sensitive capacity kW	6.54	6.22	6.01	5.66	5.43	5.27
	Input kW.	1.75	2	2.24	2.49	2.75	3
32ºC DB 23ºC WB	Total capacity kW	9.37	8.96	8.64	8.15	7.83	7.58
	Sensitive capacity kW	7.5	7.18	6.91	6.52	6.25	6.06
	Input kW.	2.01	2.29	2.59	2.87	3.16	3.44

6.5 CTB-36HR1

MODEL		CTB-36HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	10.12	9.68	9.33	8.8	8.45	8.18
	Sensitive capacity kW	8.07	7.74	7.45	7.04	6.76	6.53
	Input kW.	2.34	2.72	3.03	3.36	3.68	4.02
24ºC DB 17ºC WB	Total capacity kW	11.09	10.61	10.22	9.64	9.26	8.96
	Sensitive capacity kW	8.87	8.48	8.16	7.71	7.4	7.16
	Input kW.	2.45	2.83	3.18	3.54	3.93	4.27
27ºC DB 19ºC WB	Total capacity kW	12.05	11.53	11.09	10.5	10.07	9.75
	Sensitive capacity kW	9.63	9.22	8.87	8.38	8.05	7.78
	Input kW.	2.65	3.01	3.36	3.83	4.11	4.48
32ºC DB 23ºC WB	Total capacity kW	13.87	13.26	12.78	12.06	11.57	11.21
	Sensitive capacity kW	11.09	10.61	10.22	9.64	9.26	8.96
	Input kW.	3	3.43	3.86	4.3	4.72	5.16

6.6 CTB-48HR1

MODEL		CTB-48HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	13.51	12.92	12.45	11.75	11.27	10.95
	Sensitive capacity kW	10.8	10.33	9.96	9.38	9.01	8.73
	Input kW.	3.06	3.36	3.9	4.31	4.71	5.19
24ºC DB 17ºC WB	Total capacity kW	14.79	14.14	13.64	12.89	12.34	11.96
	Sensitive capacity kW	11.81	11.31	10.91	10.31	9.87	9.57
	Input kW.	3.21	3.55	4.11	4.55	4.98	5.44
27ºC DB 19ºC WB	Total capacity kW	16.09	15.37	14.82	14.00	13.43	13.01
	Sensitive capacity kW	12.86	12.41	11.85	11.21	10.72	10.44
	Input kW.	3.38	3.86	4.3	5.16	5.25	5.72
32ºC DB 23ºC WB	Total capacity kW	18.5	17.72	17.05	16.08	15.44	14.96
	Sensitive capacity kW	14.79	14.16	13.63	12.86	12.33	11.93
	Input kW.	3.86	4.41	4.94	5.49	5.99	6.58

6.7 CTB-60HR1

MODEL		CTB-60HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	15.45	14.79	14.25	12.11	12.91	12.5
	Sensitive capacity kW	12.37	11.83	11.4	10.75	10.32	10.02
	Input kW.	3.75	4.3	4.84	5.36	5.92	6.44
24ºC DB 17ºC WB	Total capacity kW	16.93	16.19	15.61	14.72	13.13	13.71
	Sensitive capacity kW	13.54	12.95	12.48	11.78	11.3	10.97
	Input kW.	3.95	4.54	5.11	5.66	6.23	6.82
27ºC DB 19ºC WB	Total capacity kW	18.42	17.6	16.98	16	15.36	14.88
	Sensitive capacity kW	14.72	14.1	13.58	12.8	12.3	11.91
	Input kW.	4.16	4.78	5.36	5.97	6.57	7.18
32ºC DB 23ºC WB	Total capacity kW	21.16	20.24	19.5	18.42	17.67	17.12
	Sensitive capacity kW	16.92	16.19	15.61	14.74	14.13	13.7
	Input kW.	4.81	5.48	6.17	6.88	7.55	8.24

6.8 CTB-48HR1-B

MODEL		CTB-48HR1-B					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	13.87	13.23	12.92	11.86	11.49	10.99
	Sensitive capacity kW	11.03	10.75	10.23	9.71	9.36	8.98
	Input kW.	2.86	3.18	3.61	4.13	4.32	4.66
24ºC DB 17ºC WB	Total capacity kW	15.82	15.27	14.85	13.68	13.31	12.98
	Sensitive capacity kW	12.06	11.83	11.12	10.55	10.17	9.89
	Input kW.	3.04	3.33	3.89	4.11	4.47	4.98
27ºC DB 19ºC WB	Total capacity kW	16.34	15.89	15.04	14.80	13.92	13.42
	Sensitive capacity kW	12.88	12.32	11.87	11.20	10.75	10.42
	Input kW.	3.29	3.76	4.23	4.70	5.17	5.64
32ºC DB 23ºC WB	Total capacity kW	18.52	17.71	17.07	16.10	15.46	14.97
	Sensitive capacity kW	14.81	14.17	13.65	12.88	12.36	11.98
	Input kW.	3.68	4.21	4.76	5.04	5.65	6.04

6.9 CTB-60HR1-B

MODEL		CTB-60HR1-B					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	15.47	14.73	14.28	12.21	12.91	12.5
	Sensitive capacity kW	12.37	11.83	11.4	10.75	10.32	10.02
	Input kW.	3.73	4.34	4.84	5.36	5.92	6.44
24ºC DB 17ºC WB	Total capacity kW	16.93	16.17	15.53	14.70	13.11	13.75
	Sensitive capacity kW	13.74	12.91	12.43	11.74	11.34	10.67
	Input kW.	3.65	4.34	5.11	5.64	6.24	6.81
27ºC DB 19ºC WB	Total capacity kW	17.25	16.6	16.2	16.2	15.34	14.83
	Sensitive capacity kW	14.72	14.11	13.54	12.7	12.3	11.81
	Input kW.	4.17	4.75	5.36	5.97	6.54	7.18
32ºC DB 23ºC WB	Total capacity kW	21.14	20.22	19.5	18.36	17.67	17.12
	Sensitive capacity kW	16.92	16.17	15.61	14.71	14.13	13.7
	Input kW.	4.91	5.43	6.17	6.90	7.55	8.23

6.10 CTH-48HR1

MODEL		CTH-48HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	13.52	12.94	12.47	11.76	11.29	10.94
	Sensitive capacity kW	10.82	10.35	9.97	9.41	9.03	8.75
	Input kW.	2.96	3.38	3.81	4.23	4.65	5.08
24ºC DB 17ºC WB	Total capacity kW	14.81	14.17	13.65	12.88	12.36	11.98
	Sensitive capacity kW	11.85	11.33	10.92	10.30	9.89	9.58
	Input kW.	3.13	3.57	4.02	4.47	4.91	5.36
27ºC DB 19ºC WB	Total capacity kW	16.10	15.40	14.84	14.00	13.44	13.02
	Sensitive capacity kW	12.88	12.32	11.87	11.20	10.75	10.42
	Input kW.	3.29	3.76	4.23	4.70	5.17	5.64
32ºC DB 23ºC WB	Total capacity kW	18.52	17.71	17.07	16.10	15.46	14.97
	Sensitive capacity kW	14.81	14.17	13.65	12.88	12.36	11.98
	Input kW.	3.78	4.32	4.86	5.41	5.95	6.49

6.11 CTH-60HR1

MODEL		CTH-60HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	15.47	14.73	14.28	12.21	12.91	12.5
	Sensitive capacity kW	12.37	11.83	11.4	10.75	10.32	10.02
	Input kW.	3.73	4.34	4.84	5.36	5.92	6.44
24ºC DB 17ºC WB	Total capacity kW	16.93	16.17	15.53	14.70	13.11	13.75
	Sensitive capacity kW	13.74	12.91	12.43	11.74	11.34	10.67
	Input kW.	3.65	4.34	5.11	5.64	6.24	6.81
27ºC DB 19ºC WB	Total capacity kW	17.25	16.6	16.2	16.2	15.34	14.83
	Sensitive capacity kW	14.72	14.11	13.54	12.7	12.3	11.81
	Input kW.	4.17	4.75	5.36	5.97	6.54	7.18
32ºC DB 23ºC WB	Total capacity kW	21.14	20.22	19.5	18.36	17.67	17.12
	Sensitive capacity kW	16.92	16.17	15.61	14.71	14.13	13.7
	Input kW.	4.91	5.43	6.17	6.90	7.55	8.23

Heating

6.12 CTA-18HR1

MODEL		CTA-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	10.15	8.14	6.75	6.11	5.69	5.08	4.75
	Input kW.	3.15	2.48	2.07	1.93	1.87	1.8	1.68
18ºC	Capacity kW	9.56	7.68	6.36	5.75	5.4351	4.78	4.49
	Input kW.	2.98	2.35	1.94	1.83	1.76	1.66	1.58
20ºC	Capacity kW	8.92	7.05	5.8	5.28	5.02	4.42	4.12
	Input kW.	2.75	2.18	1.71	1.68	1.63	1.53	1.44
22ºC	Capacity kW	8.12	6.48	5.43	4.87	4.6	4.06	3.78
	Input kW.	2.48	1.98	1.64	16	1.51	1.41	1.32
27ºC	Capacity kW	7.12	5.62	4.68	4.21	4.02	3.51	3.28
	Input kW.	2.14	1.68	1.43	1.34	1.27	1.19	1.16

6.13 CTA-24HR1

MODEL		CTA-24HR1						
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	13.78	11.02	9.18	8.26	7.79	6.85	6.42
	Input kW.	4.30	3.43	2.87	2.71	2.55	2.46	2.30
18ºC	Capacity kW	12.92	10.34	8.63	7.74	7.31	6.45	6.00
	Input kW.	4.05	3.18	2.67	2.54	2.41	2.30	2.13
20ºC	Capacity kW	12.00	9.56	8.01	7.14	6.77	6.03	5.60
	Input kW.	3.75	3.00	2.50	2.35	2.23	2.14	2.00
22ºC	Capacity kW	11.04	8.76	7.32	6.60	6.22	5.48	5.11
	Input kW.	3.42	2.71	2.28	2.14	2.01	1.88	1.82
27ºC	Capacity kW	9.54	7.60	6.37	5.73	5.40	4.72	4.43
	Input kW.	3.00	2.33	2.00	1.91	1.75	1.68	1.60

6.14 CTB-18HR1

MODEL		CTB-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	10.42	9.92	8.71	7.55	6.89	5.74	5.02
	Input kW.	3.33	2.87	2.45	1.99	1.87	1.83	1.67
18ºC	Capacity kW	9.76	8.67	7.68	6.04	5.42	4.99	4.51
	Input kW.	2.88	2.23	1.87	1.79	1.72	1.63	1.58
20ºC	Capacity kW	9.04	8.76	7.8	6.28	5.71	4.42	4.12
	Input kW.	2.75	2.18	1.71	1.68	1.63	1.53	1.44
22ºC	Capacity kW	8.12	6.48	5.46	4.83	4.6	4.06	3.78
	Input kW.	2.48	1.93	1.64	16.3	1.61	1.47	1.34
27ºC	Capacity kW	7.14	6.52	5.65	5.12	4.98	4.13	3.87
	Input kW.	2.13	1.78	1.55	1.42	1.25	1.19	1.15

6.15 CTB-24HR1

MODEL		CTB-24HR1						
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	13.68	10.96	9.12	8.21	7.79	6.58	6.4
	Input kW.	4.18	3.4	2.76	2.65	2.53	2.4	2.27
18ºC	Capacity kW	12.84	10.2	8.52	7.1	7.31	6.38	6.01
	Input kW.	4	3.12	2.61	2.5	2.4	2.23	2.09
20ºC	Capacity kW	11.5	9.45	7.8	7.08	6.59	5.92	5.48
	Input kW.	3.6	2.88	2.28	2.2	2.03	2.04	1.92
22ºC	Capacity kW	10.95	8.68	7.28	6.58	6.18	5.48	5.12
	Input kW.	3.38	2.68	2.22	2.11	2.01	1.93	1.78
27ºC	Capacity kW	9.48	7.59	6.31	5.68	5.37	4.78	4.45
	Input kW.	2.92	2.32	1.95	1.83	1.76	1.65	1.58

6.16 CTB-36HR1

MODEL		CTB-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	19.16	15.35	12.76	11.46	10.83	9.55	8.92
	Input kW.	6.32	5.11	4.22	4.03	3.77	3.62	3.4
18ºC	Capacity kW	17.87	14.33	11.89	10.74	10.17	9.03	8.37
	Input kW.	6	4.76	3.98	3.78	3.58	3.37	3.19
20ºC	Capacity kW	16.62	13.29	11.55	9.89	9.48	8.31	7.73
	Input kW.	5.38	4.26	3.42	3.31	3.18	3.08	2.92
22ºC	Capacity kW	15.28	12.26	10.24	9.12	8.66	7.62	7.11
	Input kW.	5.08	4.08	3.39	3.17	3.04	2.87	2.72
27ºC	Capacity kW	13.3	10.62	8.86	8.03	7.53	6.62	6.2
	Input kW.	4.36	3.52	2.95	2.81	2.62	2.49	2.36

6.17 CTB-48HR1

MODEL		CTB-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	26.18	20.96	17.46	15.71	14.84	13.09	12.22
	Input kW.	8.56	6.87	5.72	5.43	5.14	4.86	4.59
18ºC	Capacity kW	24.57	19.66	16.4	14.73	13.91	12.29	11.47
	Input kW.	8.12	6.43	5.37	5.12	4.86	4.59	4.31
20ºC	Capacity kW	22.65	18.15	15.20	13.54	12.88	11.28	10.59
	Input kW.	7.46	5.97	5.42	4.98	4.72	4.35	4.14
22ºC	Capacity kW	20.92	16.74	13.96	12.54	11.85	10.45	9.76
	Input kW.	6.85	5.52	4.63	4.38	4.14	3.89	3.72
27ºC	Capacity kW	18.21	14.52	12.14	10.89	10.31	9.1	8.49
	Input kW.	5.96	4.82	3.99	3.81	3.64	3.42	3.22

6.18 CTB-60HR1

MODEL		CTB-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	30.36	24.25	20.24	18.24	17.21	15.21	14.17
	Input kW.	10.31	8.24	6.88	6.54	6.19	5.85	5.51
18ºC	Capacity kW	28.51	22.81	19.12	17.16	16.17	14.26	13.31
	Input kW.	9.72	7.81	6.52	6.14	5.82	5.5	5.16
20ºC	Capacity kW	26.4	21.14	17.6	15.84	15.02	13.24	12.32
	Input kW.	8.95	7.18	6.09	5.66	5.38	5.06	4.81
22ºC	Capacity kW	24.32	19.4	16.2	14.58	13.76	12.15	11.34
	Input kW.	8.3	6.59	5.5	5.22	4.93	4.67	4.4
27ºC	Capacity kW	21.14	16.92	14.12	12.68	11.98	10.62	9.88
	Input kW.	7.18	5.74	4.78	4.54	4.34	4.05	3.82

6.19 CTB-48HR1-B

MODEL		CTB-48HR1-B						
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	25.10	20.45	16.33	15.54	14.82	13.34	12.03
	Input kW.	8.43	6.56	5.45	5.23	5.04	4.67	4.45
18ºC	Capacity kW	23.37	19.34	16.21	14.35	13.77	12.02	11.23
	Input kW.	8.09	6.34	5.11	5.01	4.83	4.49	4.21
20ºC	Capacity kW	22.22	17.19	15.17	13.38	12.71	11.03	10.48
	Input kW.	7.24	5.87	5.41	4.72	4.55	4.37	4.13
22ºC	Capacity kW	19.92	15.79	13.55	12.34	11.66	10.92	9.70
	Input kW.	6.84	5.51	4.68	4.45	4.03	3.76	3.49
27ºC	Capacity kW	17.23	14.50	12.22	10.77	10.34	9.10	8.38
	Input kW.	5.96	4.81	3.98	3.77	3.60	3.22	3.27

6.20 CTB-60HR1-B

MODEL		CTB-60HR1-B						
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	29.36	24.28	20.21	18.20	17.41	15.17	14.03
	Input kW.	10.32	8.21	6.65	6.53	6.00	5.68	5.34
18ºC	Capacity kW	27.44	22.57	19.02	17.11	15.17	14.25	13.27
	Input kW.	9.56	7.45	6.53	6.36	5.64	5.92	5.43
20ºC	Capacity kW	25.46	20.14	17.32	15.28	15.32	13.69	12.00
	Input kW.	8.96	7.21	6.67	5.23	5.11	5.34	4.45
22ºC	Capacity kW	23.33	19.4	16.15	14.56	13.76	12.10	11.34
	Input kW.	8.38	6.59	5.54	5.27	4.92	4.63	4.35
27ºC	Capacity kW	20.14	16.98	14.12	12.47	11.89	10.66	9.82
	Input kW.	7.11	5.77	4.75	4.65	4.34	4.09	3.71

6.21 CTH-48HR1

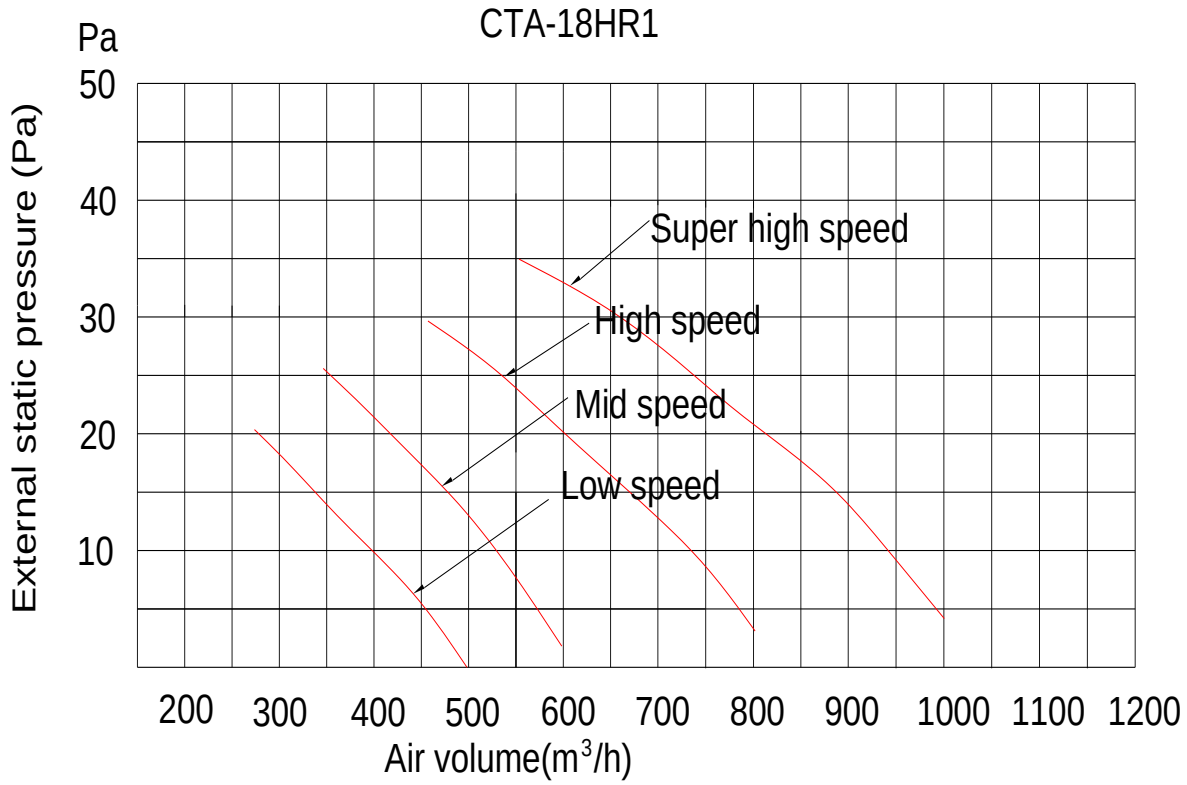
MODEL		CTH-48HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	26.13	20.86	17.42	15.72	14.81	13.19	12.25
	Input kW.	8.52	6.86	5.74	5.41	5.17	4.83	4.55
18ºC	Capacity kW	24.57	19.62	16.43	14.77	13.988	12.19	11.44
	Input kW.	8.17	6.46	5.27	5.15	4.84	4.56	4.21
20ºC	Capacity kW	22.62	18.17	15.23	13.47	12.85	11.18	10.54
	Input kW.	7.43	5.97	5.42	4.92	4.72	4.35	4.14
22ºC	Capacity kW	20.94	16.75	13.93	12.57	11.86	10.42	9.71
	Input kW.	6.87	5.52	4.61	4.32	4.14	3.83	3.72
27ºC	Capacity kW	18.24	14.57	12.16	10.80	10.31	9.11	8.42
	Input kW.	5.98	4.85	3.97	3.81	3.64	3.42	3.28

6.22 CTH-60HR1

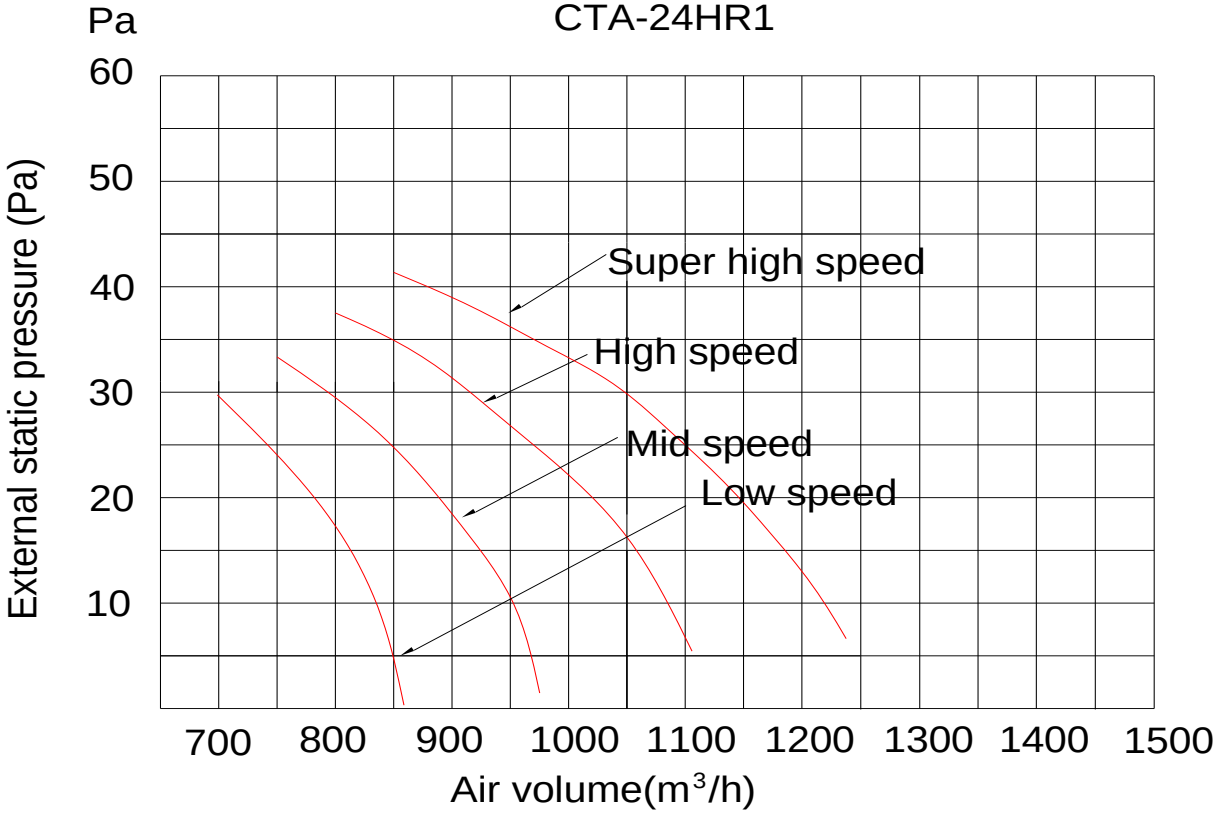
MODEL		CTH-60HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC DB 18ºC WB	12ºC DB 11ºC WB	7ºC DB 6ºC WB	4ºC DB 3ºC WB	0ºC DB -1ºC WB	-5ºC DB -6ºC WB	-7ºC DB -8ºC WB
15ºC	Capacity kW	30.32	24.23	20.22	18.27	17.21	15.29	14.16
	Input kW.	10.37	8.22	6.85	6.57	6.13	5.80	5.58
18ºC	Capacity kW	28.54	22.81	19.12	17.16	16.17	14.26	13.33
	Input kW.	9.72	7.83	6.54	6.16	5.84	5.52	5.13
20ºC	Capacity kW	26.4	21.14	17.6	15.84	15.02	13.24	12.36
	Input kW.	8.92	7.13	6.09	5.65	5.37	5.05	4.83
22ºC	Capacity kW	24.35	19.4	16.26	14.58	13.79	12.12	11.37
	Input kW.	8.38	6.59	5.54	5.22	4.92	4.67	4.4
27ºC	Capacity kW	21.16	16.98	14.17	12.65	11.98	10.66	9.82
	Input kW.	7.11	5.74	4.72	4.55	4.39	4.05	3.81

7.Static Pressure

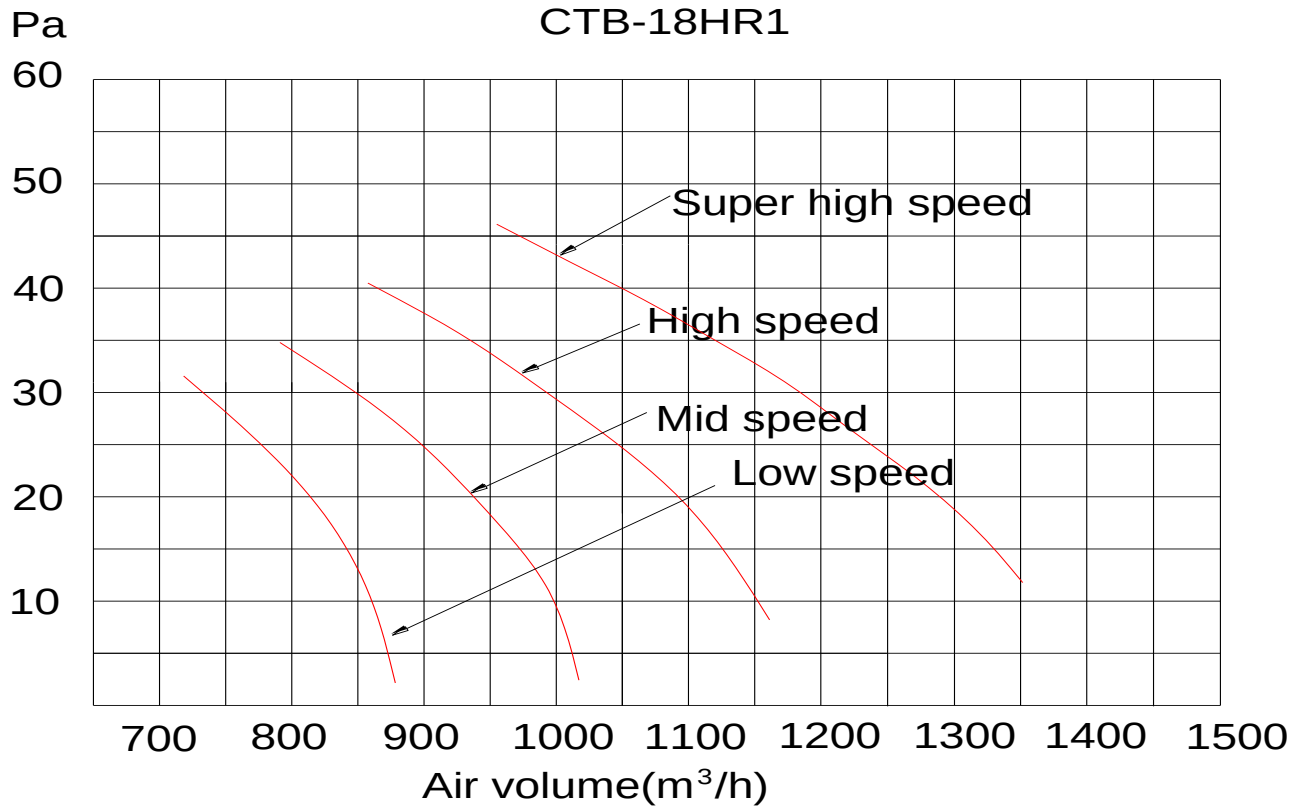
7.1 CTA-18HR1



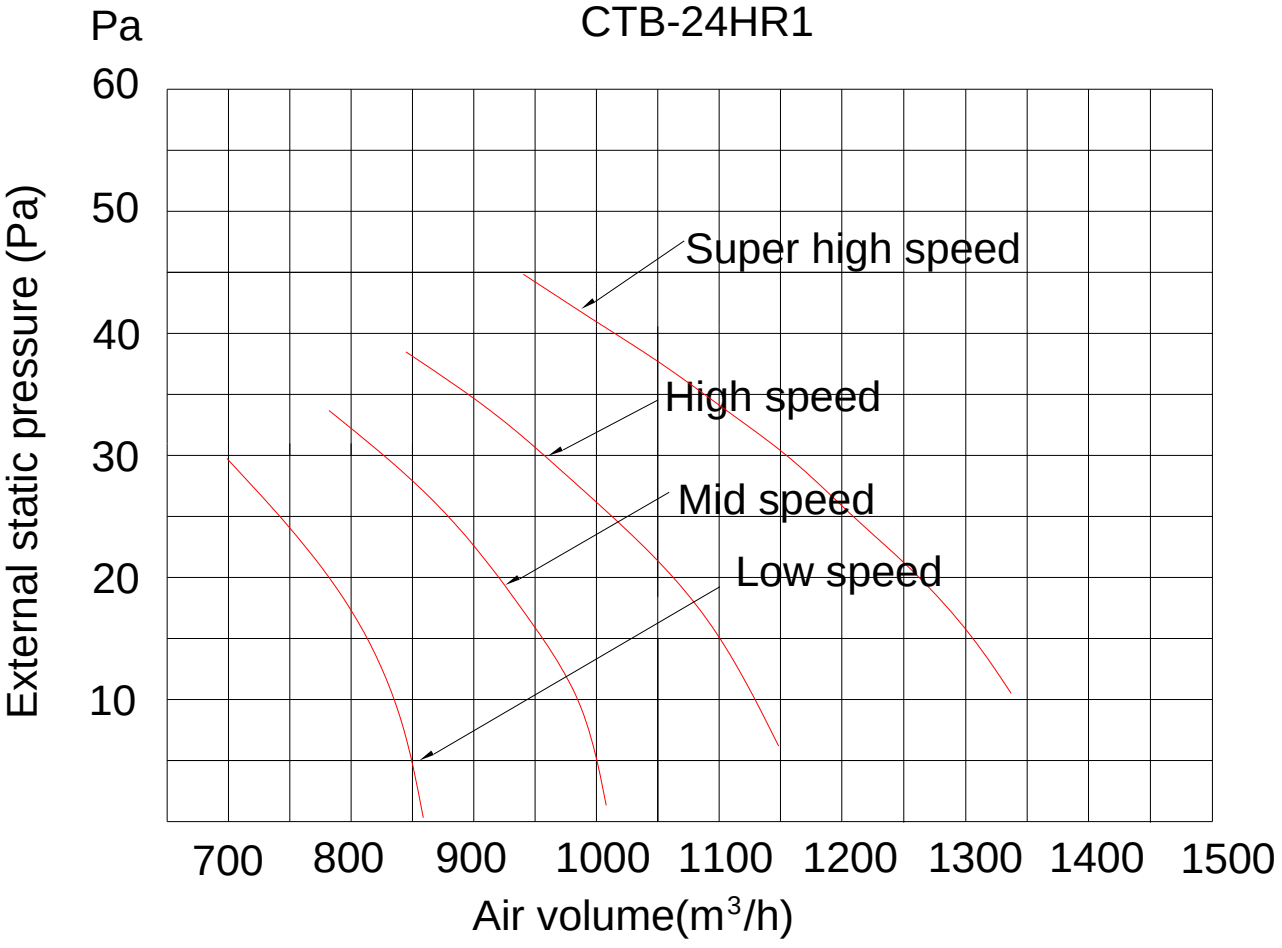
7.2 CTA-24HR1



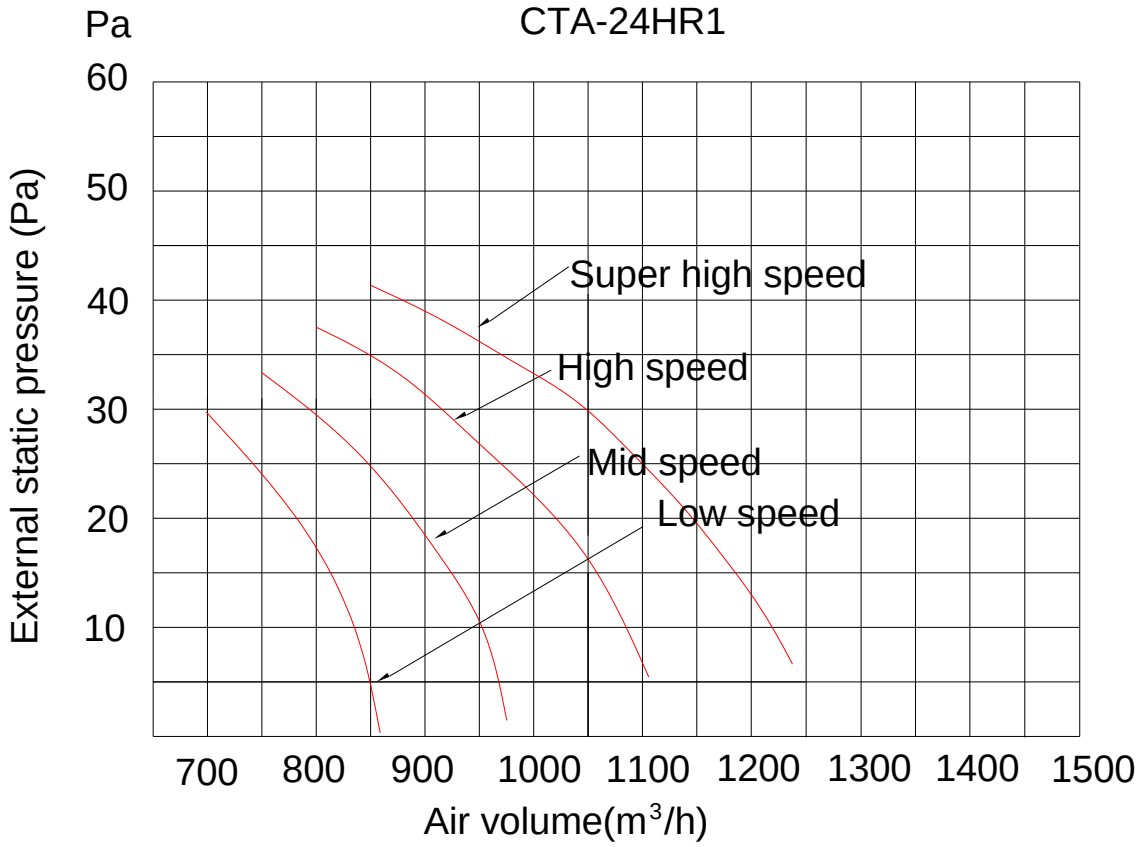
7.3 CTB-18HR1



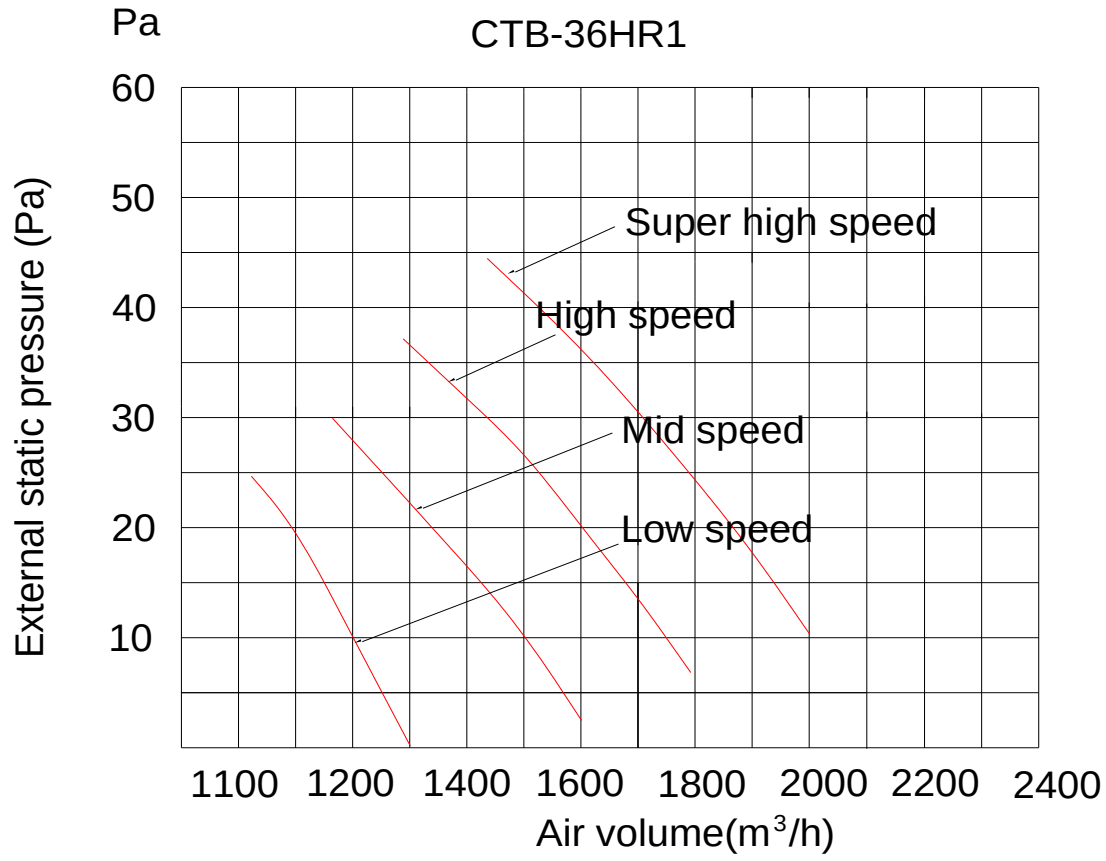
7.4 CTB-24HR1



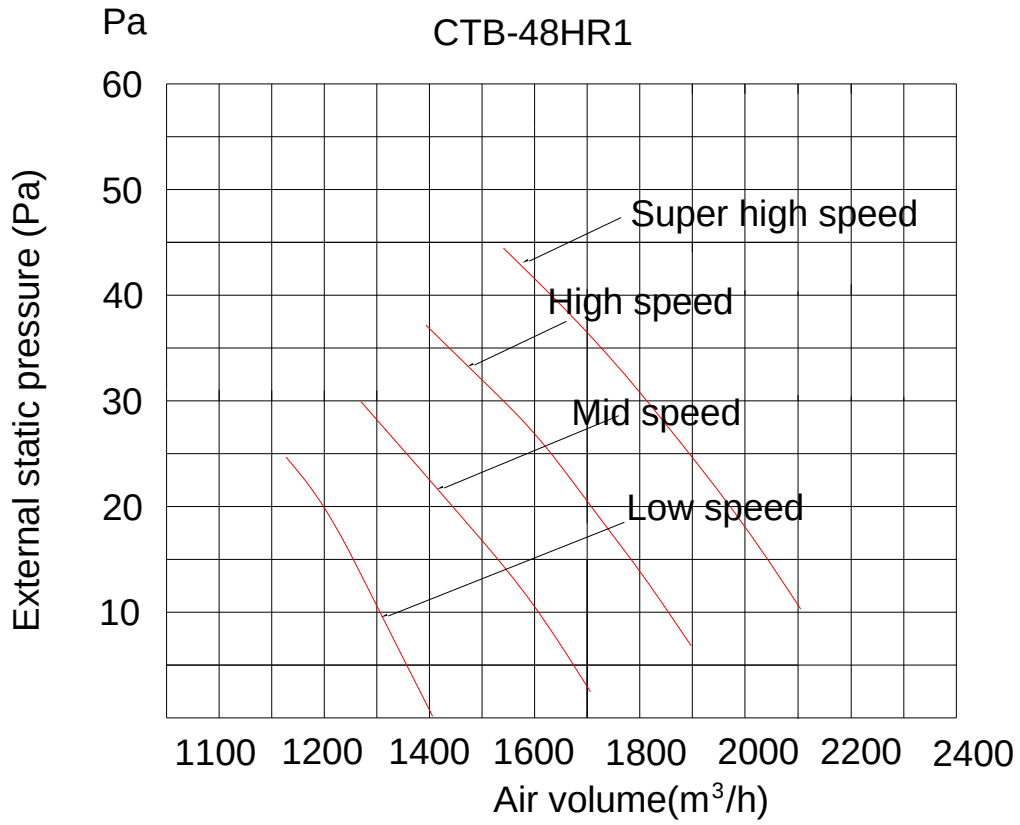
7.5 CTA-36HR1



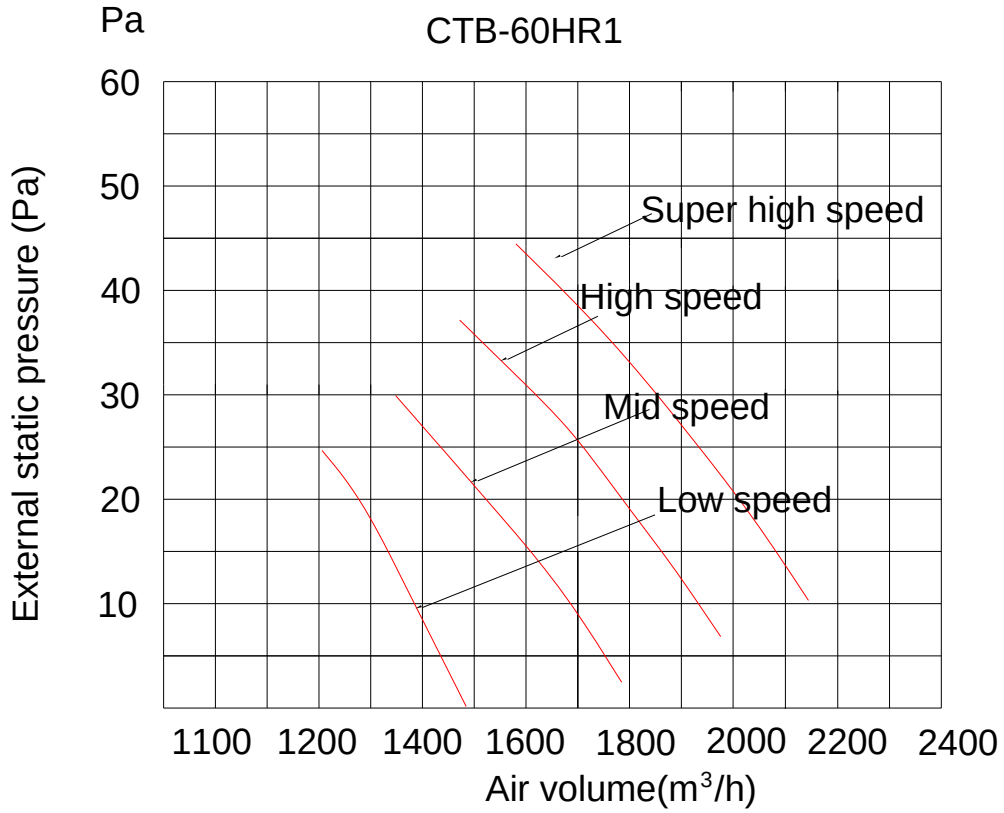
7.6 CTB-36HR1



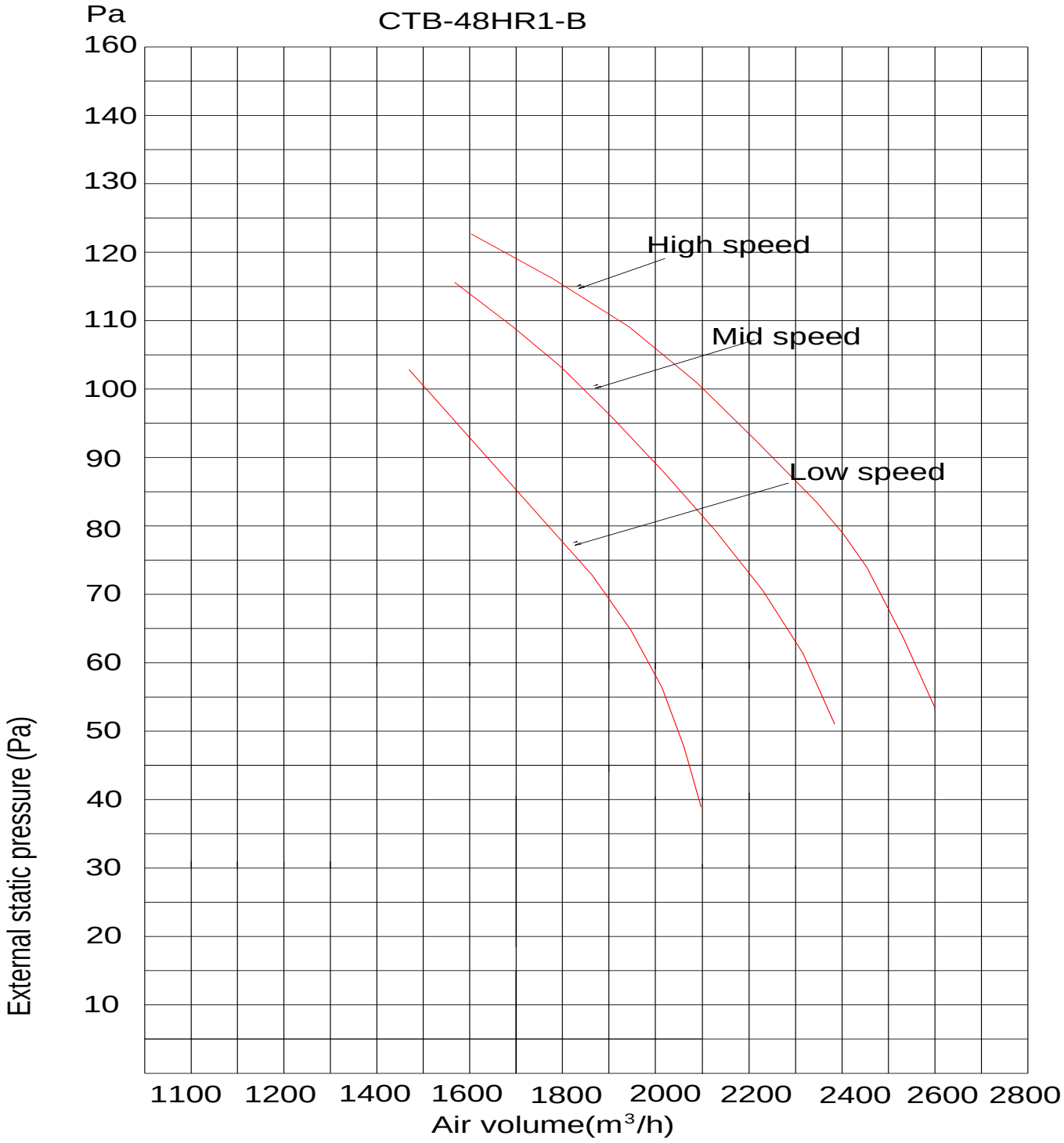
7.7 CTB-48HR1



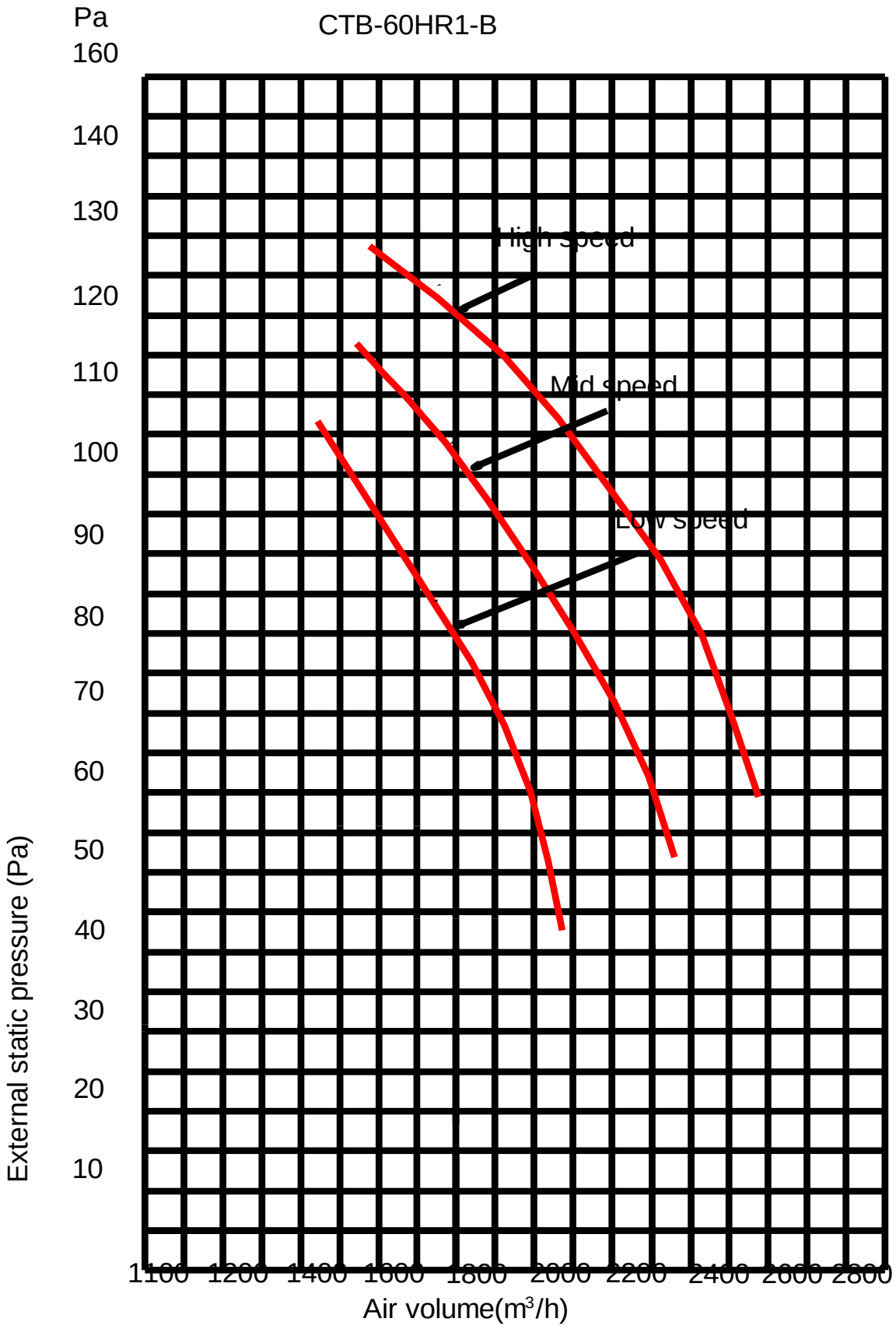
7.8 CTB-60HR1



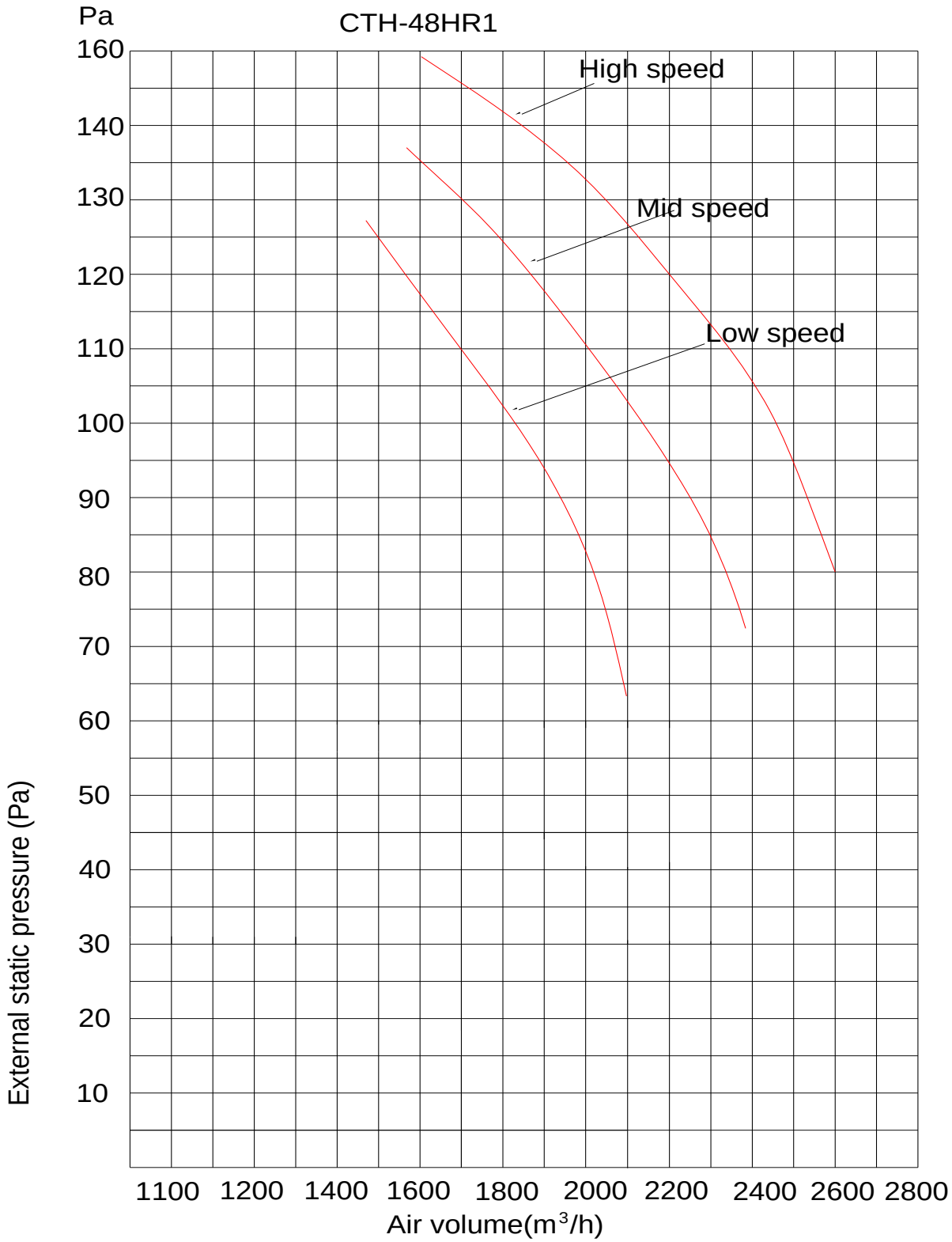
7.9 CTB-48HR1-B



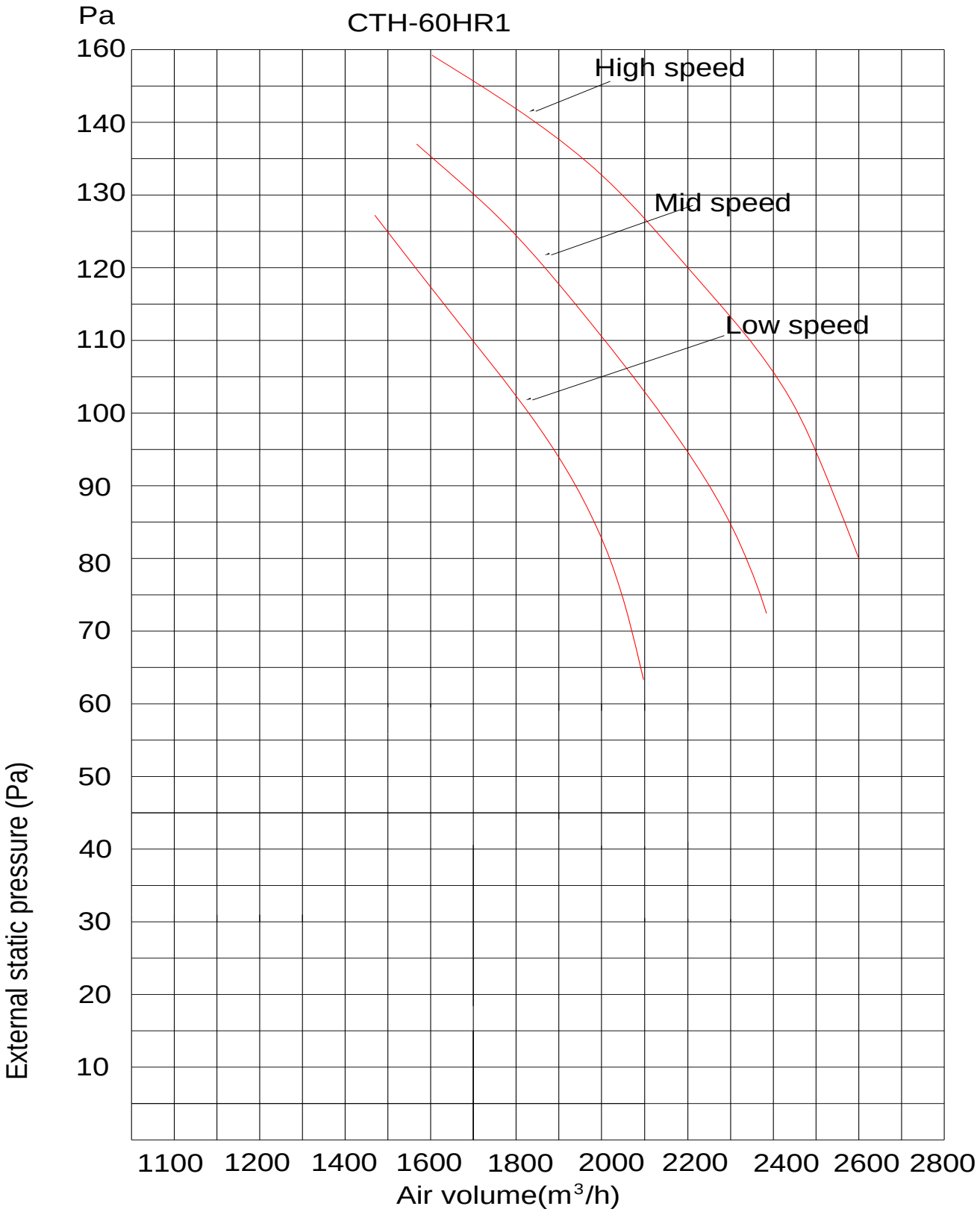
7.10 CTB-60HR1-B



7.11 CTH-48HR1



7.12 CTH-60HR1

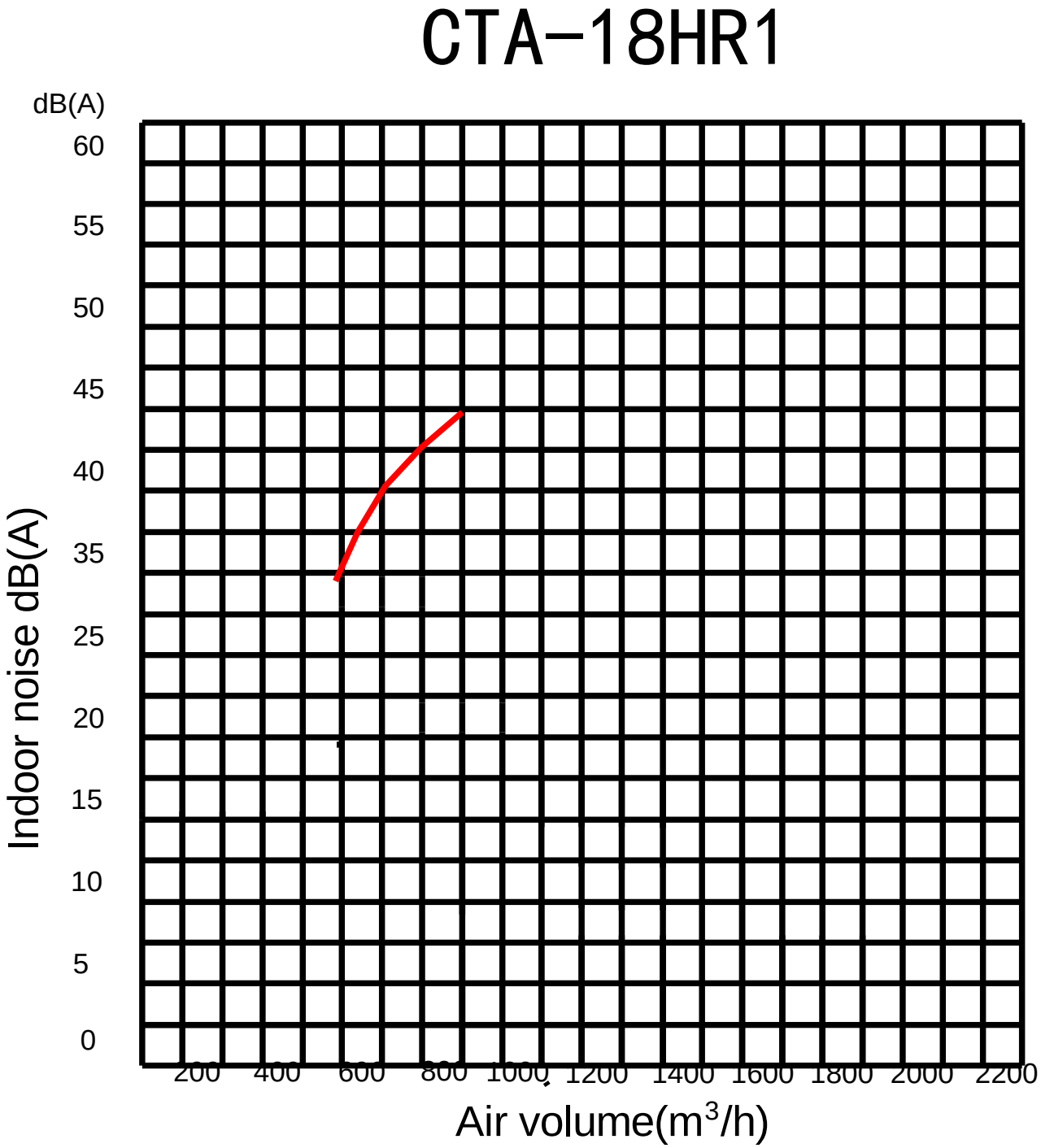


8.Electric Characteristics

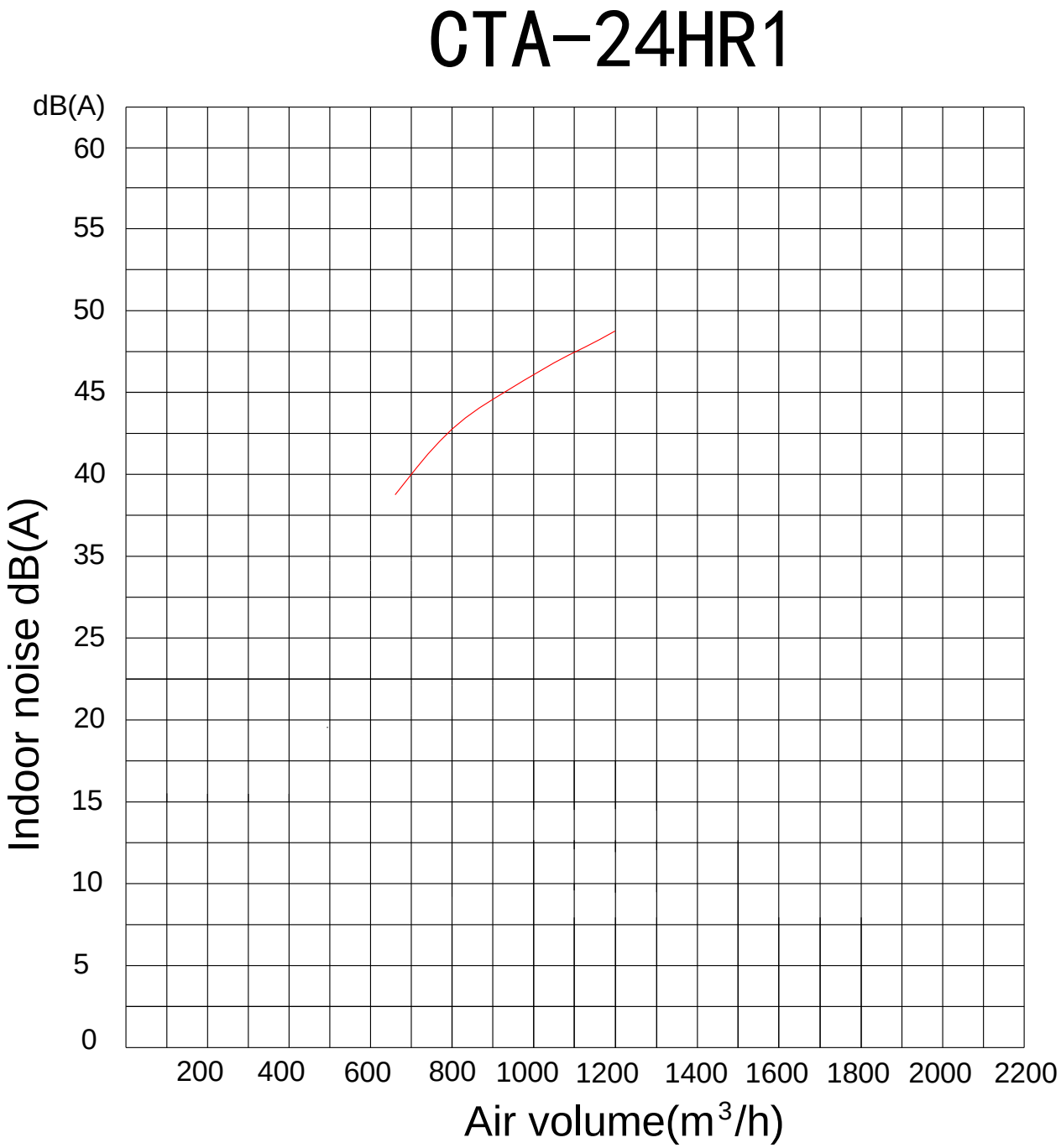
Model	Indoor Units				Indoor Fan Motor
	Hz	Voltage	Min.	Max.	kW
CTA-18HR1	50	220-240V	198V	254V	0.07
CTA-24HR1	50	220-240V	198V	254V	0.15
CTB-24HR1	50	220-240V	198V	254V	0.25
CTB-36HR1	50	220-240V	198V	254V	0.30
CTB-48HR1	50	220-240V	198V	254V	0.34
CTB-60HR1	50	220-240V	198V	254V	0.34
CTB-48HR1-B	50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

9.Sound Levels

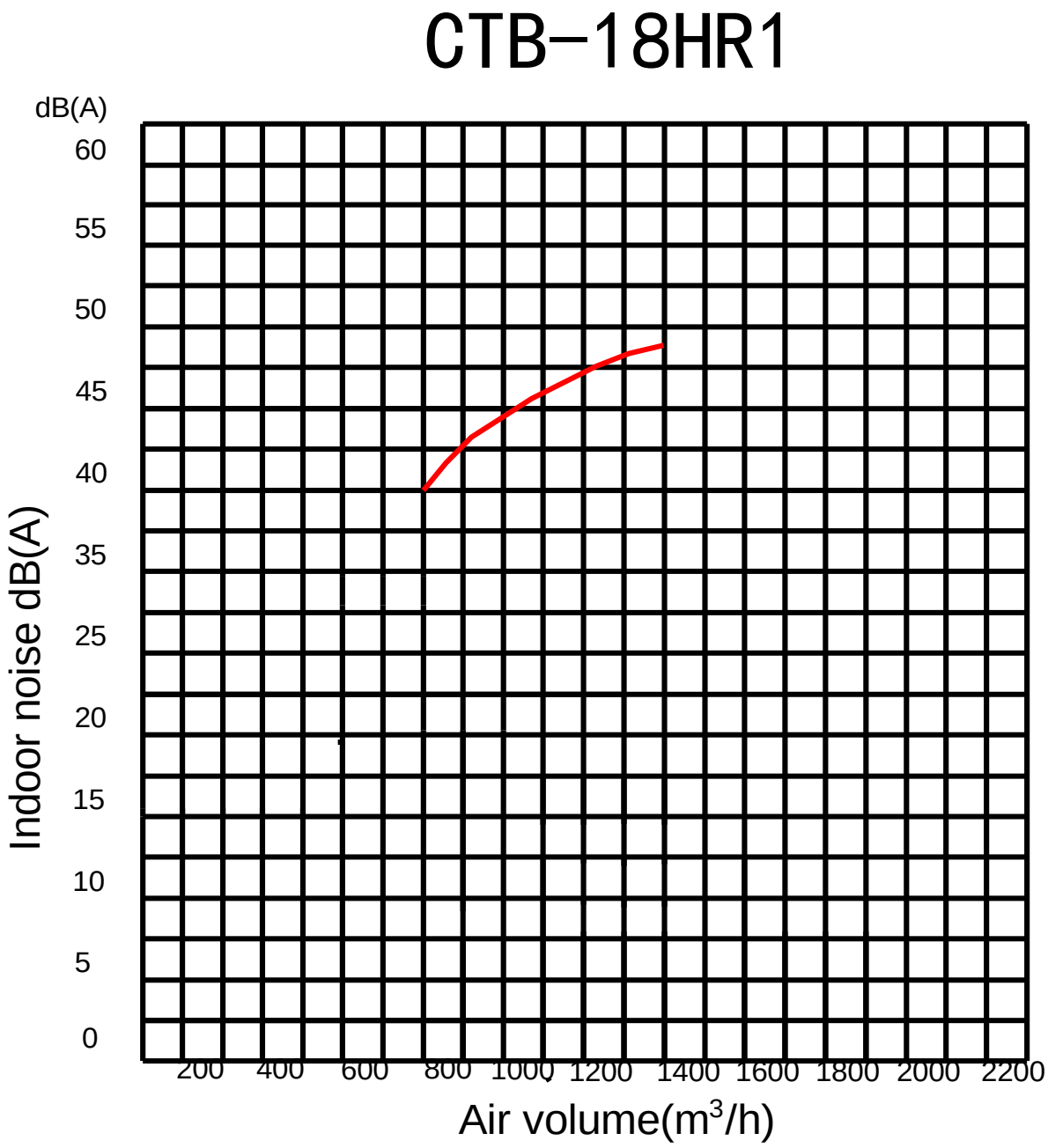
9.1 CTA-18HR1



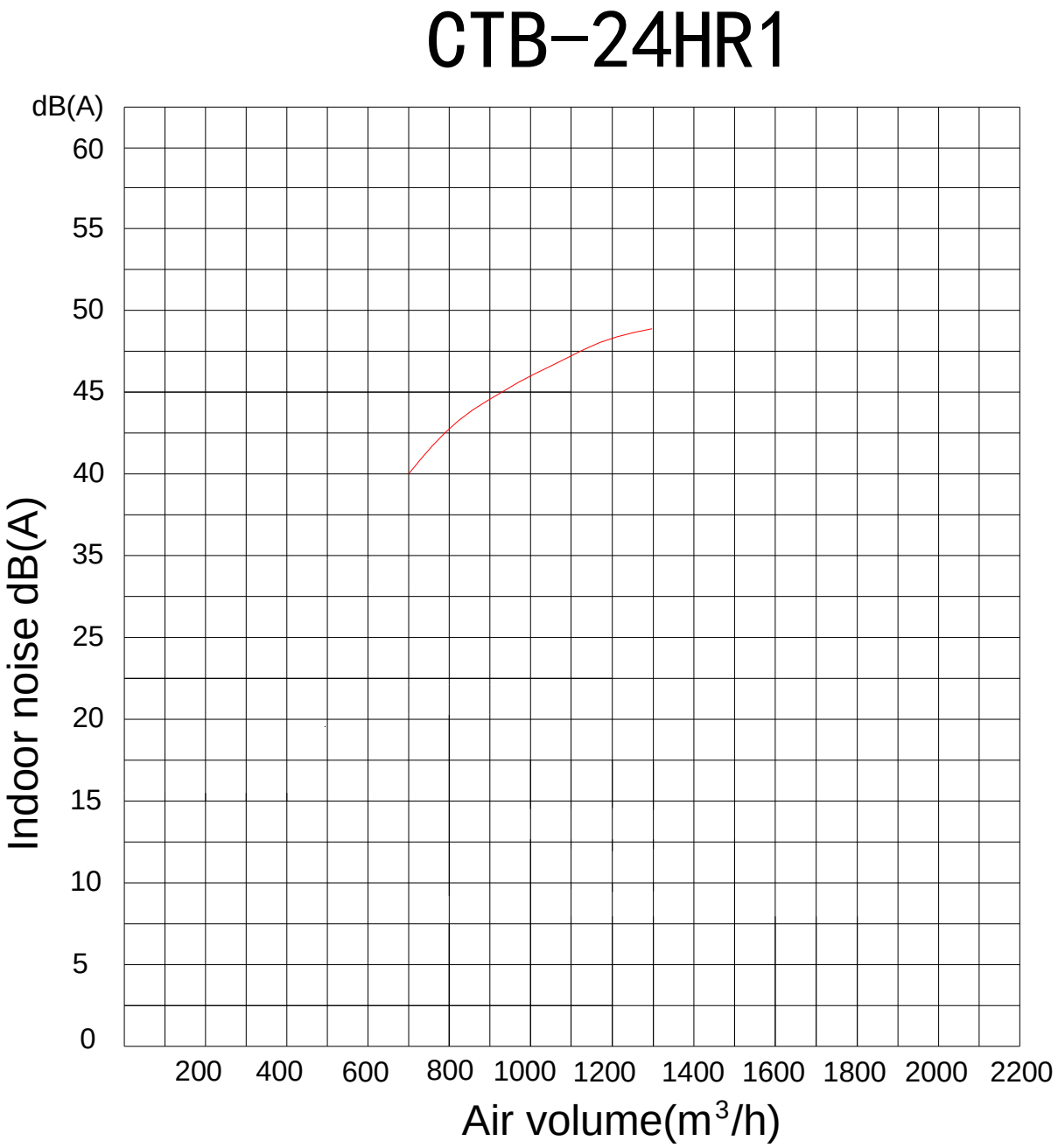
9.2 CTA-24HR1


CTA-24HR1
dB(A)
60
55
50
45
40
35
25
20
15
10
5
0
Indoor noise dB(A)
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Air volume(m3/h)

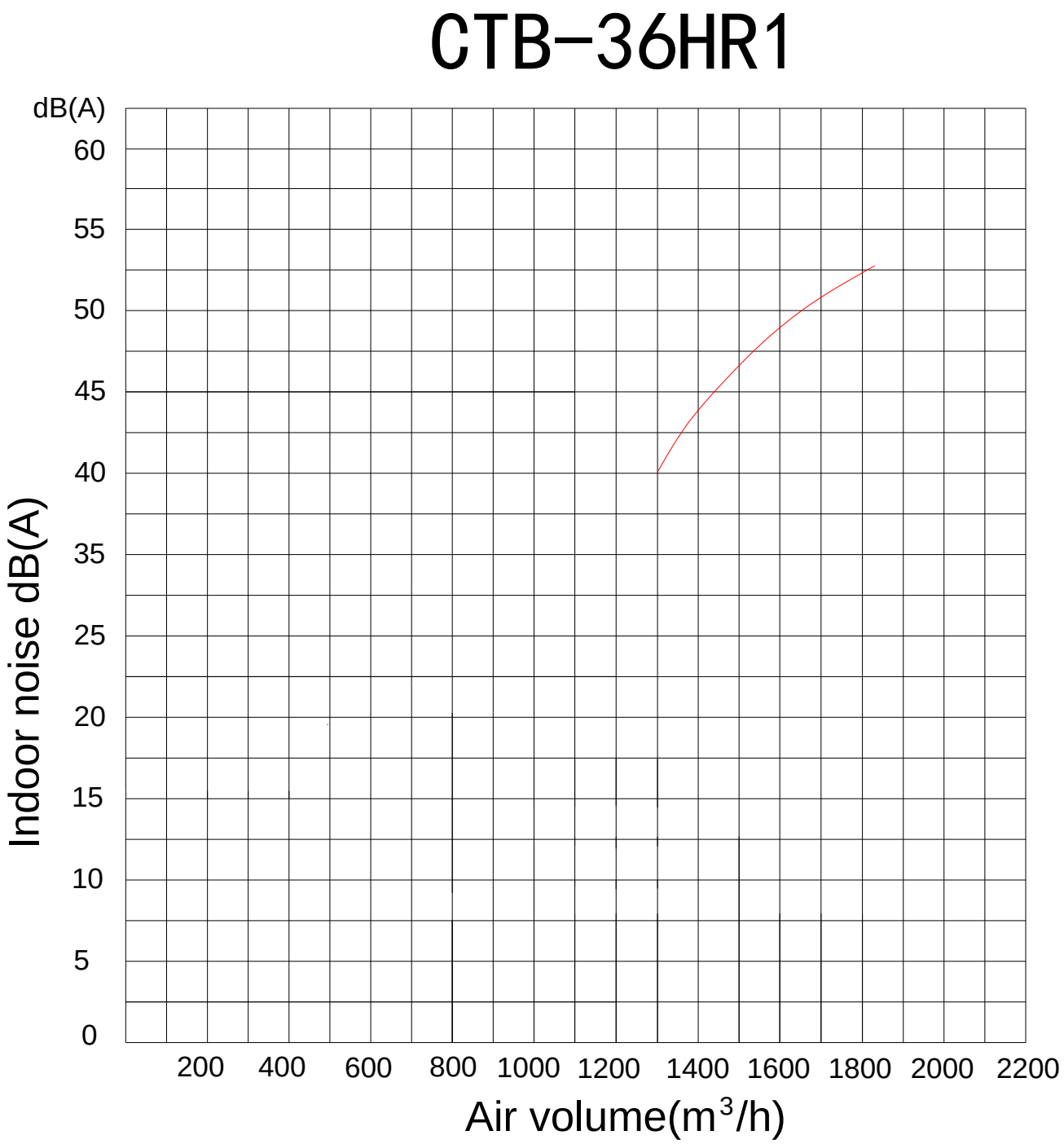
9.3 CTB-18HR1


CTB-18HR1
dB(A)
60
55
50
45
40
35
25
20
15
10
5
0
Indoor noise dB(A)
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Air volume(m3/h)

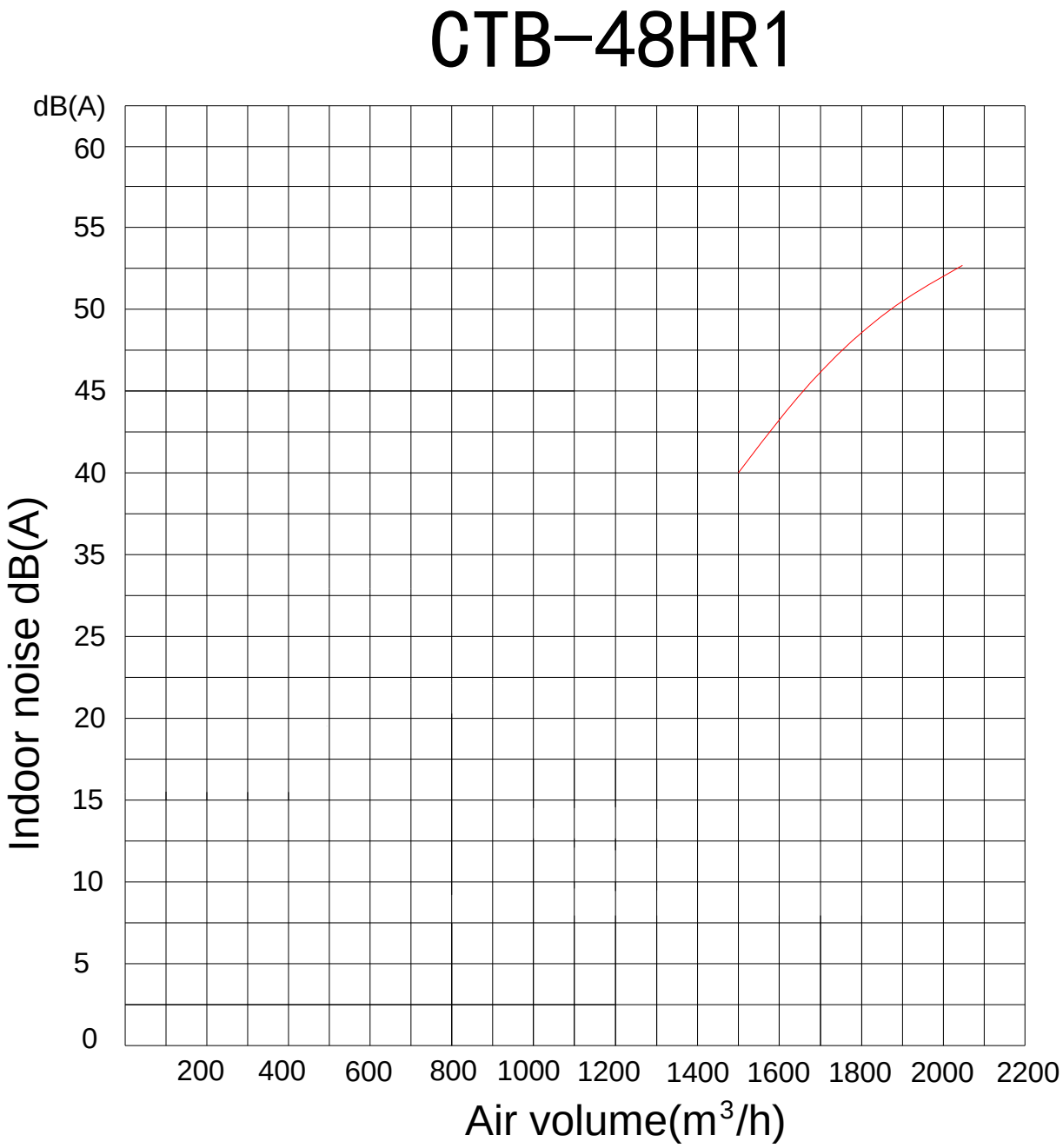
9.4 CTB-24HR1


CTB-24HR1
dB(A)
60
55
50
45
40
35
25
20
15
10
5
0
Indoor noise dB(A)
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Air volume(m3/h)

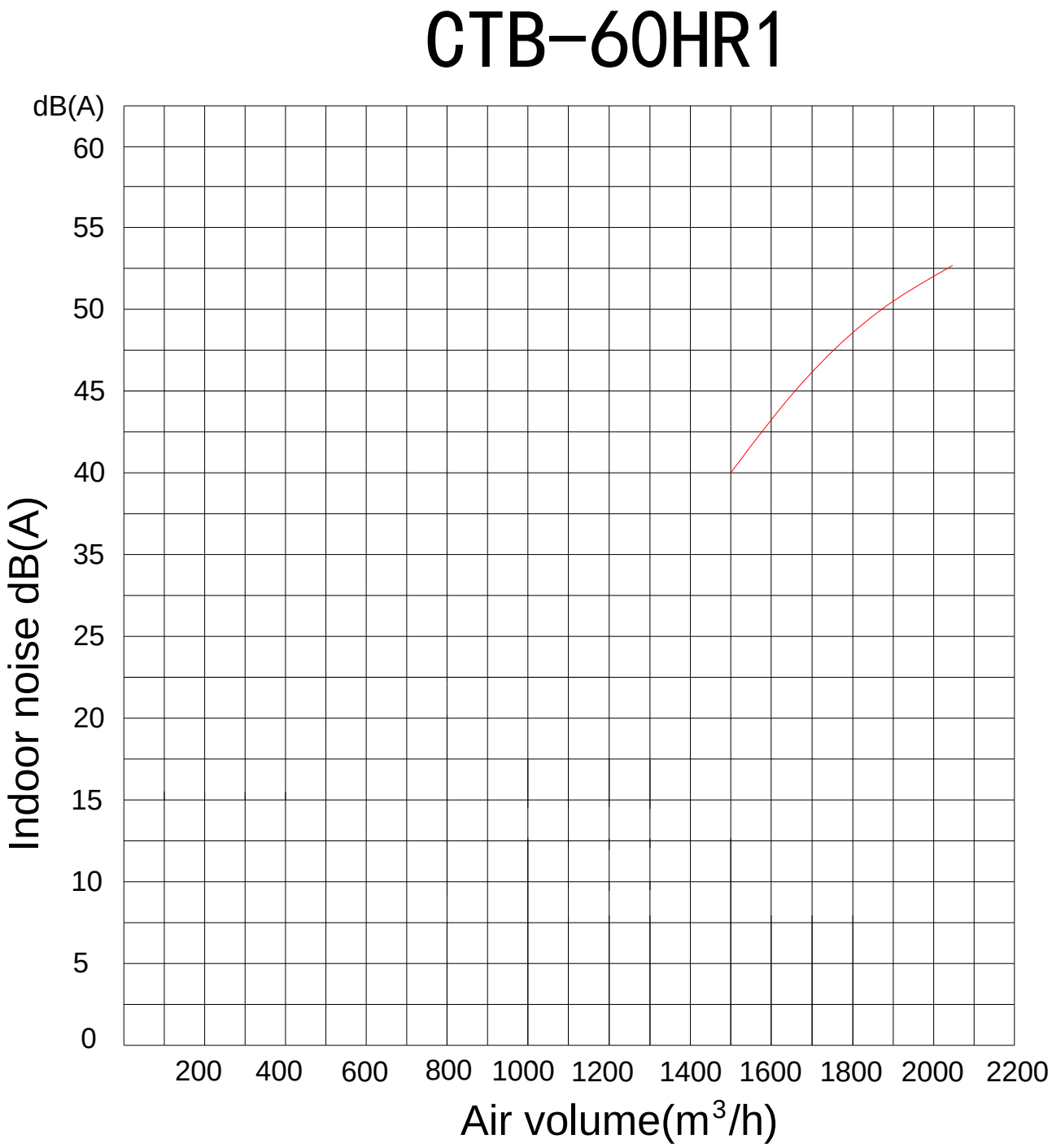
9.5 CTB-36HR1


CTB-36HR1
dB(A)
60
55
50
45
40
35
25
20
15
10
5
0
Indoor noise dB(A)
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Air volume(m3/h)

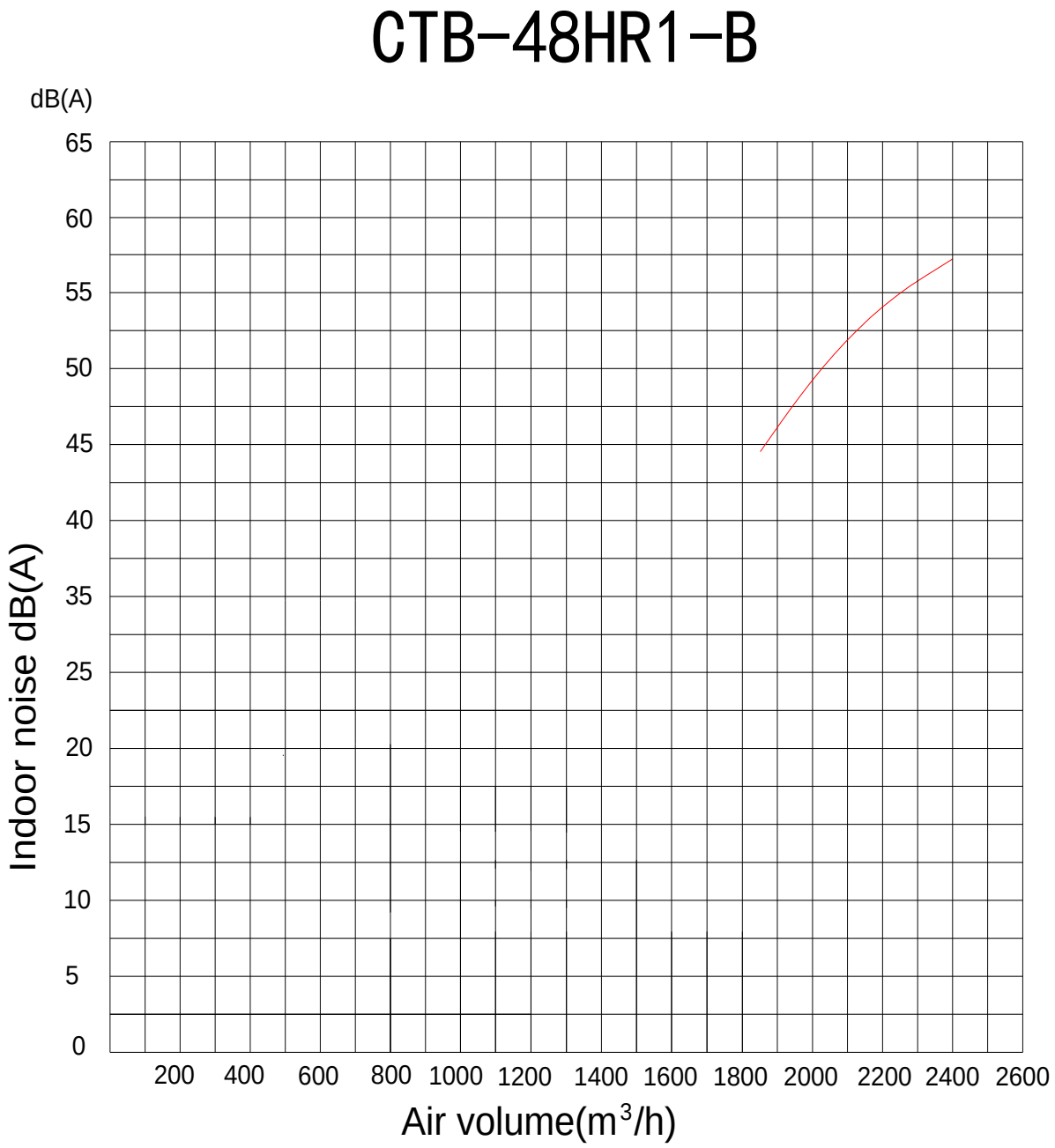
9.6 CTB-48HR1


CTB-48HR1
dB(A)
60
55
50
45
40
35
25
20
15
10
5
0
Indoor noise dB(A)
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Air volume(m3/h)

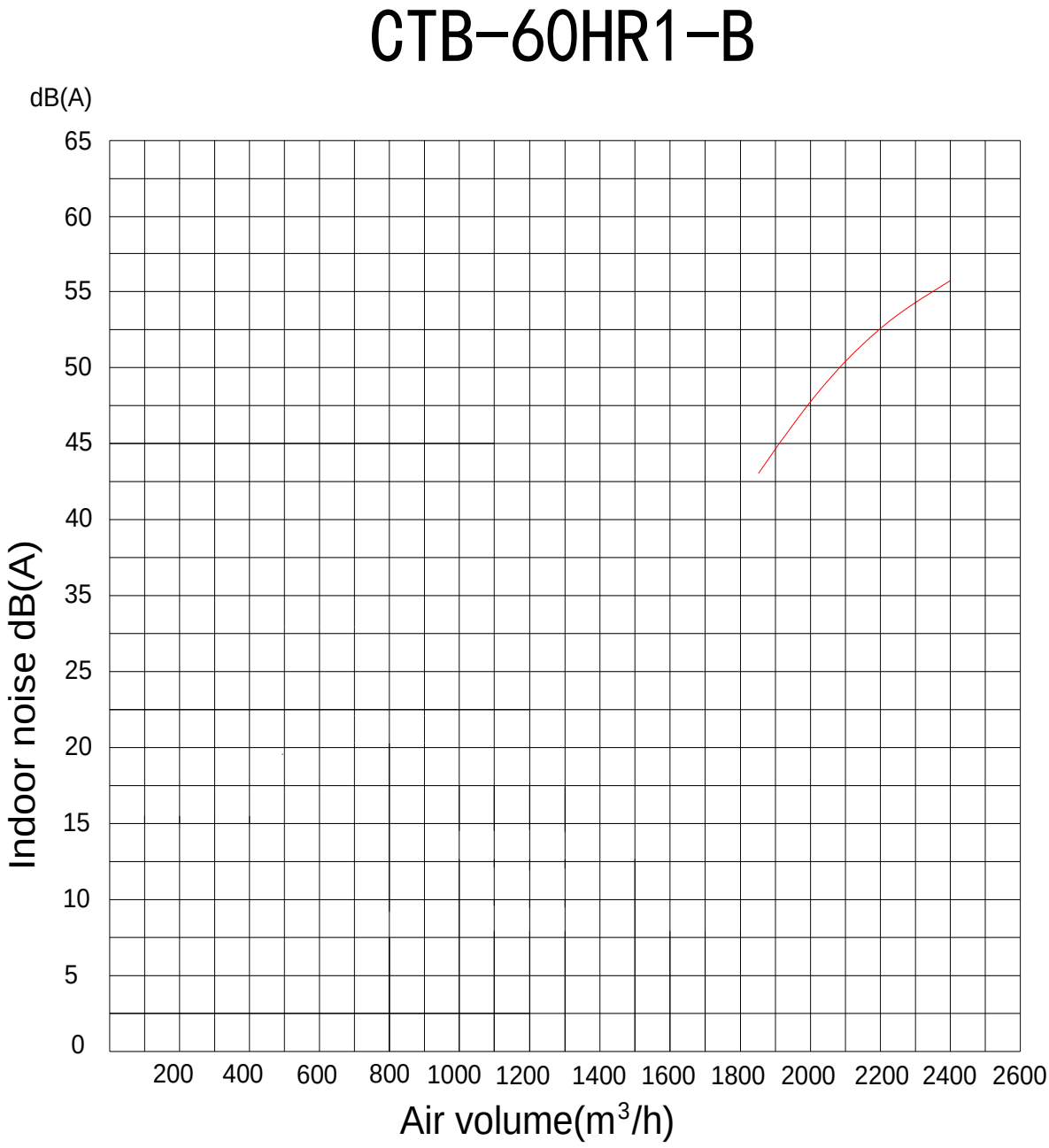
9.7 CTB-60HR1


CTB-60HR1
dB(A)
60
55
50
45
40
35
25
20
15
10
5
0
Indoor noise dB(A)
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Air volume(m3/h)

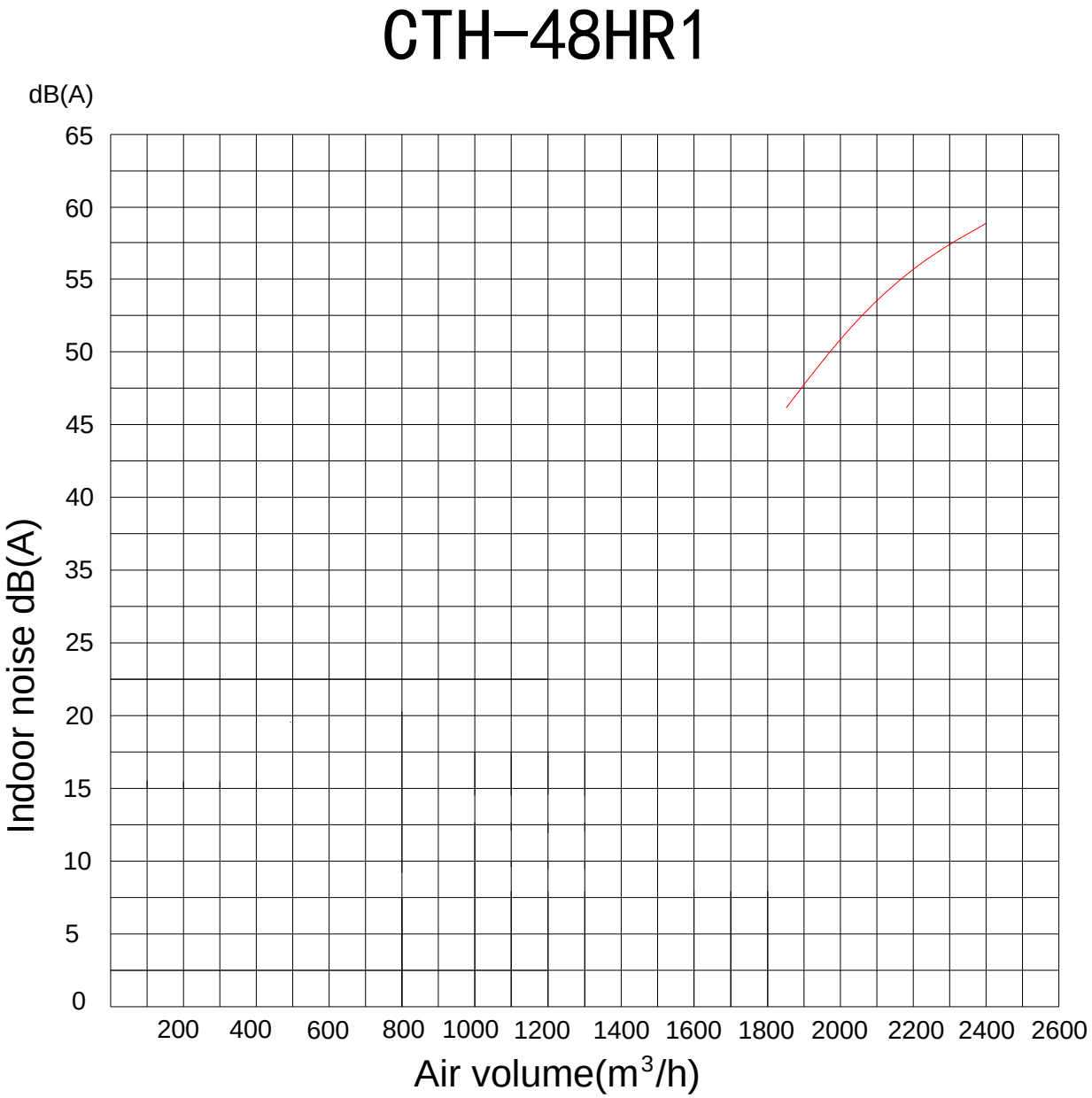
9.8 CTB-48HR1-B



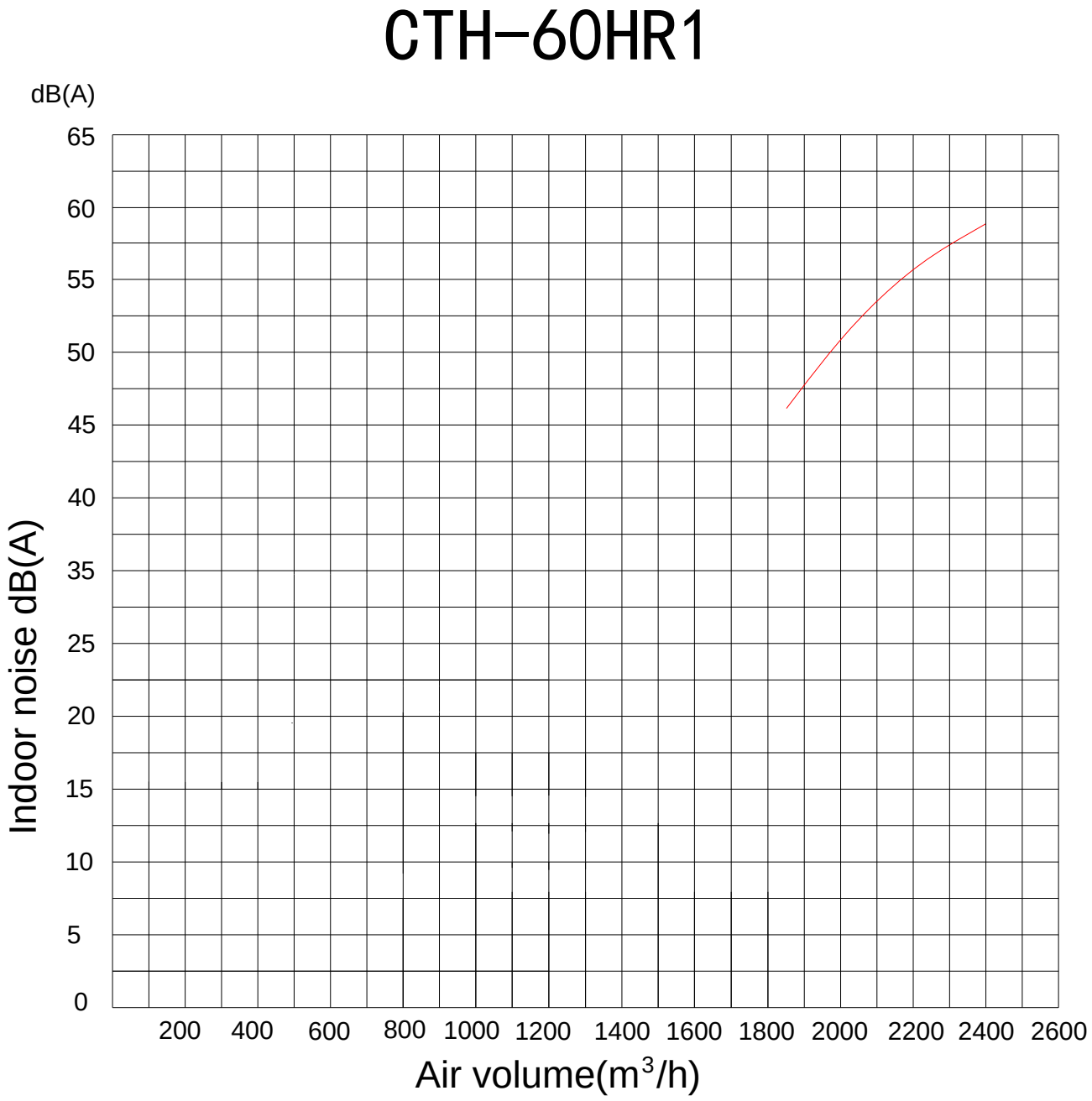
9.9 CTB-60HR1-B



9.10 CTH-48HR1



9.11 CTH-60HR1



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

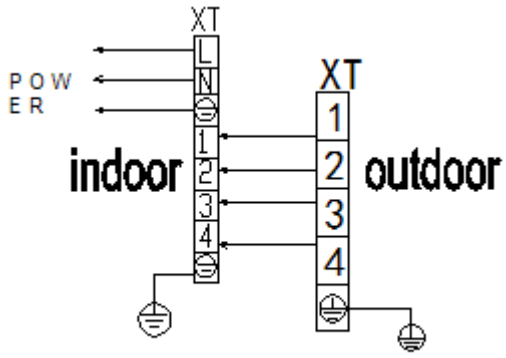
Type		CTA-18HR1	CTB-24HR1	CTB-36HR1	CTB-48HR1
Power	Phase	1-phase	1-phase	1-phase	1-phase
	Frequency and Voltage	220-240V, 50Hz			
Indoor Unit Power Wiring (mm^2)		$3\times1.5mm^2$	$3\times1.0mm^2$	$3\times1.0mm^2$	$3\times1.0mm^2$
Indoor/Outdoor Connecting Wiring (mm^2)		$5\times1.5mm^2$	$5\times1.0mm^2$	$5\times1.0mm^2$	$5\times1.0mm^2$

Type		CTB-60HR1	CTB-48HR1-B	CTB-60HR1-B
Power	Phase	1-phase	1-phase	1-phase
	Frequency and Voltage	220-240V, 50Hz		
Indoor Unit Power Wiring (mm^2)		$3\times1.0mm^2$	$3\times1.0mm^2$	$3\times1.0mm^2$
Indoor/Outdoor Connecting Wiring (mm^2)		$1.0mm^2$ $5\times1.0mm^2$	$1.0mm^2$ $5\times1.0mm^2$	$1.0mm^2$ $5\times1.0mm^2$

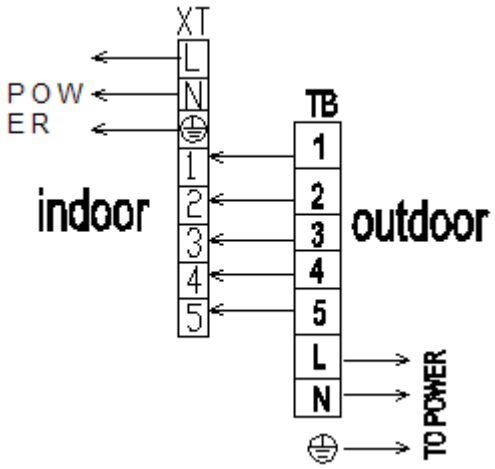
Type		CTH-48HR1	CTH-60HR1
Power	Phase	1-phase	1-phase
	Frequency and Voltage	220-240V, 50Hz	
Indoor Unit Power Wiring (mm^2)		$3\times1.0mm^2$	$3\times1.0mm^2$
Indoor/Outdoor Connecting Wiring (mm^2)		$1.0mm^2$ $5\times1.0mm^2$	$1.0mm^2$ $5\times1.0mm^2$

12.Field Wiring

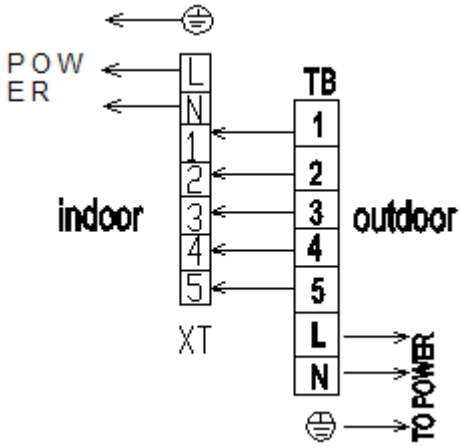
CTA-18HR1&COU-18HR1,CTB-18HR1&COU-18HR1



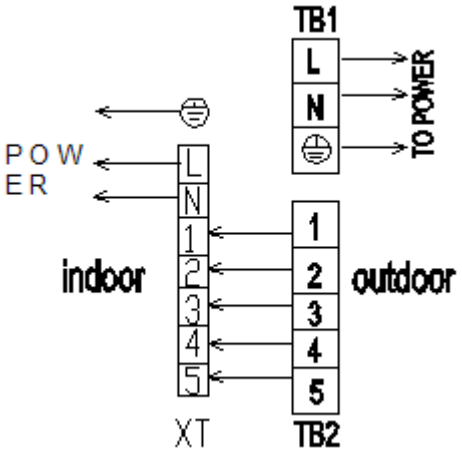
CTA-24HR1&COU-24HR1



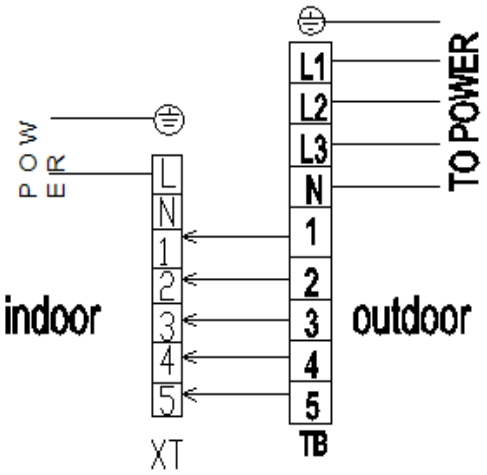
CTB-24HR1&COU-24HR1



CTB-36HR1&COU-36HR1

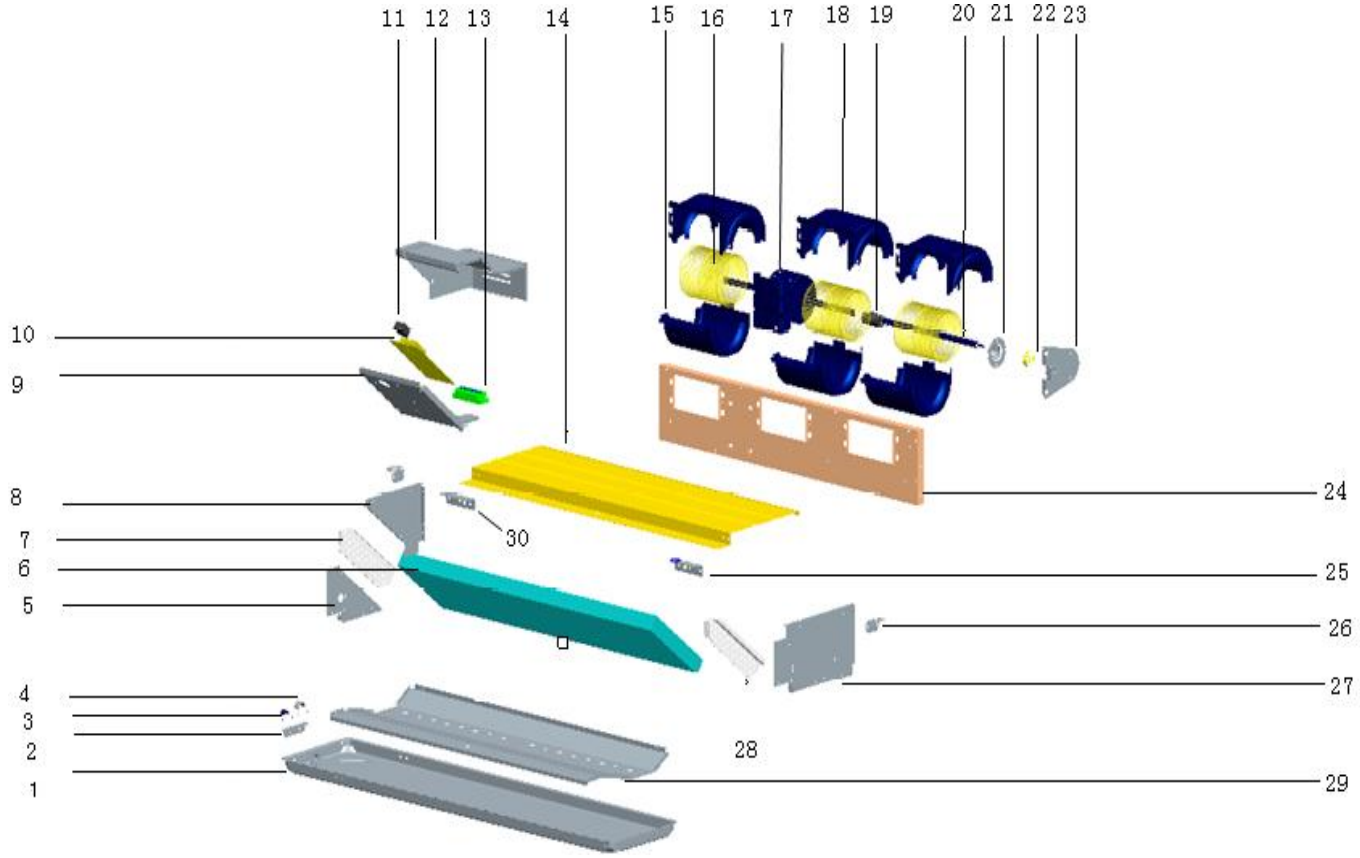


CTB-36HR1&COU-36HSR1 CTB-48HR1&COU-48HSR1 CTB-60HR1&COU-60HSR1
CTB-48HR1-B&COU-48HS1 CTB-60HR1-B&COU-60HSR1
CTH-48HR1&COU-48HSR1 CTH- 60HR1&COU-60HSR1



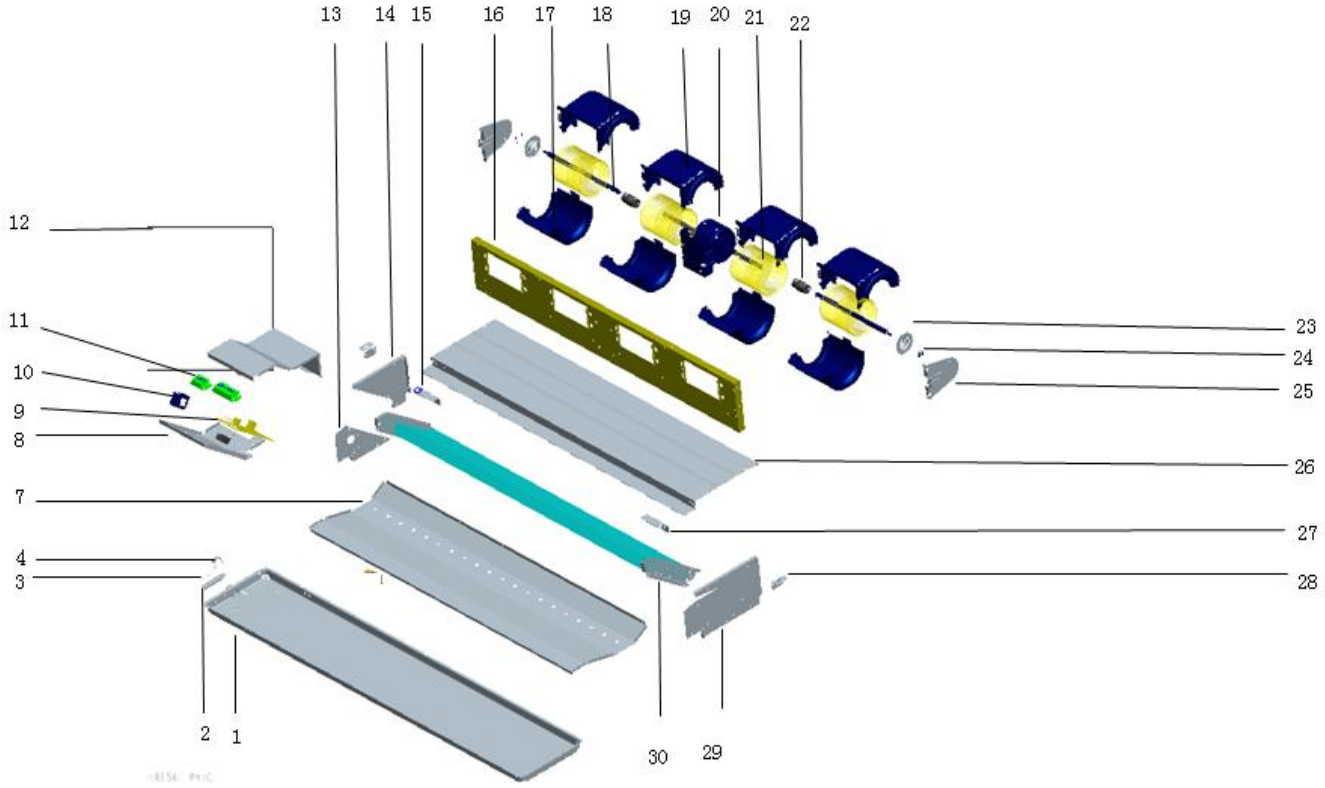
13.Exploded View

13.1 CTA-18HR1



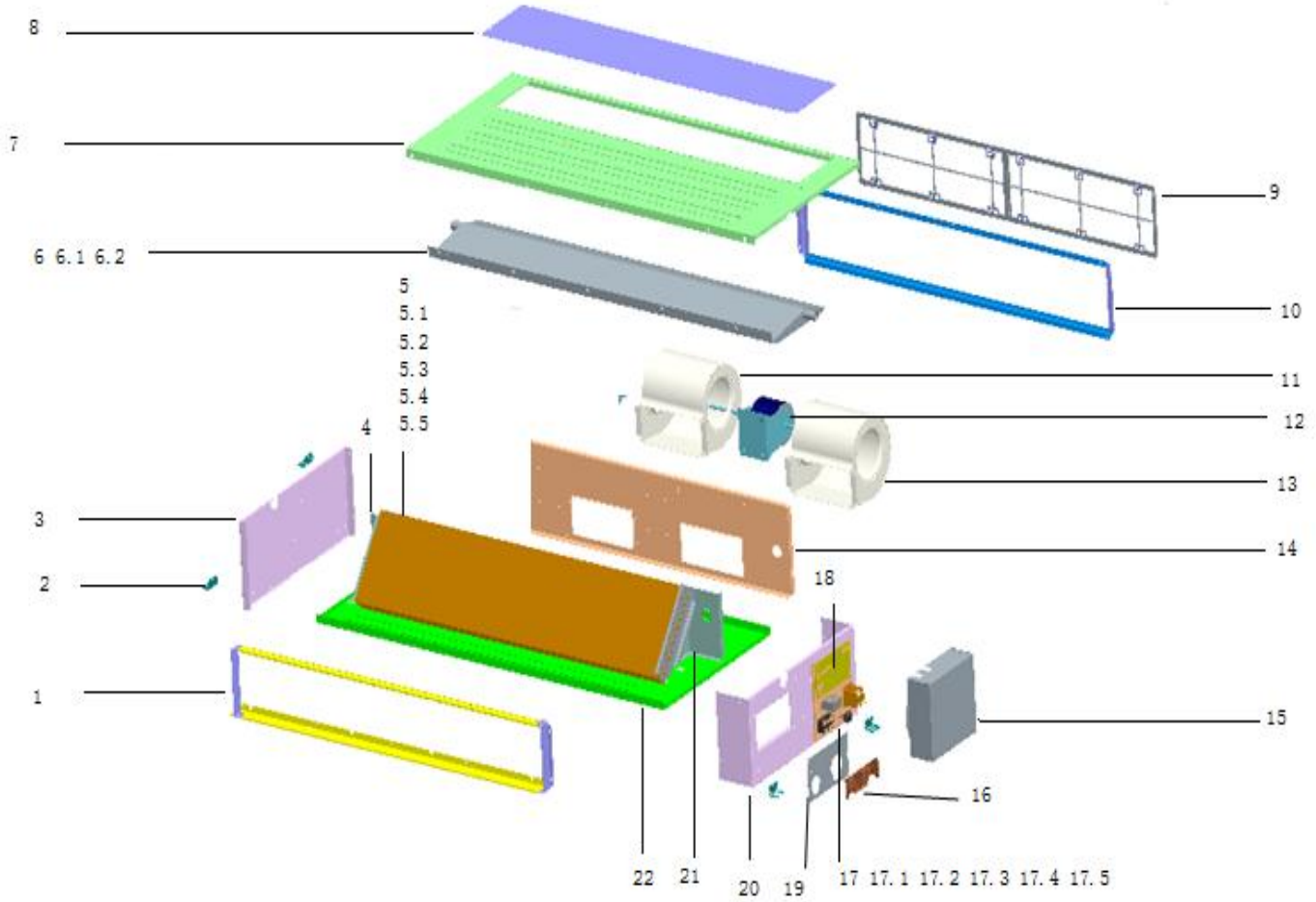
No.	Part Name	Quantity	No.	Part Name	Quantity
1	Welding assy for water collector	1	16	Centrifugal fan	3
2	Fixing board for inlet and outlet pipe	1	17	Fan motor	1
3	Pipe clamp 2	1	18	Upper scroll case	3
4	Pipe clamp 1	1	19	Coupling	1
5	Front-left clapboard	1	20	Axis2	1
6	Evaporator	1	21	Louver fixing board assy	1
7	Left end plate of Evaporator	1	22	No.13 Bearing holder	1
8	Rear-left clapboard	1	23	Motor support	1
9	Installing board for E-parts	1	24	Fan fixing board assy	1
10	Main control board	1	25	Front hanger B	1
11	PTC transformer	1	26	hanger	2
12	E-parts box cover assy	1	27	Right clapboard	1
13	Terminal	1	28	Right end plate of Evaporator	1
14	Upper cover	1	29	Evaporator chassis	1
15	Lower scroll case	3	30	Front hanger A	1

13.2 CTA-24HR1



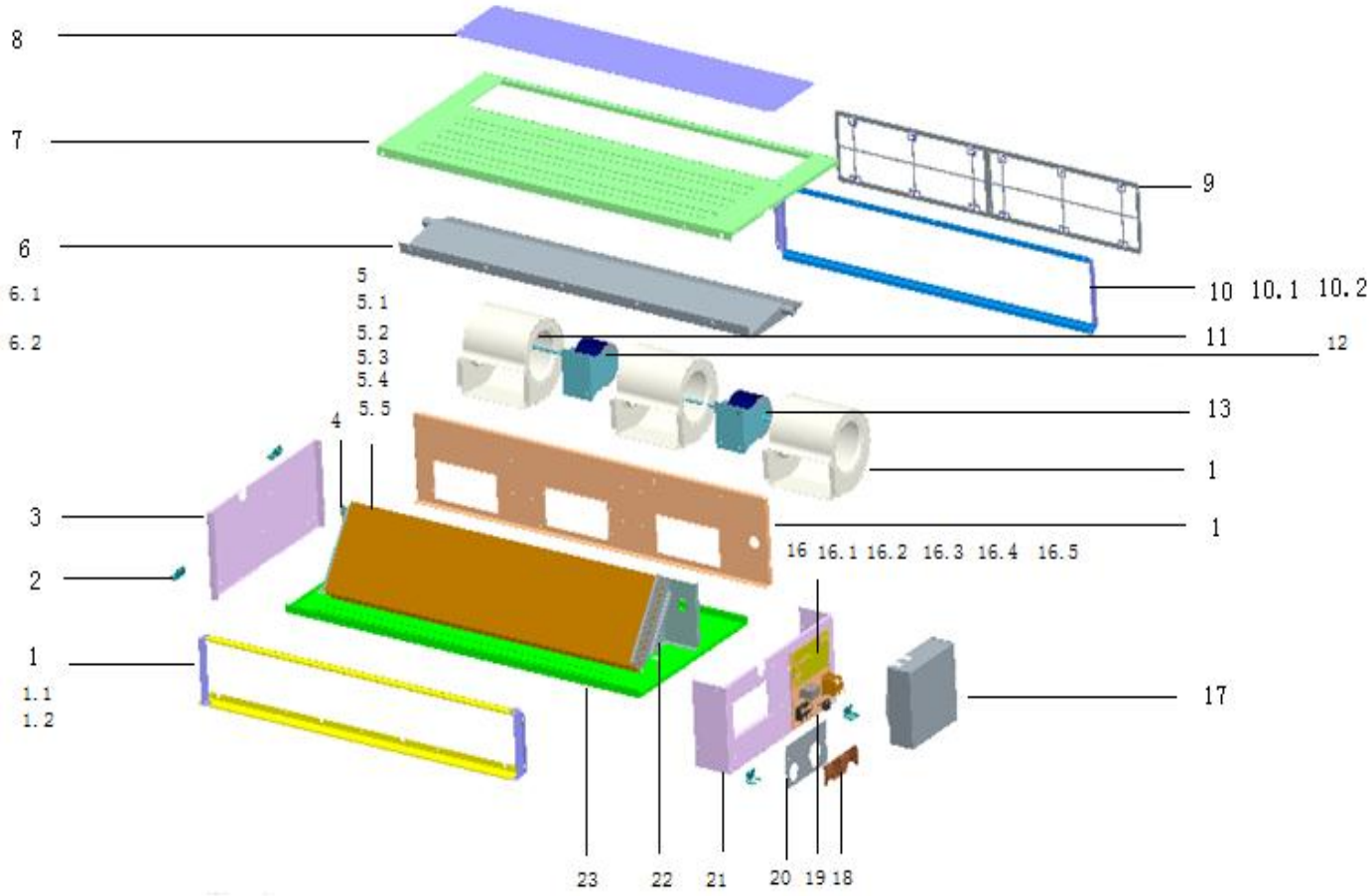
No.	Part Name	Quantity	No.	Part Name	Quantity
1	Welding assy for water collector	1	20	Fan motor	1
2	Fixing board for inlet and outlet pipe	1	21	Centrifugal fan	4
3	Pipe clamp 2	1	22	Coupling	2
4	Pipe clamp 1	1	23	Louver fixing board assy	2
7	Evaporator chassis	1	24	No.13 Bearing holder	2
8	Installing board for E-parts	1	25	Motor support	2
9	Main control board	1	26	Upper cover	1
10	PTC transformer	1	27	Front hanger B	1
11	Terminal	1	28	Hanger	2
12	E-parts box cover assy	1	29	Right clapboard	1
13	Front-left clapboard	1	30	Pre-welding assy for evaporator	1
14	Rear-left clapboard	1	30.1	Evaporator	1
15	Front hanger A	1	30.2	Distributing capillary assy for indoor unit	1
16	Fan fixing board assy	1	30.3	Collecting pipe assy	1
17	Lower scroll case	4	30.4	Installation tube for probe	1
18	Axis2	2	30.5	Installation spring for probe	1
19	Upper scroll case	4			

13.3 CTB-18HR1, CTB-24HR1



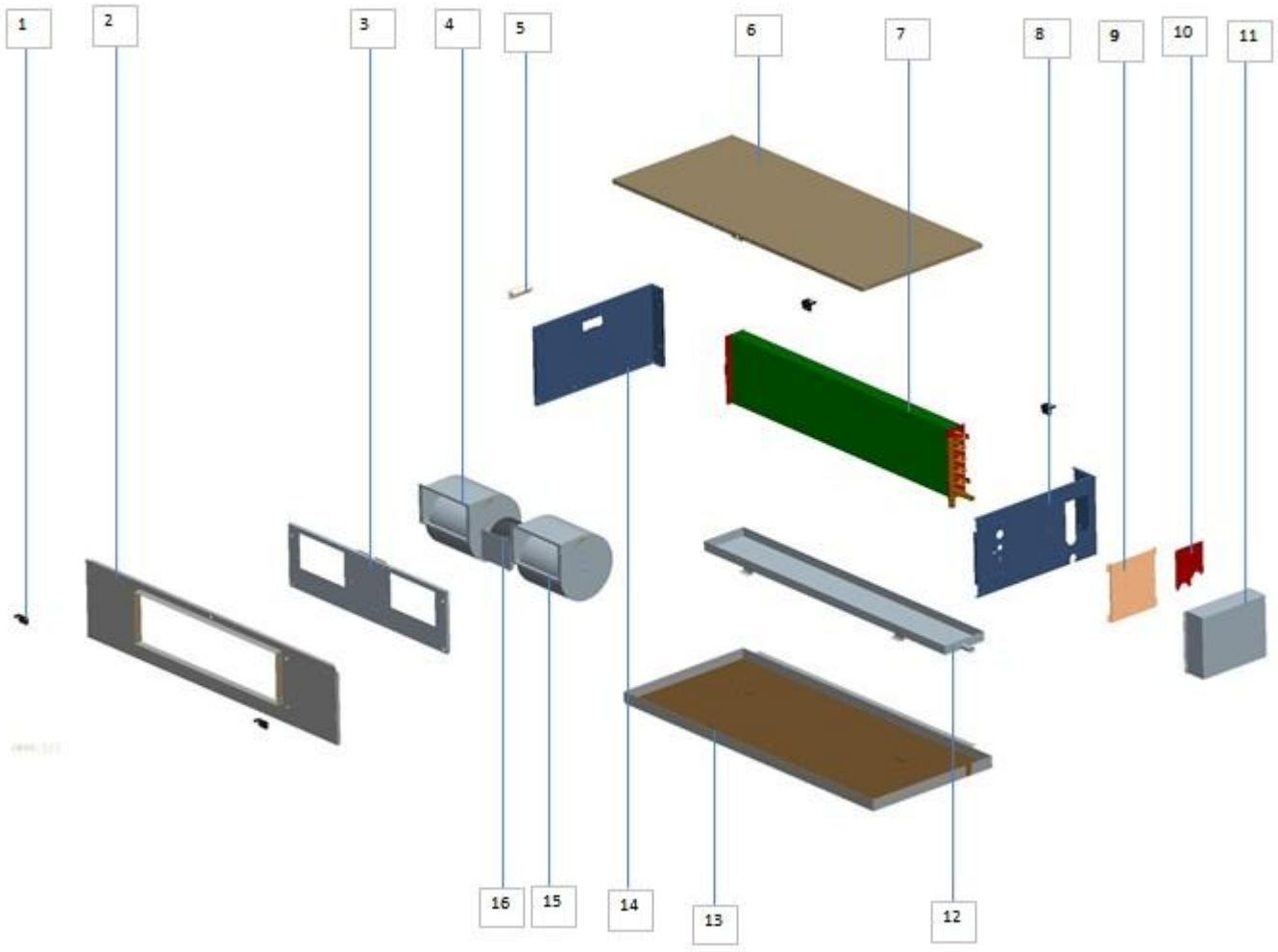
No.	Part Name	Quantity	No.	Part Name	Quantity
1	outlet assy	1	11	scroll case(left)	1
2	hanger	4	12	Fan motor	1
3	left clapboard	1	13	scroll case(right)	1
4	Left end plate of Evaporator	1	14	Fan fixing board assy	1
5	Evaporator assy	1	15	E-parts box cover assy	1
5.1	Transition tube	6	16	Small cover plate	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

13.4 CTB-36HR1, CTB-48HR1, CTB-60HR1



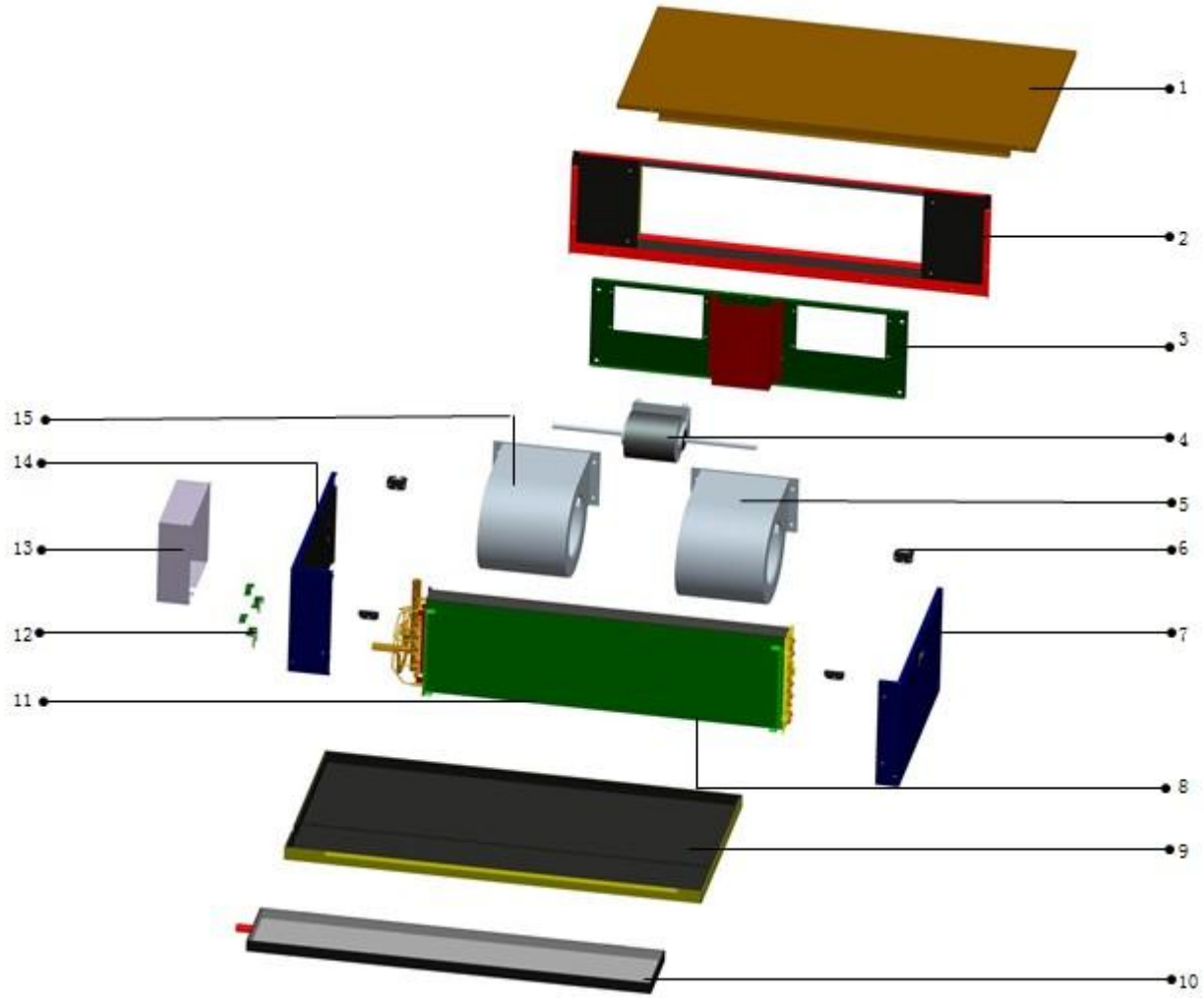
No.	Part Name	Quantity	No.	Part Name	Quantity
1	outlet assy	1	10.2	return air left-right rail	2
1.1	outlet left-right rail	2	11	scroll case(left)	1
1.2	outlet upper-lower rail	2	12	Fan motor	1
2	hanger	4	13	Fan motor	1
3	left clapboard	1	14	scroll case(right)	2
4	Left end plate of Evaporator	1	15	Fan 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			

13.5 CTB-48HR1-B, CTH-48HR1



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Hanger	4	9	Base plate for E-parts box	1
2	Front panel welded assy	1	10	Valve panel	1
3	Fixing board welded assy for fan	1	11	Cover for E-parts box	1
4	Right wind wheel scroll case	1	12	Water pan welded assy	1
5	Handle	1	13	Base plate welded assy	1
6	Top cover	1	14	Left clapboard	1
7	Evaporator welded assy	1	15	Left wind wheel scroll case	1
8	Right clapboard	1	16	Twin screw Motor for indoor unit	1

13.6 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

No.	Type	Content	Code	Remark
1	Fault	Room temperature sensor fault	E2	Automatic recovery after the problem resolved
2	Fault	Indoor coil temperature sensor fault	E3	
3	Fault	Outdoor coil temperature sensor fault	E5	
4	Fault	Water full protection	F5	
5	Fault	Outdoor protection	F2	
6	Fault	Communication fault	E1	Manual eliminate
7	Fault	EEPROM communication fault	P6	Recovery after interruption of power supply
8	Indication	Enforced cooling	/	
9	Indication	Anti- cool air in heating mode	P1	
10	Indication	Defrosting	P3	

Floor & Ceiling

1.Features

1. Flexible installation, ceiling suspended and floor standing.


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

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

4. Washable air filter

5. LED display 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. Adopting waterproof plastic film on water collector, avoiding water leakage.

8. Self-diagnostic function and multi protection.

9. Auto-restart function.

10. Standard for wireless controller; option for wired controller

Standard

Optional

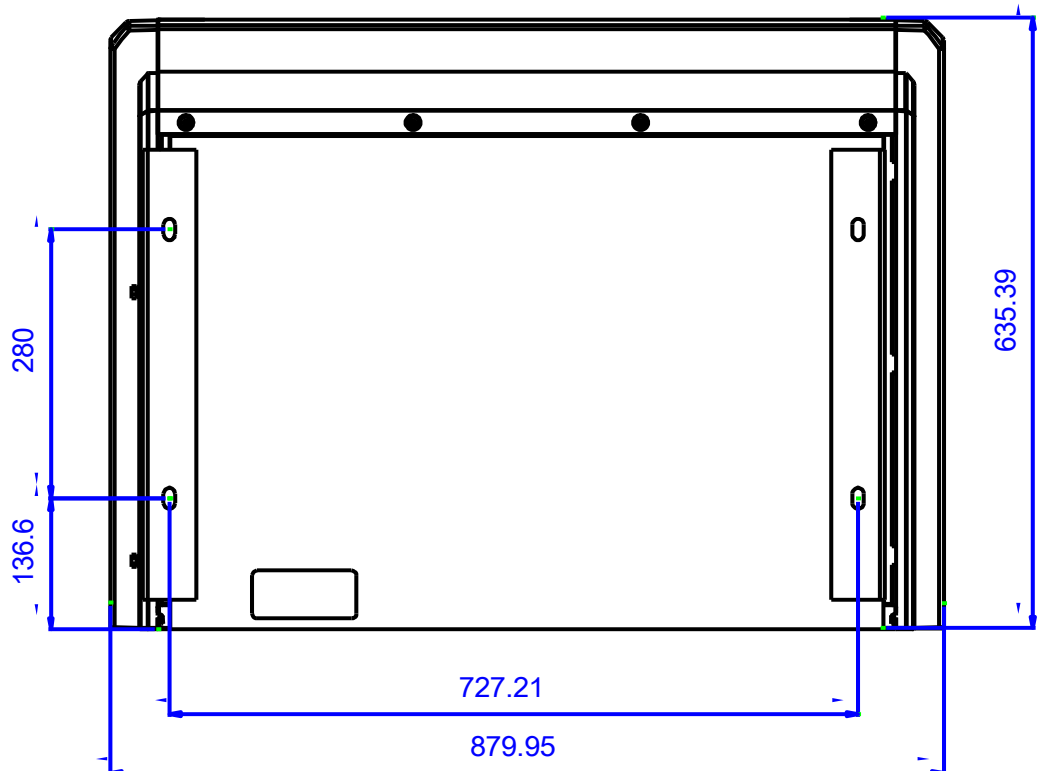
2.Specifications

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	2.7	2.78	2.62
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	3.3	3.47	3.19
Indoor fan motor	Model		YSK110-65LD-4P 3H85	YSK110-75LD-4P 2	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
	Tube pitch(a) x row pitch(b)	mm	25×21.65	25×21.65	25×21.65
	Fin spacing	mm	2	1.4	1.7
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ9.52	Φ9.52	Φ9.52
			inner grooved	inner grooved	inner grooved
	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	1325×770×325	1325×770×325
	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

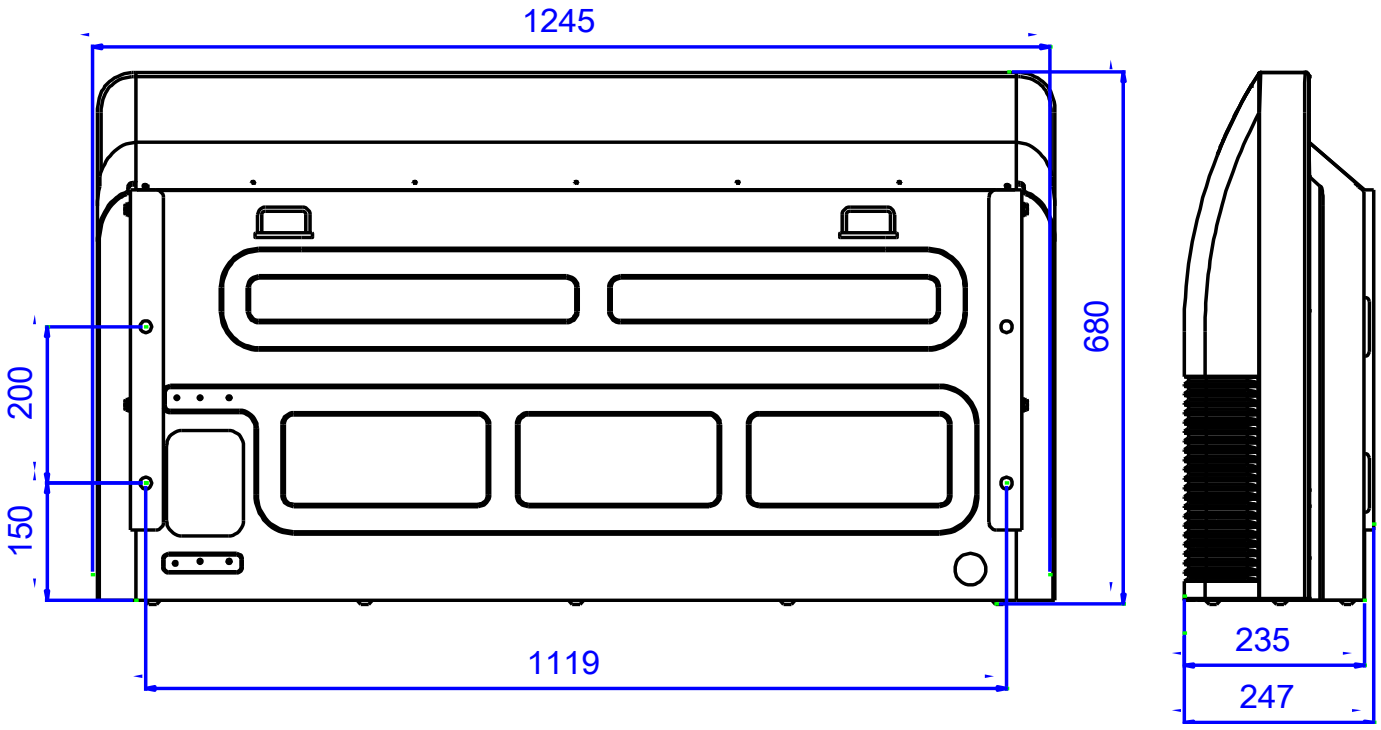
Model			CUA-48HR1	CUA-60HR1
Indoor power supply		V/Ph/Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz
Cooling	Capacity	Btu/h	48000	60000
		KW	14	16
	Input	W	260	260
	Rated current	A	1.15	1.15
	EER	W/W	2.63	2.65
Heating	Capacity	Btu/h	52000	60000
		KW	15.2	16.0
	Input	W	260	260
	Rated current	A	1.15	1.15
	COP	W/W	2.84	2.71
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
	Tube pitch(a) x row pitch(b)	mm	25×21.65	25×21.65
	Fin spacing	mm	1.5	1.5
	Fin type		Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ9.52	Φ9.52
			inner grooved	inner grooved
	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	1750×770×325	1750×770×325
	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

3.Dimensions

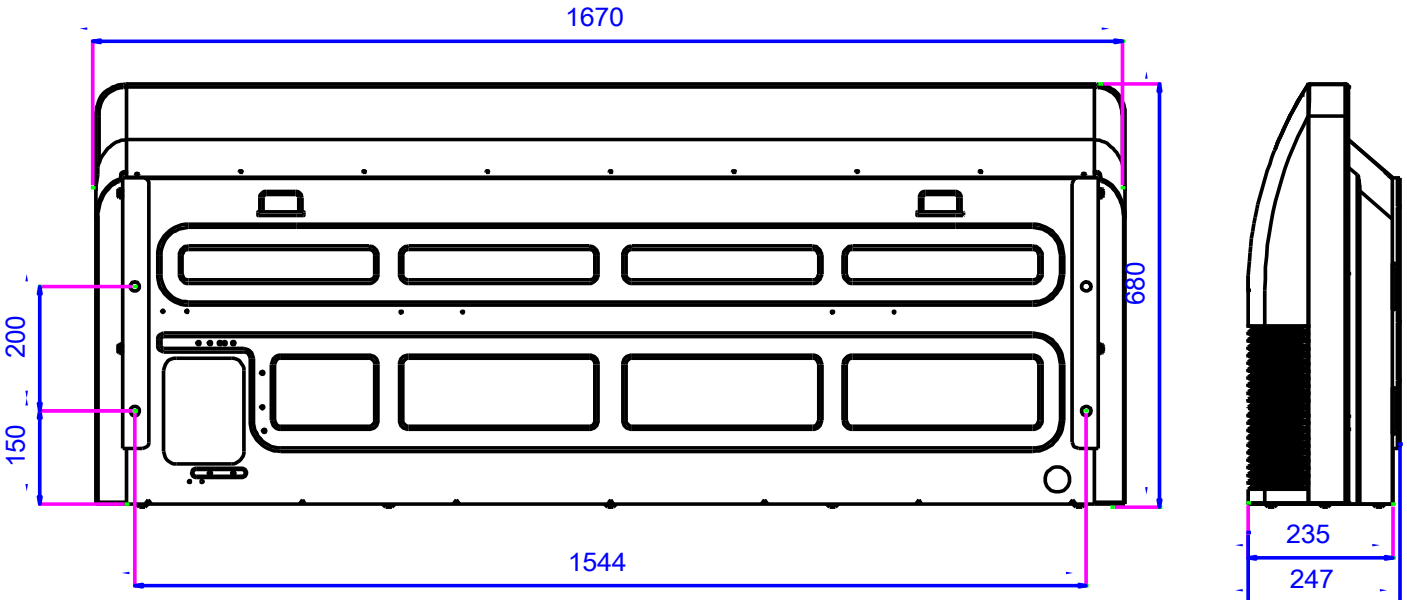
3.1 CUA-18HR1



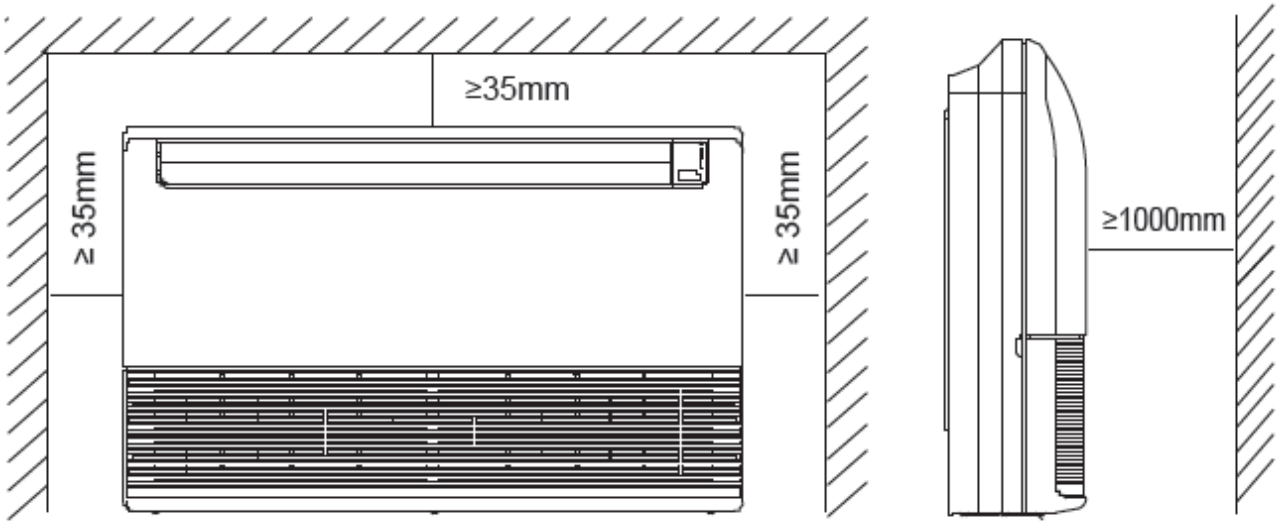
3.2 CUA-24HR1, CUA-36HR1



3.3 CUA-48HR1, CUA-60HR1

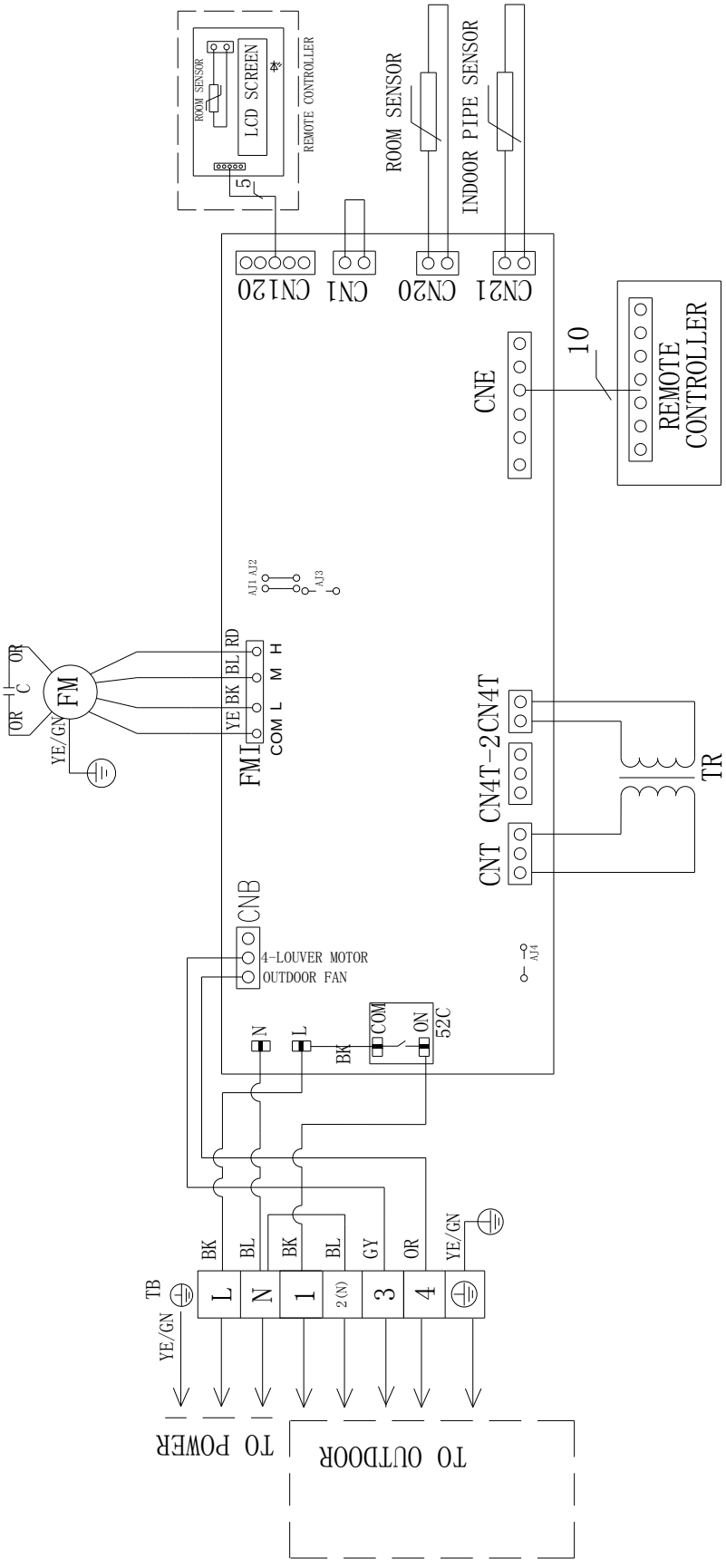


4.Service Space

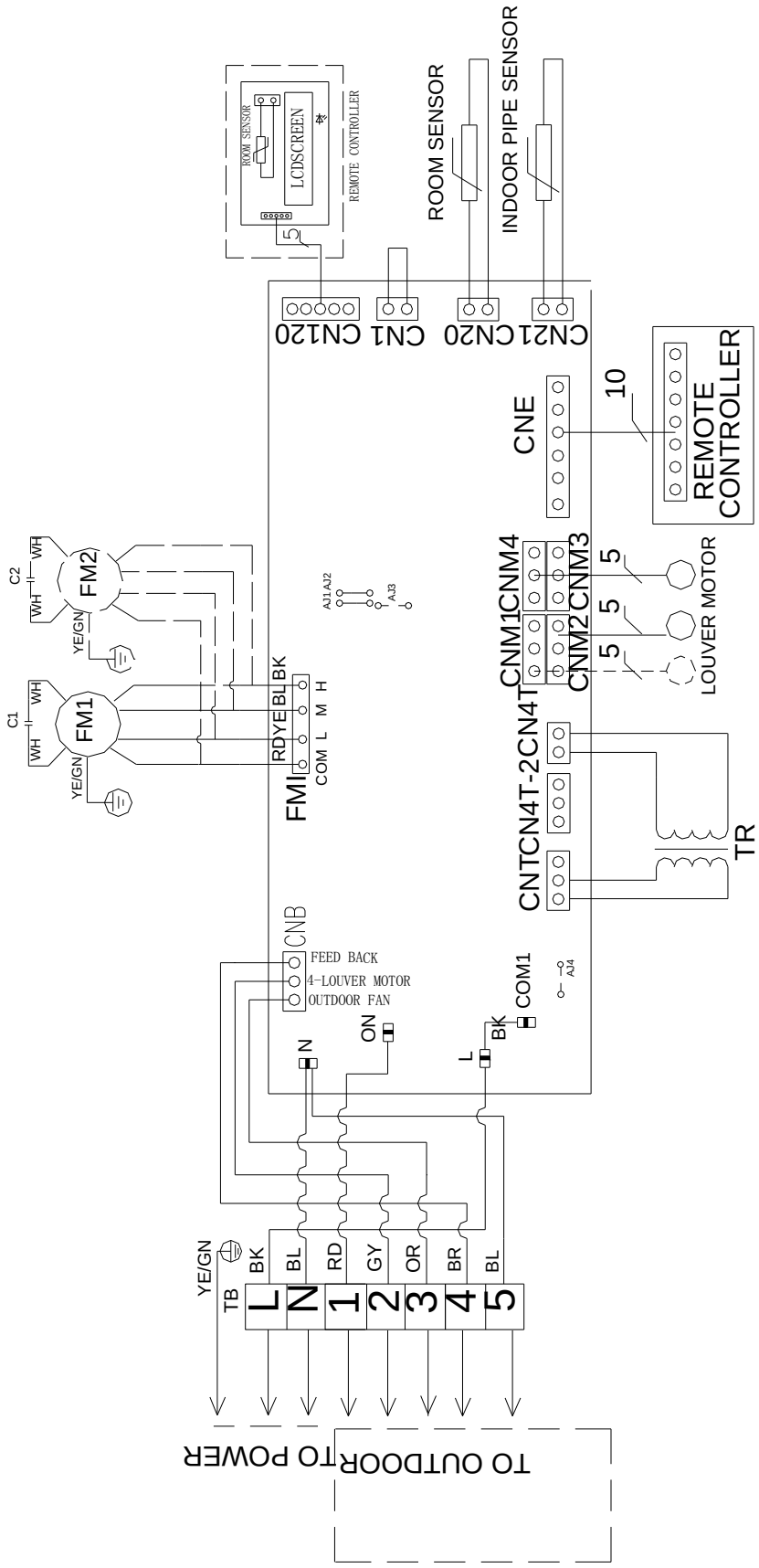


5.Wiring Diagrams

5.1 CUA-18HR1



5.2 CUA24HR1,CUA-36HR1,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	45ºC
21ºC D 15ºC W	Total capacity Kw	5.21	4.98	4.79	4.52	4.36	4.21
	Sensitive capacity kW	4.16	3.96	3.84	3.61	3.47	3.35
	Input kW.	1.18	1.36	1.53	1.69	1.86	2.03
24ºC D 17ºC W	Total capacity kW	5.7	5.47	5.26	4.95	4.78	4.61
	Sensitive capacity kW	4.56	4.35	4.2	3.96	3.811	3.71
	Input kW.	1.21	1.42	1.61	1.79	1.97	2.15
27ºC D 19ºC W	Total capacity kW	6.2	5.95	5.71	5.3	5.16	5.01
	Sensitive capacity kW	4.95	4.74	4.55	4.31	4.13	4.03
	Input kW.	1.31	1.51	1.71	1.78	2.07	2.26
32ºC D 23ºC W	Total capacity kW	7.13	6.84	6.57	6.22	5.94	5.77
	Sensitive capacity kW	5.69	5.45	5.25	4.95	4.75	4.62
	Input kW.	1.51	1.72	1.96	2.17	2.38	2.61

6.2 CUA-24HR1

MODEL		CUA-24HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	6.85	6.55	6.31	5.94	5.71	5.54
	Sensitive capacity kW	5.47	5.24	5.04	4.75	4.56	4.43
	Input kW.	1.68	1.91	2.15	2.4	2.65	2.91
24ºC DB 17ºC WB	Total capacity kW	7.52	7.18	6.91	6.52	6.26	6.05
	Sensitive capacity kW	6.01	5.74	5.53	5.21	4.98	4.84
	Input kW.	1.78	2.01	2.27	2.52	2.78	3.06
27ºC DB 19ºC WB	Total capacity kW	8.15	7.79	7.51	7.10	6.81	6.58
	Sensitive capacity kW	6.51	6.24	5.98	5.66	5.44	5.26
	Input kW.	1.87	2.13	2.39	2.54	2.93	3.22
32ºC DB 23ºC WB	Total capacity kW	9.37	8.96	8.63	8.16	7.82	7.57
	Sensitive capacity kW	7.49	7.17	6.91	6.51	6.25	6.05
	Input kW.	2.15	2.42	2.75	3.05	3.39	3.69

6.3 CUA-36HR1

MODEL		CUA-36HR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	10.12	9.68	9.33	8.81	8.45	8.18
	Sensitive capacity kW	8.09	7.75	7.46	7.03	6.75	6.55
	Input kW.	2.34	2.68	3.02	3.41	3.73	4.07
24ºC DB 17ºC WB	Total capacity kW	11.1	10.61	10.23	9.64	9.26	8.96
	Sensitive capacity kW	8.87	8.48	8.16	7.72	7.42	7.15
	Input kW.	2.47	2.83	3.19	3.58	3.94	4.3
27ºC DB 19ºC WB	Total capacity kW	12.06	11.54	11.12	10.50	10.1	9.75
	Sensitive capacity kW	9.65	9.24	8.89	8.38	8.04	7.79
	Input kW.	2.64	3.03	3.37	3.79	4.15	4.48
32ºC DB 23ºC WB	Total capacity kW	13.86	13.26	12.78	12.06	11.58	11.21
	Sensitive capacity kW	11.09	10.61	10.23	9.65	9.26	8.97
	Input kW.	3.01	3.46	3.91	4.33	4.75	5.16

6.4 CUA-48HR1

MODEL		CUA-48HSR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	13.51	12.92	12.45	11.74	11.27	10.92
	Sensitive capacity kW	10.86	10.33	9.96	9.38	9.01	8.73
	Input kW.	2.95	3.41	3.85	4.21	4.68	5.12
24ºC DB 17ºC WB	Total capacity kW	14.84	14.16	13.63	12.86	12.35	11.96
	Sensitive capacity kW	11.83	11.32	10.91	10.28	9.87	9.54
	Input kW.	3.15	3.59	4.01	4.49	4.94	5.41
27ºC DB 19ºC WB	Total capacity kW	16.06	15.38	14.82	14.00	13.42	12.98
	Sensitive capacity kW	12.92	12.31	11.89	11.16	10.74	10.4
	Input kW.	3.27	3.79	4.21	5.15	5.25	5.68
32ºC DB 23ºC WB	Total capacity kW	18.49	17.7	17.05	16.08	15.42	14.97
	Sensitive capacity kW	14.79	14.15	13.63	12.86	12.33	11.98
	Input kW.	3.82	4.35	4.88	5.45	5.98	6.52

6.5 CUA-60HR1

MODEL		CCA-60HSR1					
COOLING		OUTDOOR TEMPERATURE DRY					
Indoor Conditions		21ºC	25ºC	30ºC	35ºC	40ºC	45ºC
21ºC DB 15ºC WB	Total capacity kW	15.45	14.78	14.3	13.44	12.91	12.49
	Sensitive capacity kW	12.38	11.83	11.39	10.75	10.32	10.02
	Input kW.	3.76	4.32	4.84	5.38	5.92	6.46
24ºC DB 17ºC WB	Total capacity kW	16.93	16.19	15.6	14.72	14.13	13.7
	Sensitive capacity kW	13.54	12.96	12.48	11.78	11.31	10.96
	Input kW.	3.97	4.55	5.13	5.67	6.26	6.83
27ºC DB 19ºC WB	Total capacity kW	18.4	17.6	16.96	16	15.36	14.88
	Sensitive capacity kW	14.72	14.1	13.57	12.81	12.3	11.92
	Input kW.	4.20	4.78	5.39	5.96	6.58	7.19
32ºC DB 23ºC WB	Total capacity kW	21.16	20.24	19.51	18.39	17.67	17.12
	Sensitive capacity kW	16.93	16.13	15.6	14.73	14.12	13.71
	Input kW.	4.83	5.52	6.21	6.89	7.59	8.26

Heating

6.6 CUA-18HR1

MODEL		CUA-18HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC D 18ºC W	12ºC D 11ºC W	7ºC D 6ºC W	4ºC D 3ºC W	0ºC D -1ºC W	-5ºC D -6ºC W	-7ºC D -8ºC W
15ºC	Capacity kW	10.28	8.21	6.88	6.2	5.85	5.16	4.81
	Input kW.	3.16	2.52	2.12	1.99	1.9	1.79	1.68
18ºC	Capacity kW	9.67	7.72	6.45	5.81	5.49	4.85	4.52
	Input kW.	2.94	2.33	1.97	1.88	1.78	1.68	1.58
20ºC	Capacity kW	8.87	7.12	5.8	5.38	5.08	4.49	4.18
	Input kW.	2.71	2.15	1.71	1.75	1.66	1.55	1.46
22ºC	Capacity kW	8.21	6.56	5.51	4.96	4.66	4.13	3.85
	Input kW.	2.48	2.01	1.69	1.61	1.51	1.43	1.35
27ºC	Capacity kW	7.15	5.72	4.78	4.3	4.06	3.58	3.37
	Input kW.	2.15	1.75	1.46	1.38	1.32	1.24	1.15

6.7 CUA-24HR1

MODEL		CUA-24HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC D 18ºC W	12ºC D 11ºC W	7ºC D 6ºC W	4ºC D 3ºC W	0ºC D -1ºC W	-5ºC D -6ºC W	-7ºC D -8ºC W
15ºC	Capacity kW	13.68	10.91	9.12	8.24	7.78	6.86	6.42
	Input kW.	4.78	3.76	3.12	2.95	2.78	2.68	2.54
18ºC	Capacity kW	12.85	10.27	8.56	7.68	7.31	6.42	6.01
	Input kW.	4.48	3.43	2.84	2.76	2.61	2.46	2.36
20ºC	Capacity kW	11.89	9.48	7.8	7.16	6.78	5.92	5.58
	Input kW.	4.08	3.26	2.33	2.31	2.26	2.22	2.15
22ºC	Capacity kW	10.95	8.76	7.31	6.58	6.24	5.5	5.12
	Input kW.	3.78	2.96	2.25	2.28	2.21	2.08	1.98
27ºC	Capacity kW	9.51	7.57	6.34	5.72	5.42	4.68	4.46
	Input kW.	3.27	2.45	2.14	2.08	1.98	1.83	1.68

6.8 CUA-36HR1

MODEL		CUA-36HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC D 18ºC W	12ºC D 11ºC W	7ºC D 6ºC W	4ºC D 3ºC W	0ºC D -1ºC W	-5ºC D -6ºC W	-7ºC D -8ºC W
15ºC	Capacity kW	19.64	15.74	13.12	11.82	11.15	9.81	9.19
	Input kW.	6.01	4.81	4.01	3.8	3.59	3.39	3.22
18ºC	Capacity kW	18.49	14.78	12.32	11.12	10.49	9.21	8.63
	Input kW.	5.65	4.51	3.75	3.6	3.38	3.19	2.98
20ºC	Capacity kW	17.12	13.7	11.55	10.25	9.7	8.54	8.02
	Input kW.	5.23	4.18	3.38	3.23	3.13	2.96	2.78
22ºC	Capacity kW	15.75	12.62	10.51	9.45	8.94	7.88	7.35
	Input kW.	4.81	3.82	3.18	3.02	2.9	2.71	2.54
27ºC	Capacity kW	13.66	11.03	9.13	8.22	7.74	6.86	6.39
	Input kW.	4.14	3.32	2.78	2.64	2.48	2.35	2.21

6.9 CUA-48HR1

MODEL		CUA-48HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC D 18ºC W	12ºC D 11ºC W	7ºC D 6ºC W	4ºC D 3ºC W	0ºC D -1ºC W	-5ºC D -6ºC W	-7ºC D -8ºC W
15ºC	Capacity kW	26.21	20.95	17.45	15.71	14.83	13.09	12.22
	Input kW.	8.47	6.79	5.62	5.37	5.09	4.81	4.54
118ºC	Capacity kW	24.58	19.68	16.4	14.76	13.93	12.29	11.51
	Input kW.	7.96	6.31	5.42	5.04	4.79	4.53	4.25
20ºC	Capacity kW	22.8	18.22	15.4	13.66	12.91	11.38	10.63
	Input kW.	7.39	5.91	5.41	4.68	4.45	4.19	3.95
22ºC	Capacity kW	20.92	16.76	13.97	12.57	11.87	10.47	9.77
	Input kW.	6.78	5.43	4.53	4.31	4.09	3.87	3.64
27ºC	Capacity kW	18.21	14.55	12.14	10.92	10.32	9.1	8.48
	Input kW.	5.91	4.73	3.95	3.76	3.57	3.36	3.17

6.10 CUA-60HR1

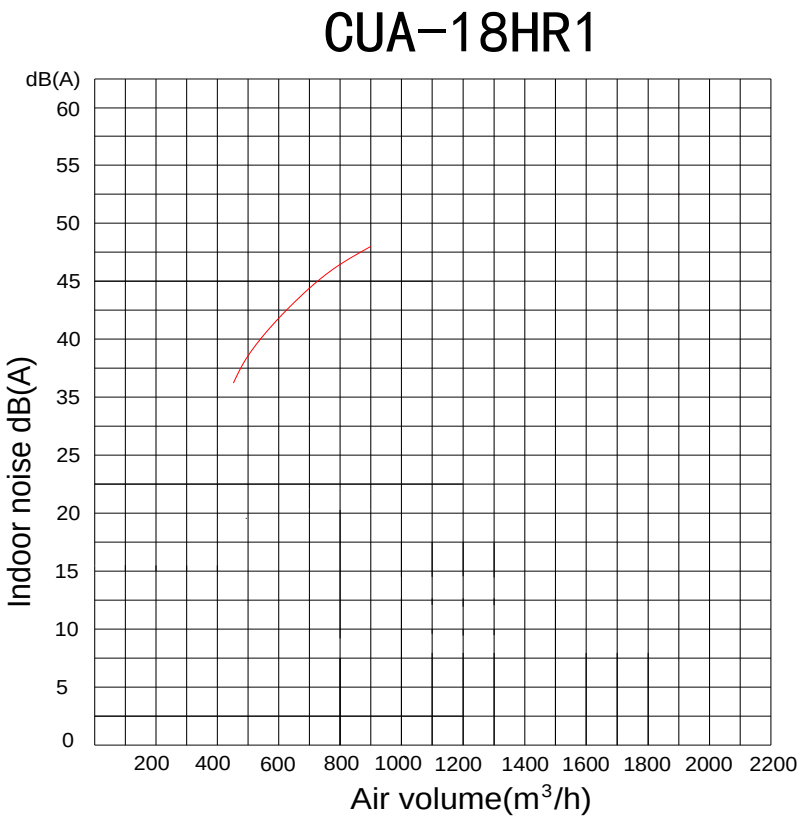
MODEL		CUA-60HR1						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24ºC D 18ºC W	12ºC D 11ºC W	7ºC D 6ºC W	4ºC D 3ºC W	0ºC D -1ºC W	-5ºC D -6ºC W	-7ºC D -8ºC W
15ºC	Capacity kW	30.36	24.29	20.24	18.21	17.2	15.18	14.12
	Input kW.	10.34	8.27	6.91	6.55	6.22	5.88	5.51
18ºC	Capacity kW	28.52	22.81	19.01	19.11	16.16	14.26	13.3
	Input kW.	9.73	7.77	6.46	6.15	5.84	5.51	5.16
20ºC	Capacity kW	26.4	21.12	17.6	15.84	14.96	13.2	12.32
	Input kW.	9.02	7.21	6.08	5.72	5.39	5.11	4.78
22ºC	Capacity kW	24.23	19.43	16.2	14.58	13.76	12.14	11.33
	Input kW.	8.29	6.61	5.53	5.24	4.96	4.67	4.41
27ºC	Capacity kW	21.12	16.9	14.09	12.67	11.98	10.58	9.87
	Input kW.	7.19	5.78	4.82	4.57	4.34	4.09	3.86

7.Electric Characteristics

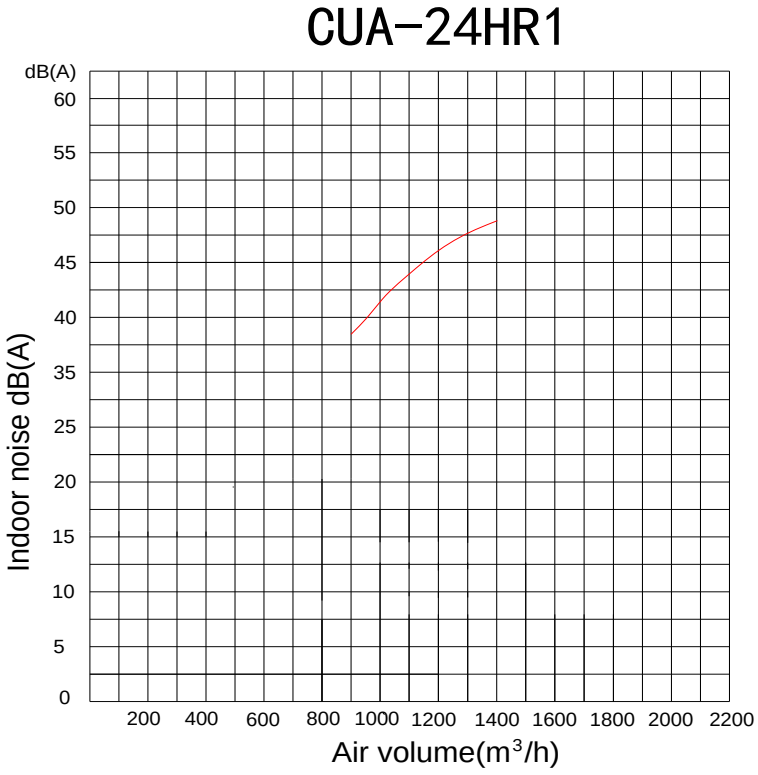
Model	Indoor Units				Indoor Fan Motor
	Hz	Voltage	Min.	Max.	kW
CUA-18HR1	50	220-240V	198	254	0.13
CUA-24HR1	50	220-240V	198	254	0.15
CUA-36HR1	50	220-240V	198	254	0.3
CUA-48HR1	50	220-240V	198	254	0.26
CUA-60HR1	50	220-240V	198	254	0.26

8.Sound Levels

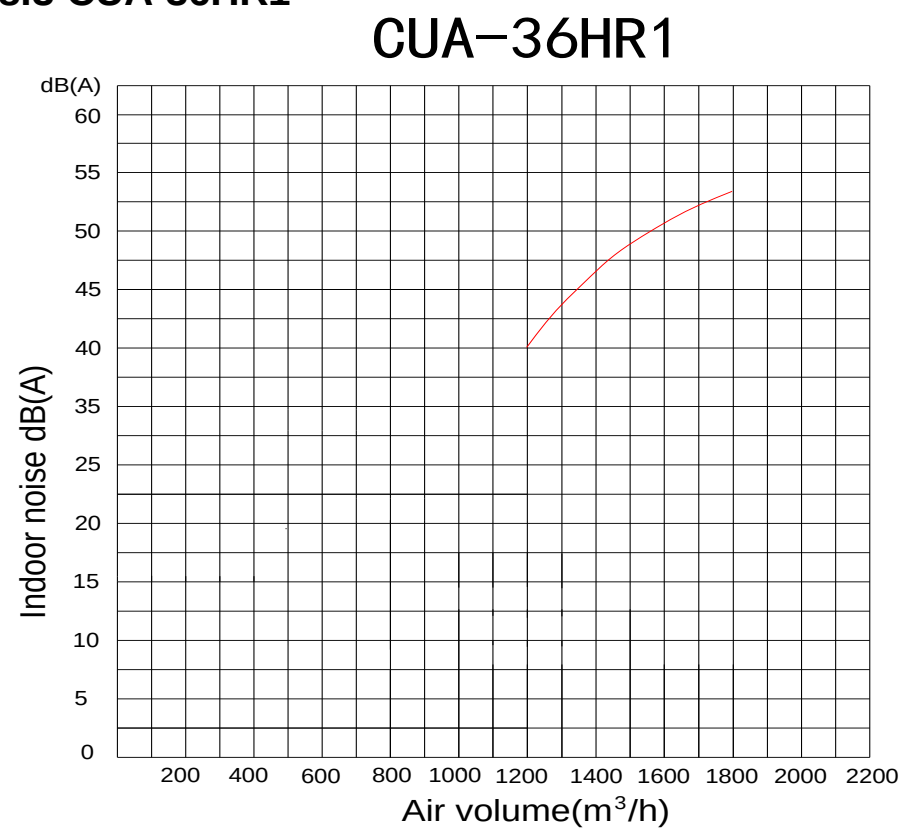
8.1 CUA-18HR1



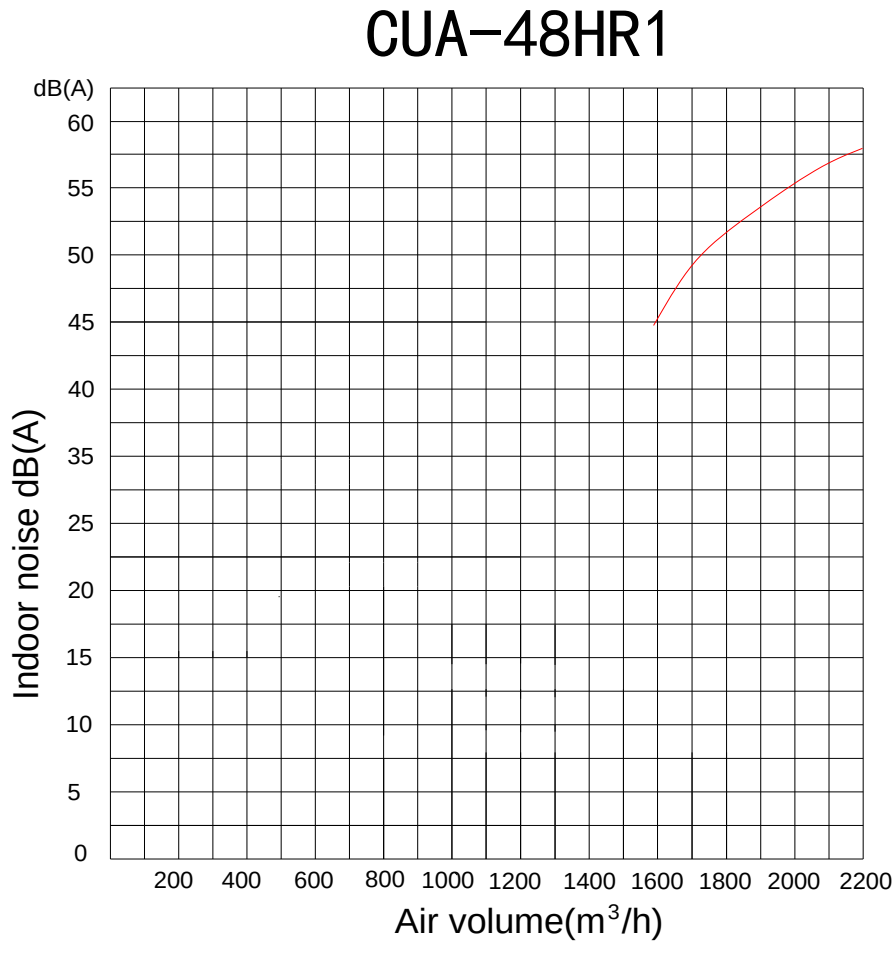
8.2 CUA-24HR1



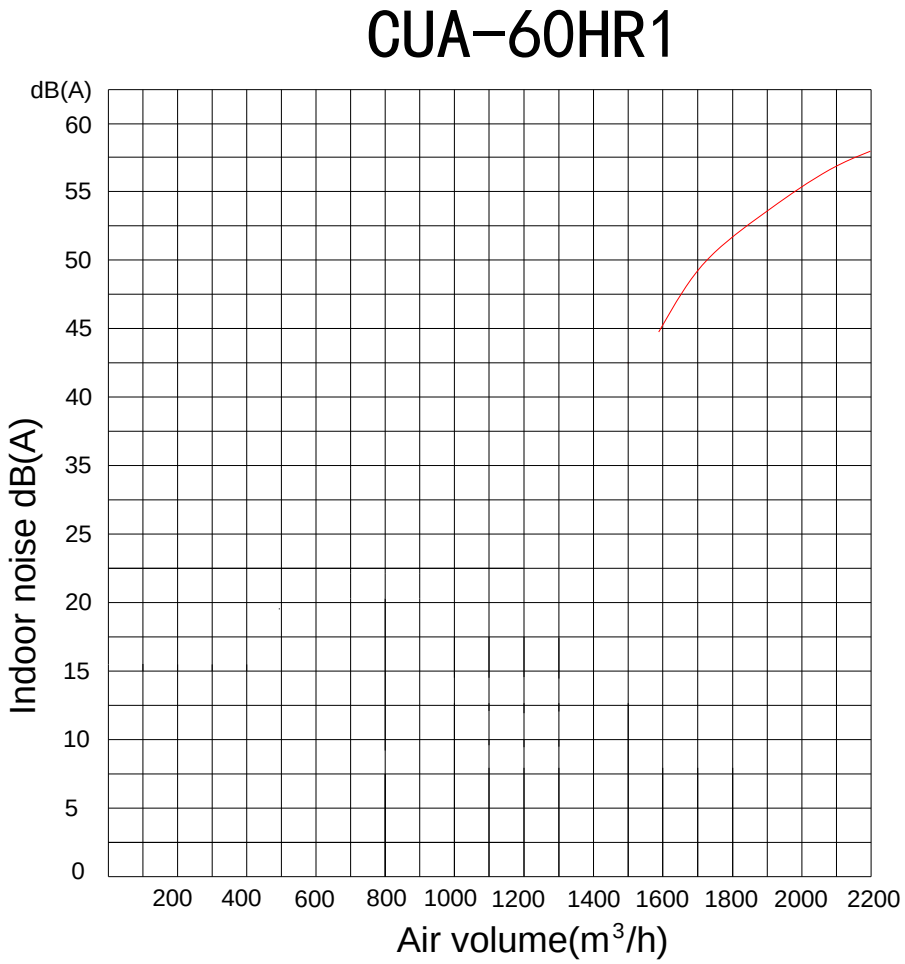
8.3 CUA-36HR1



8.4 CUA-48HR1

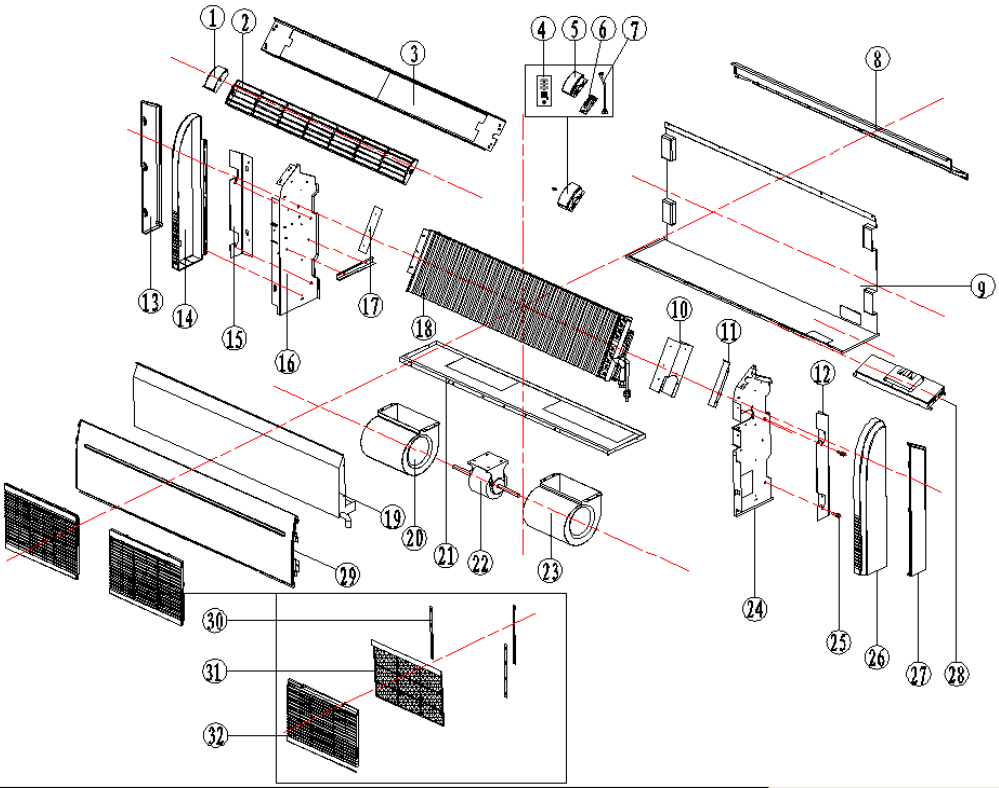


8.5 CUA-60HR1


CUA-60HR1
dB(A)
60
55
50
45
40
35
25
20
15
10
5
0
Indoor noise dB(A)
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Air volume(m3/h)

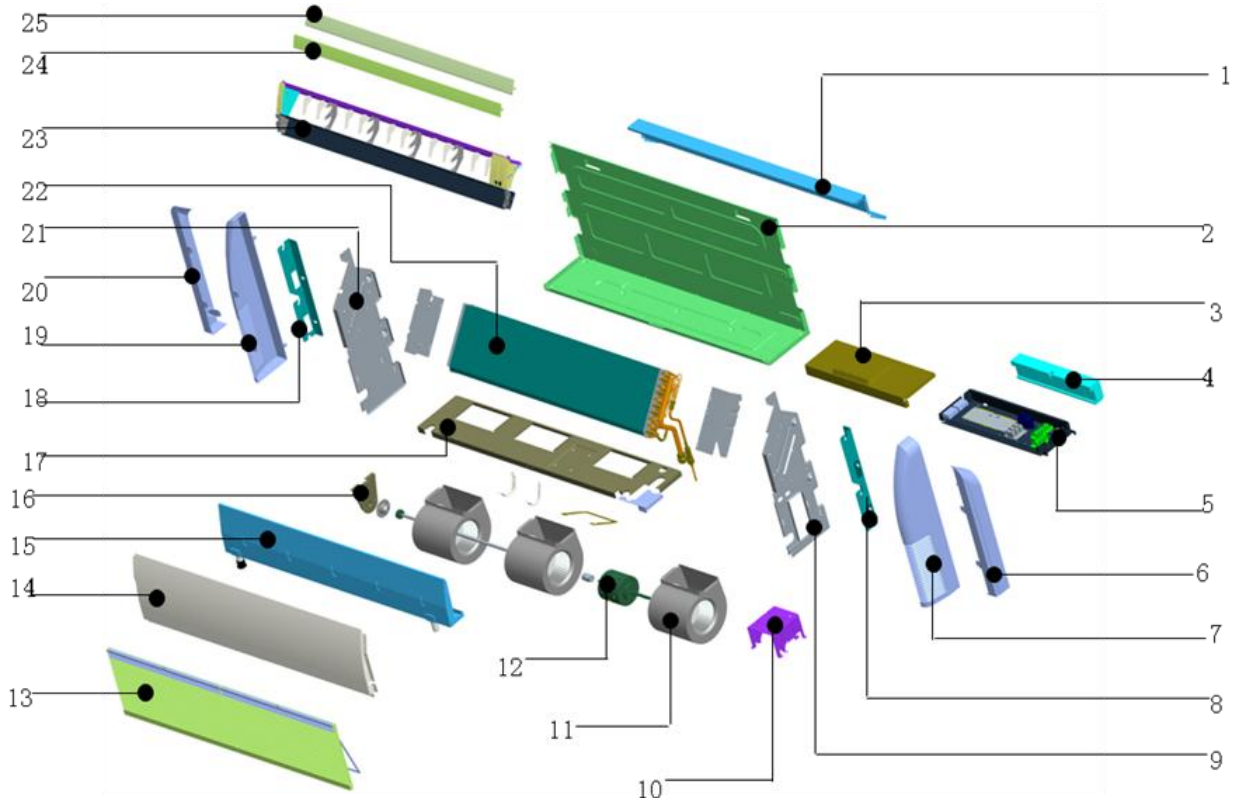
9.Exploded View

9.1 CUA-18HR1



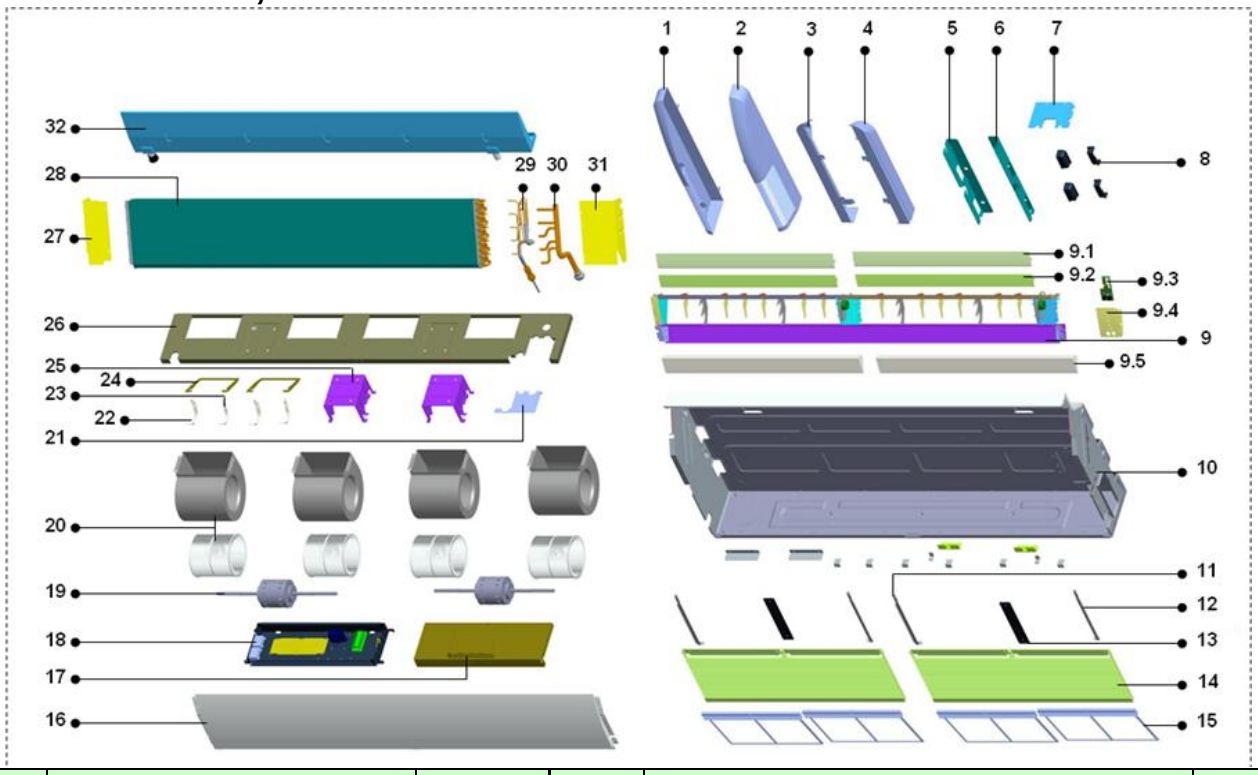
No.	Part Name	Quantity	No.	Part Name	Quantity
1	70 wind guide connected board assy B	1	**22**	indoor fan motor	1
2	Wind guide frame assy	2	**23**	Fan wheel(right)	1
3	Air outlet support	1	**24**	Right side board	2
4	Display film	1	**25**	Hexagon headed bolt M8×30	4
5	Display panel	1	**26**	Right cover	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 sensors （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



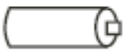
No.	Part Name	Quantity	No.	Part Name	Quantity
1	Rear cover	1	**20**	Right seal plate	1
2	Chassis assembly	1	**21**	Right separating board	1
3	E-part box cover	1	**22**	Evaporator component	1
4	E-part box mat	1	**22.1**	Left mounting plate of evaporator	1
5	Indoor PCB assembly	1	**22.2**	Shunt capillary 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

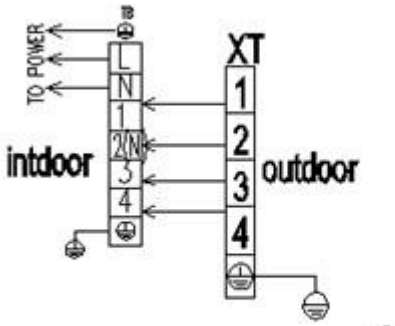
Installation fittings	Name	Shape	Quantity
	1.Hanging arm		2
Controller	2. Remote controller		1
	3. Remote controller holder (optional)		1
	4. Wire controller (optional)		1
	5. Mounting screw (ST2.9×10-C-H)		2
	6. Alkaline dry batteries (AM4)		2
Others	7. Installation & operation instruction manual		1

11.The Specification of Power

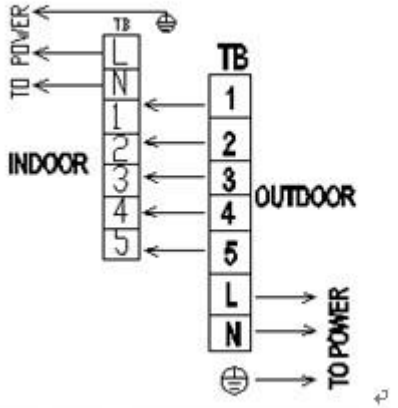
Type		CUA-18HR1	CUA-24HR1	CUA-36HR1	CUA-48HR1	CUA-60HR1
Power	Phase	1-phase	1-phase	1-phase	1-phase	1-phase
	Frequency and Voltage	220-240V, 50Hz				
Indoor Unit Power Wiring (mm^2)		3×1.5mm^2	3×1.0mm^2	3×1.0mm^2	3×1.0mm^2	3×1.0mm^2
Indoor/Outdoor Connecting Wiring (mm^2)		5×1.5mm^2	5×1.0mm^2	5×1.0mm^2	5×1.0mm^2	5×1.0mm^2

12.Field Wiring

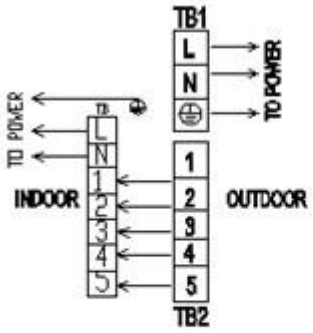
CUA-18HR1&COU-18HR1



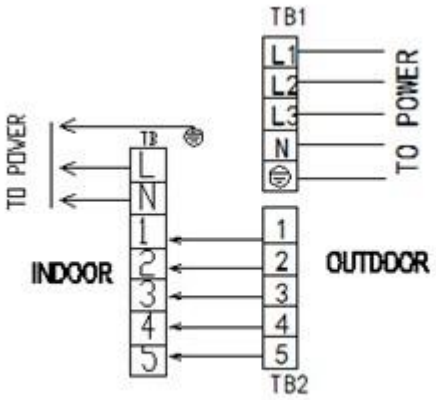
CUA-24HR1&COU-24HR1



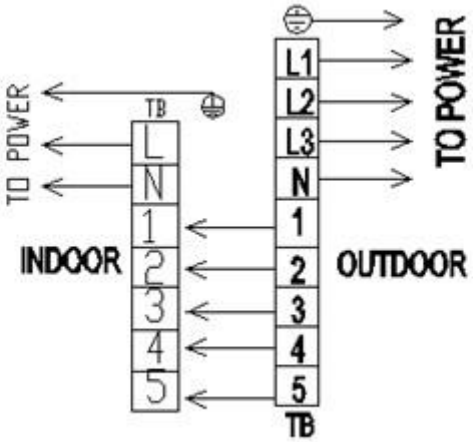
CUA-36HR1&COU-36HR1



CUA-36HR1&COU-36HSR1



CUA-48HR1&COU-48HR1、CUA-60HR1&COU-60HR1



13.Troubleshooting

Fault code Table

No.	Type	Content	LED Flashing	Code	Remark
1	Fault	Room temperature sensor fault	Timing lamp flashing/1Hz	E2	Automatic recovery after the problem resolved
2	Fault	Indoor coil temperature sensor fault	Running lamp flashing/1Hz	E3	
3	Fault	Outdoor coil temperature sensor fault	Defrosting lamp flashing/1Hz	E5	
4	Fault	Water full protection	Alarm lamp flashing/1Hz	F5	
5	Fault	Outdoor protection	Defrosting lamp and Alarm lamp both flashing/1Hz	F2	
6	Fault	Communication fault	Running lamp and Defrosting lamp both flashing/1Hz	E1	Manual eliminate
7	Fault	EEPROM communication fault	Running lamp and Timing lamp both flashing/1Hz	P6	Recovery after interruption of power supply
8	Indication	Enforced cooling	Running lamp and Alarm lamp both flashing/1Hz	/	
9	Indication	Anti- cool air in heating mode	Defrosting preheat lamp ON	P1	
10	Indication	Defrosting	Defrosting preheat lamp ON	P3	

Part 3 Outdoor Units

1.Specification

Model			COU-18HR1	COU-24HR1	COU-36HR1
Outdoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50
Cooling	Capacity	Btu/h	18000	24000	36000
		KW	5.3	7.1	10.5
	Input	W	1900	2400	3710
	Rated current	A	8.26	10.6	16.7
Heating	Capacity	Btu/h	20000	26000	39000
		KW	5.9	7.7	11.5
	Input	W	1690	2100	3310
	Rated current	A	7.35	9.2	15
Max. input consumption		W	2500	2700	4800
Max. current		A	11.36	13.2	21.2
Starting current		A	40	49	112
Compressor	Model		ASH232SV-C8LU	ASH264RV-C8DU1	C-SBN301H5D
	Type		ROTARY	ROTARY	SCROLL
	Brand		HITACHI	HITACHI	SANYO
	Capacity	Btu/h	18800	24000	36000
	Input	W	1900	2200	3950
	Rated current(RLA)	A	8.8	9.95	19.2
	Locked rotor Amp(LRA)	A	40	49	112
	Thermal protector		Internal	Internal	Internal
	Capacitor	μF	60	55	60
	Refrigerant oil	ml	600	600	1700
Outdoor fan motor	Model		YDK-38-6B	YDK-60A-6F	YDK-200-6B
	Input	W	80	150	450
	Capacitor	μF	2.5	4	10
	Speed	r/min	920	850	800
Outdoor coil	Number of rows		2	2	1
	Tube pitch(a) x row pitch(b)	mm	25×21.65	25×21.65	25×21.65
	Fin spacing	mm	1.7	1.8	1.4
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	9.52	9.52	9.52
			inner grooved	inner grooved	inner grooved
	Number of circuits		4	5	3
Outdoor air flow(High speed)		m^3/h	2800	3800	6000
Outdoor noise level		dB(A)	53	58	65
Outdoor unit	Dimension(W*H*D)	mm	866×304×535	930×370×700	1070×400×995

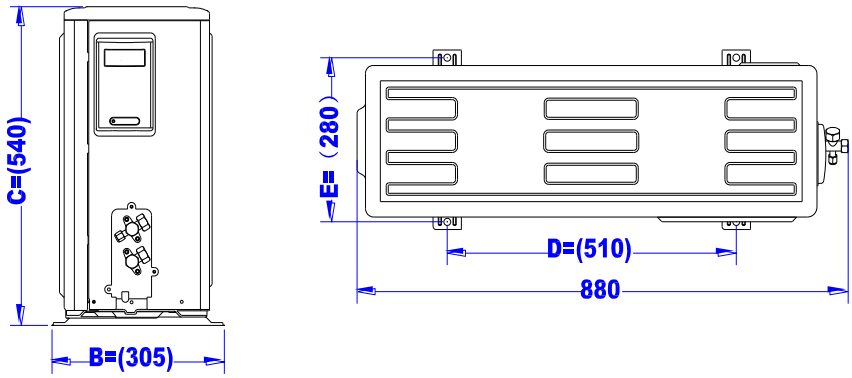
	Packing(W*H*D)	mm	920×335×585	990×410×770	1145×475×1120
	Net/Gross weight	kg	41/43	52/56	92/100
Refrigerant type/quantity		g	R410A/1200	R410A/1800	R410A/2100
Throttle part			capillary	capillary	capillary
Design pressure		MPa	4.0/1.2	4.0/1.2	4.0/1.2
Max pressure		MPa	4.0	4.5	4.5
Connection wiring	Power Supply		From indoor unit	From outdoor unit	From outdoor unit
	Power wiring	mm^2	3×1.5	3×2.5/3×1.0	3×4.0/3×1.0
	Signal wiring	mm^2	5×1.5	5×1.0	5×1.0
Refrigerant piping	Liquid side/Gas side	mm	φ6.35/φ12.7	Φ9.52/Φ15.88	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	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
Starting current		A	48	66	70
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

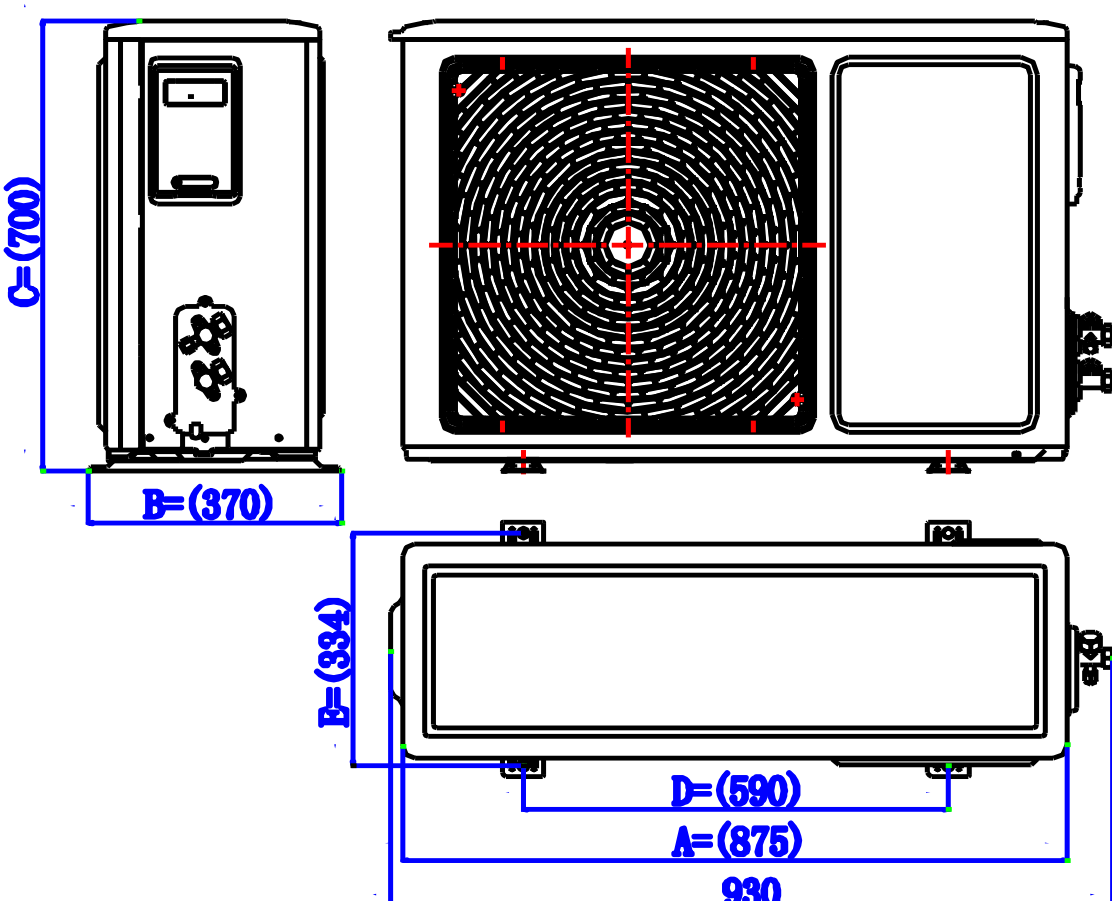
	Capacitor	μF	/	/	/
	Refrigerant oil	ml	1700	1700	1700
Outdoor fan motor	Model		YDK-200-6B	YDK-60-6P3-2	YDK-60-6P3-2
	Input	W	450	170*2	170*2
	Capacitor	μF	10	4*2	4*2
	Speed	r/min	800	780	780
Outdoor coil	Number of rows		1	2	2
	Tube pitch(a) x row pitch(b)	mm	25×21.65	22×19.05	25×21.65
	Fin spacing	mm	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 Supply		From outdoor unit	From outdoor unit	From outdoor unit
	Power wiring	mm^2	5×1.5/3×1.0	5×2.5/3×1.0	5×2.5/3×1.0
	Signal wiring	mm^2	5×1.0	5×1.0	5×1.0
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

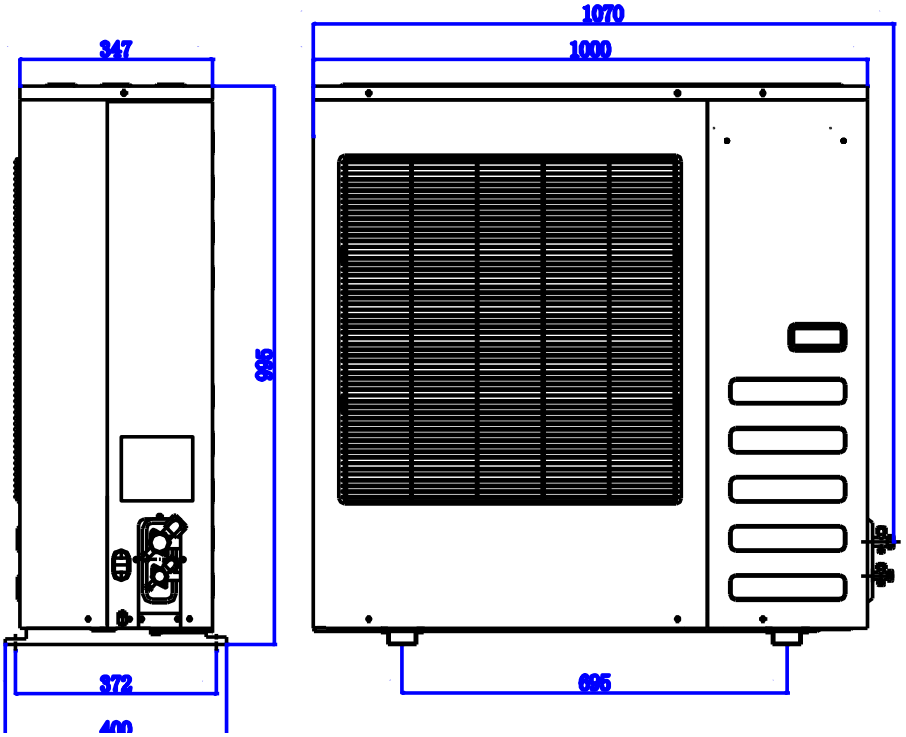
2.1 COU-18HR1



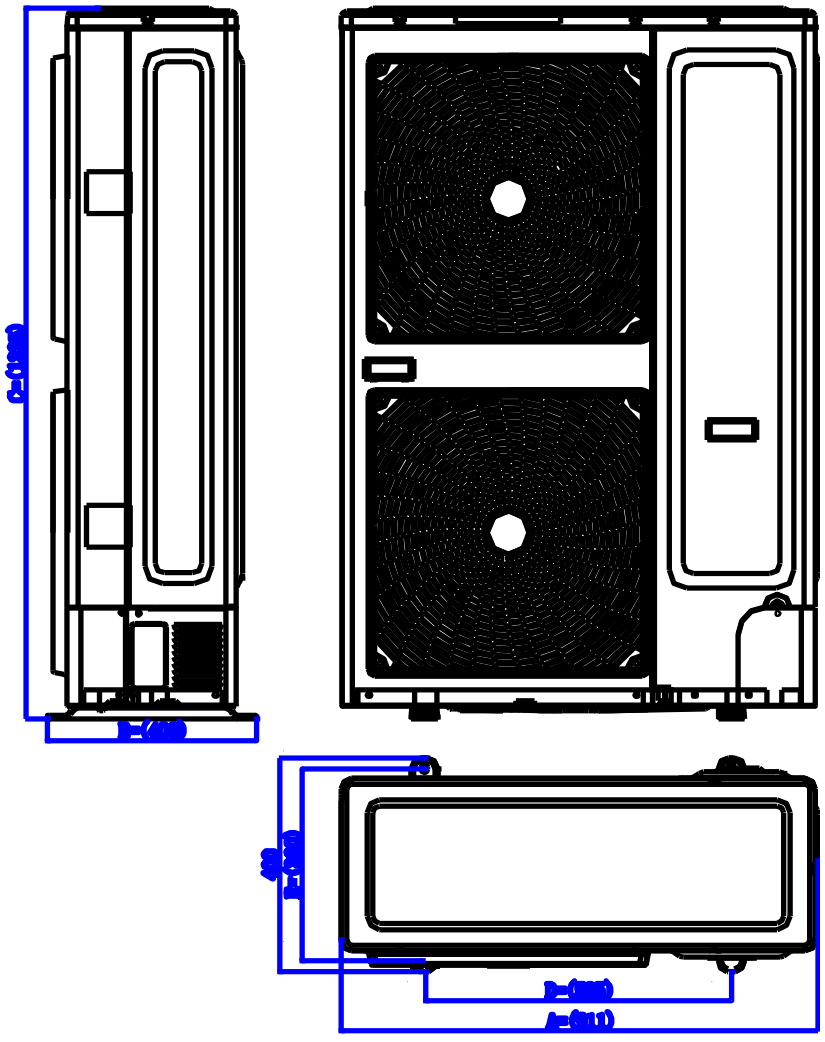
2.2 COU-24HR1



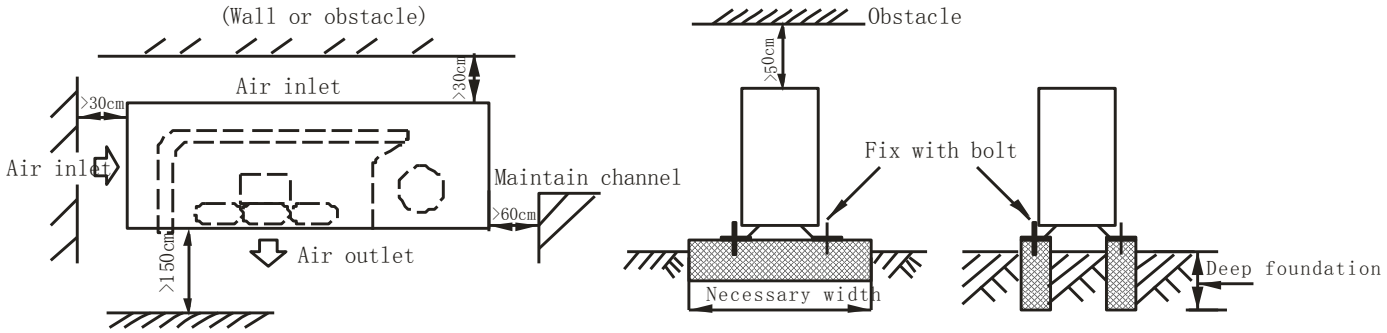
2.3 COU-36HR1, COU-36HSR1



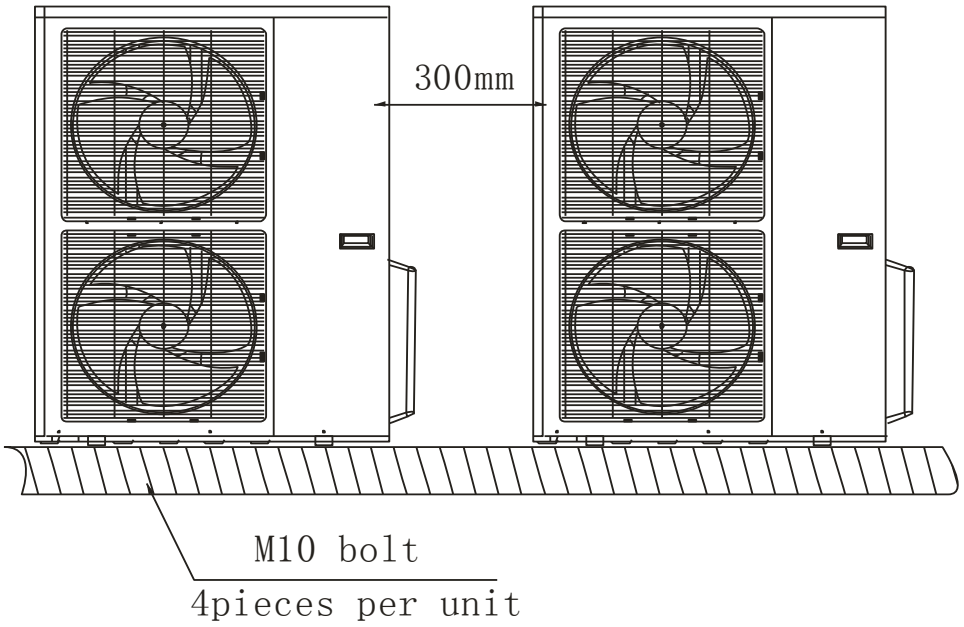
2.4 COU-48HR1, COU-60HR1



3.Service Space

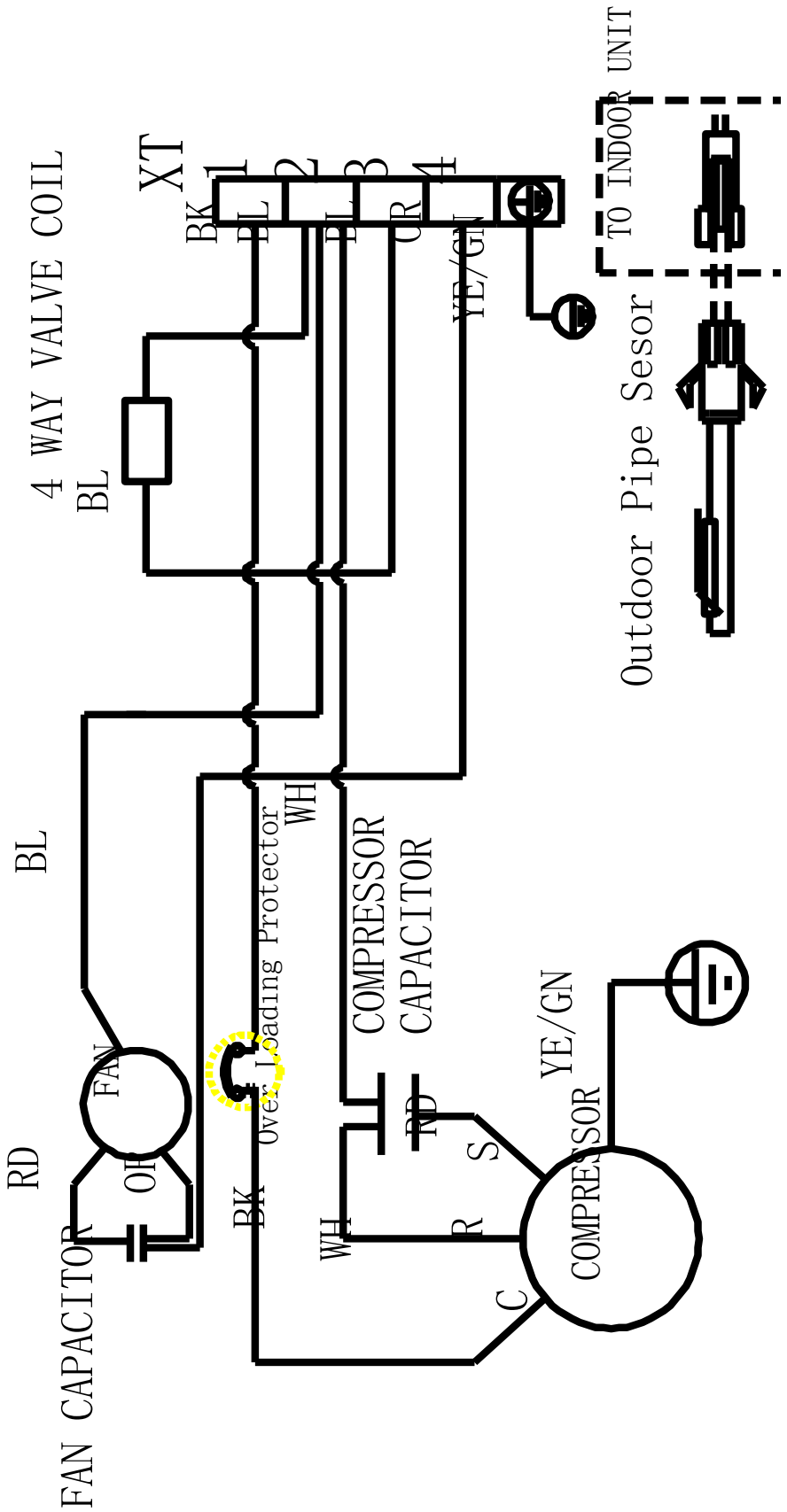


300mm is necessary between 2 outdoor units

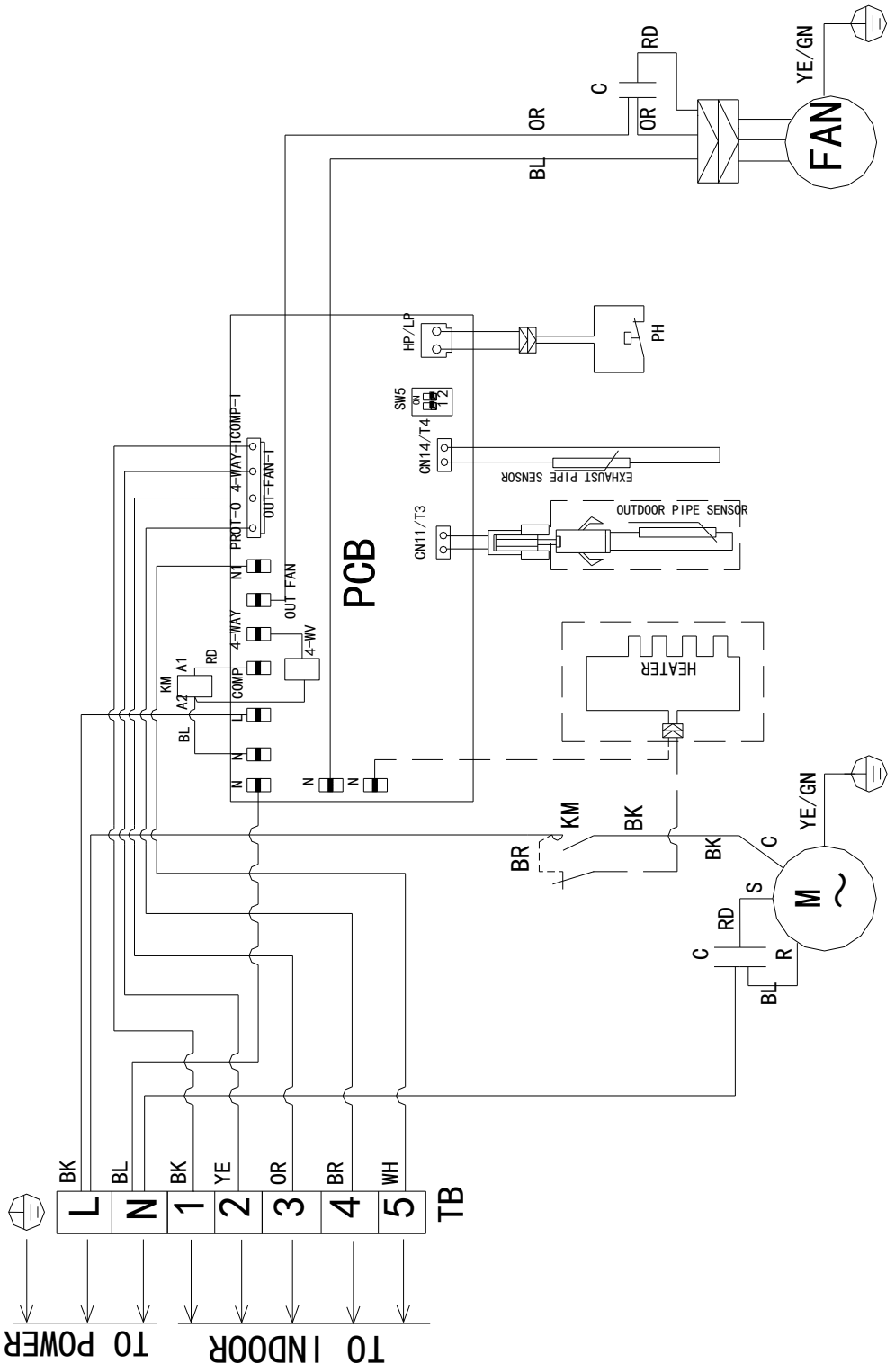


4.Wiring Diagrams

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

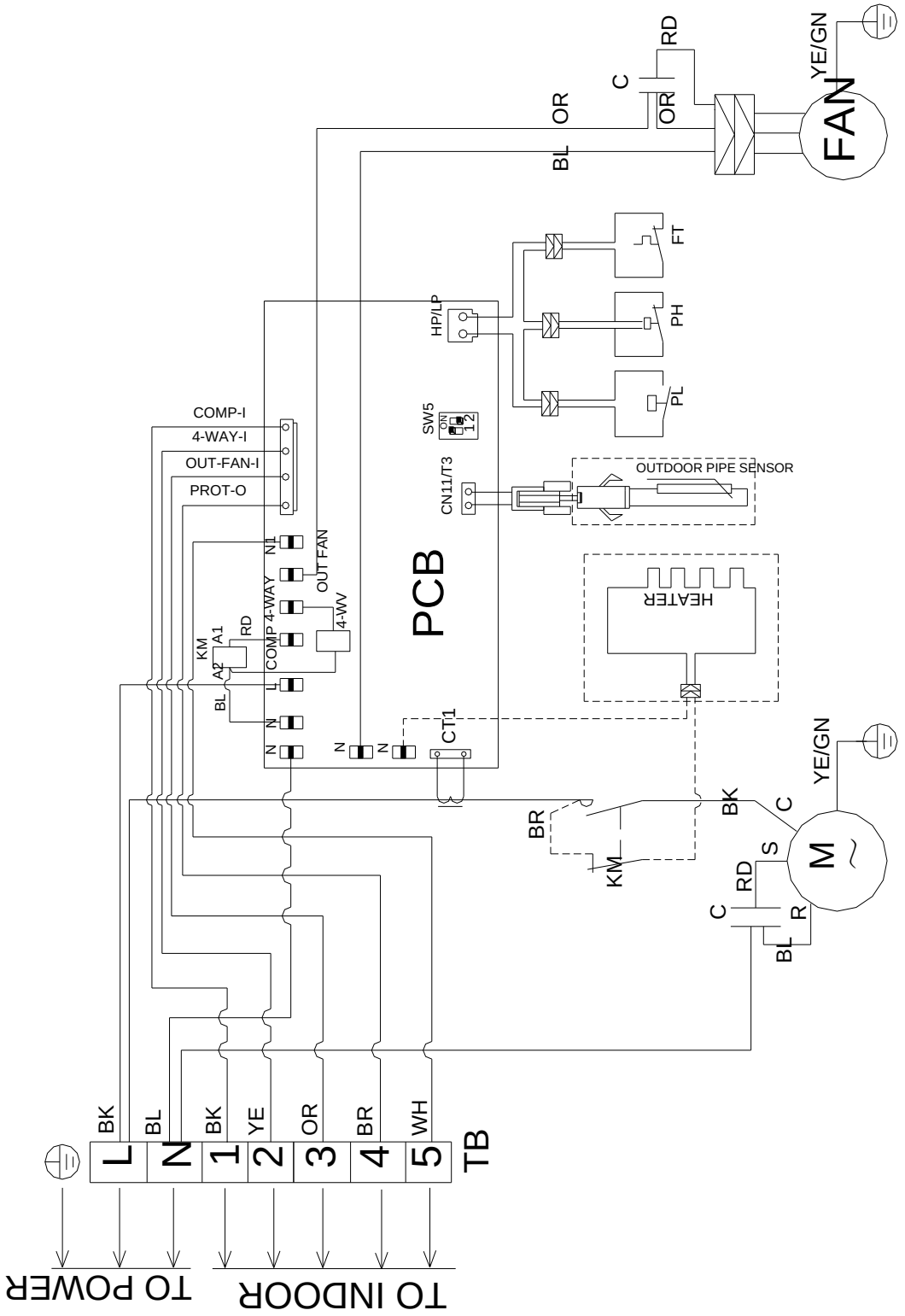


4.2 COU-24HR1 (Power supply independently)



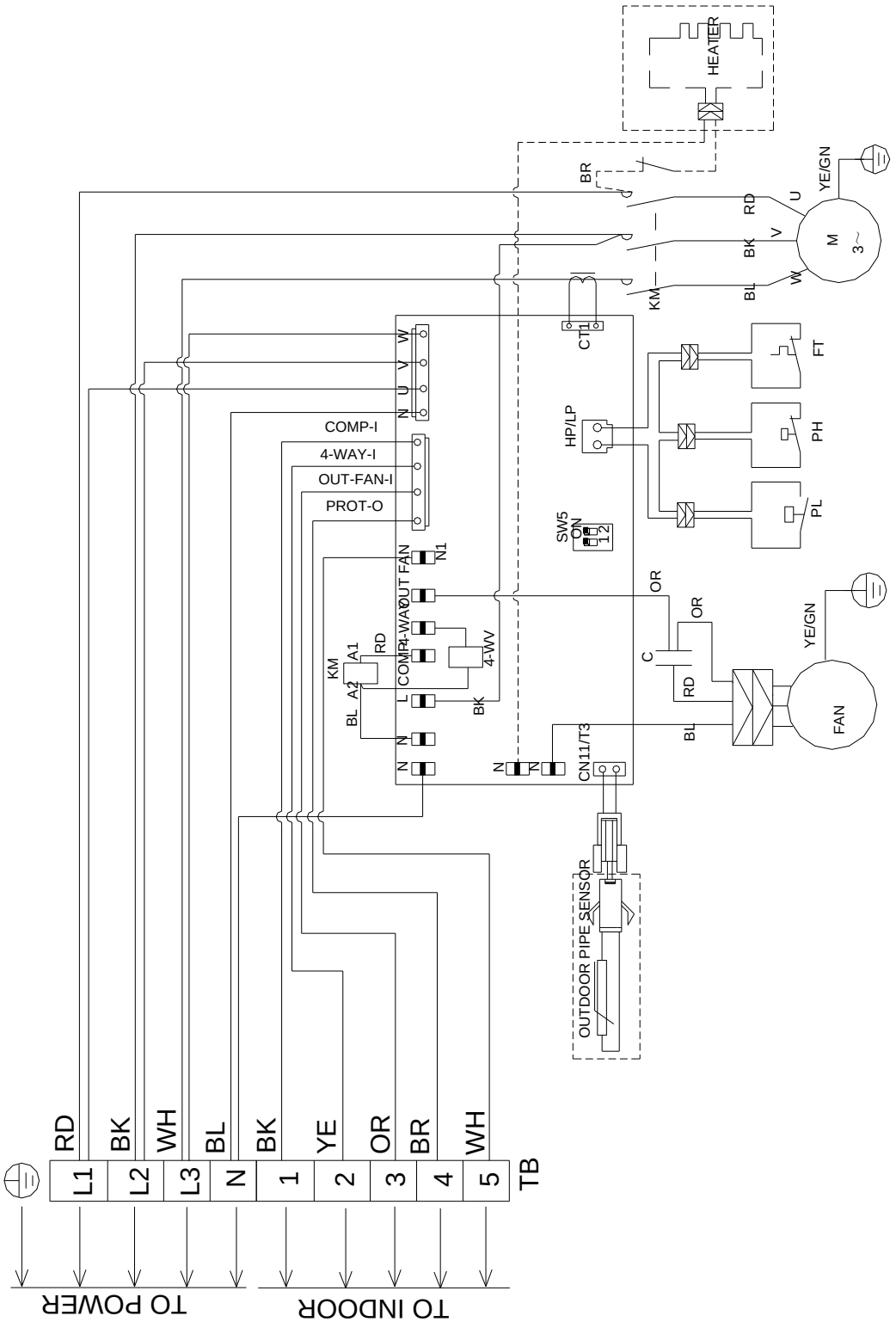
SW5 setting		
Switch / Status	1	2
ON	3/4 HP	Three phase
OFF	5/6 HP	Single phase

4.3 COU-36HR1(Power supply independently)



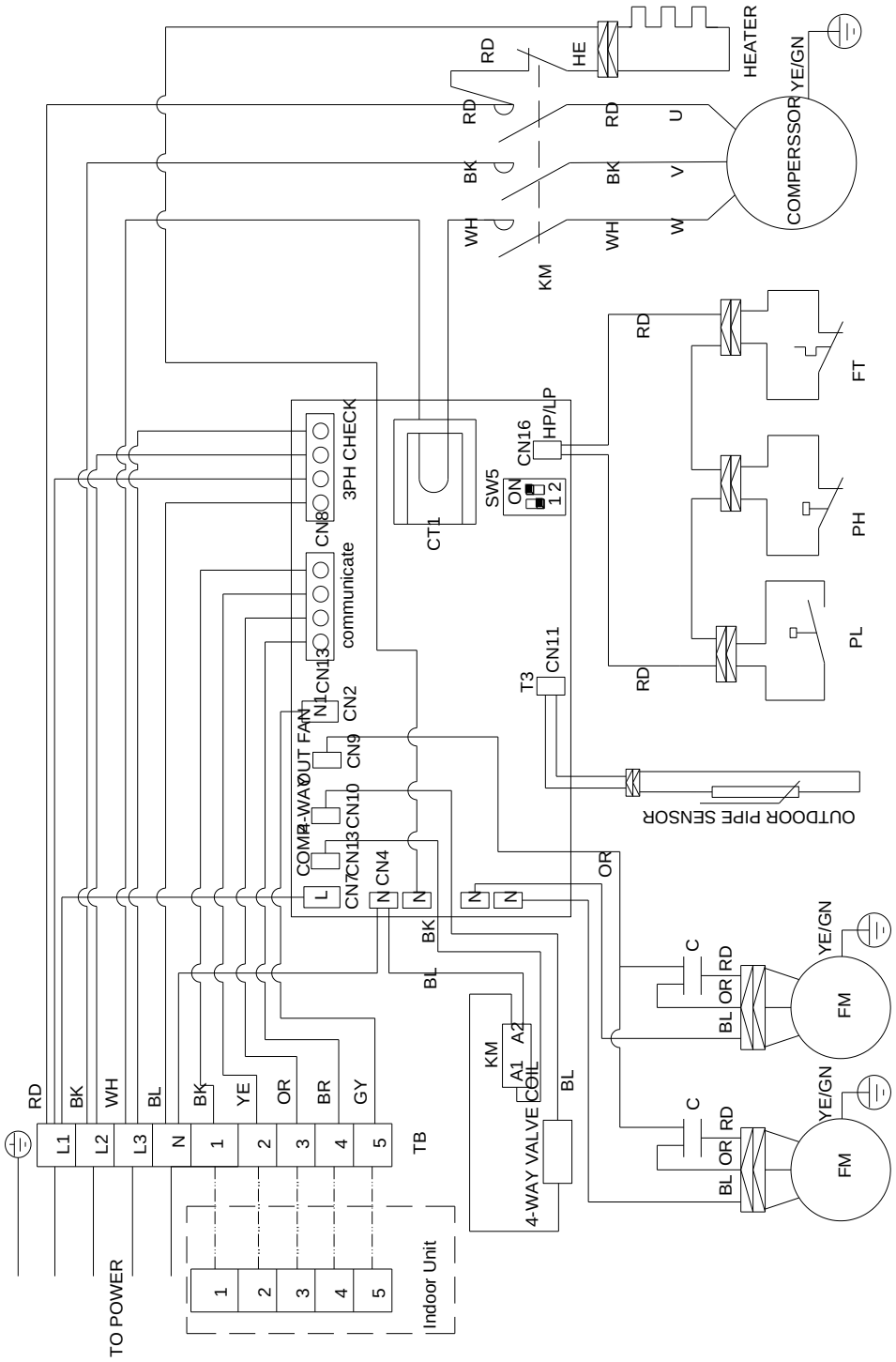
SW5 setting		
Switch / Status	1	2
ON	3/4 HP	Three phase
OFF	5/6 HP	Single phase

4.4 COU-36HSR1(Power supply independently)



SW5 setting		
Switch / Status	1	2
ON	3/4 HP	Three phase
OFF	5/6 HP	Single phase

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



SW5 setting		
Switch / Status	1	2
ON	3/4 HP	Three phase
OFF	5/6 HP	Single phase

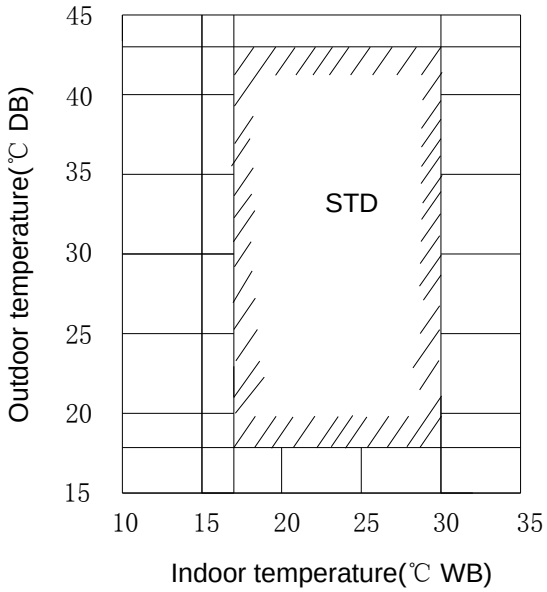
5.Electric Characteristics

Model	Outdoor Unit				
	Hz	254	Min.	Max.	Outdoor motor (kw)
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

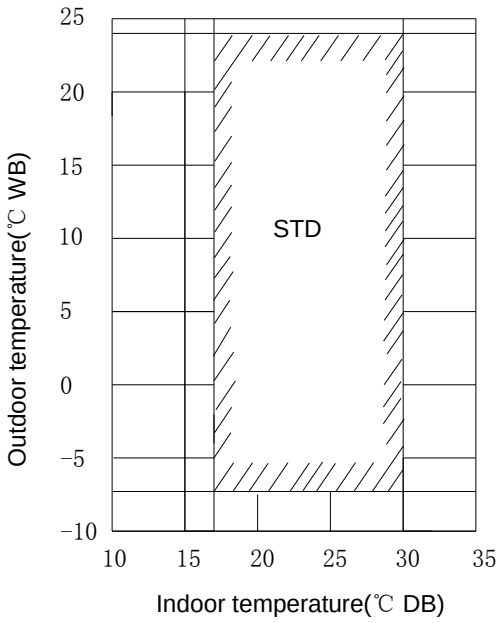
6.Operation Limits

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

Cooling

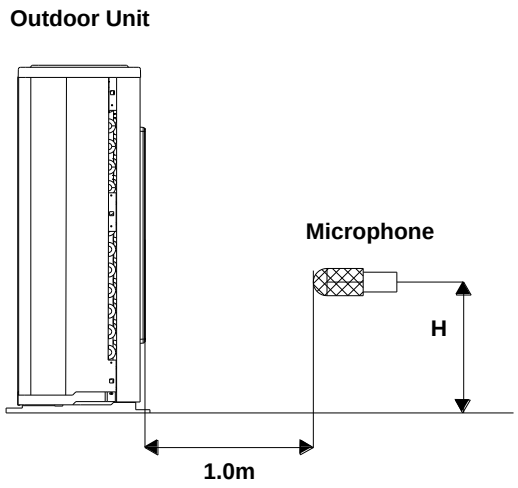


Heating



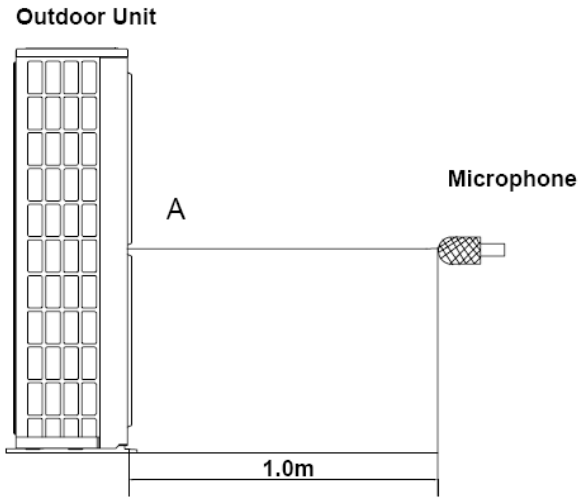
7.Sound Levels

18kBtu/h-36kBtu/h



Note: H= 0.5 × height of outdoor unit

48kBtu/h ~ 60kBtu/h

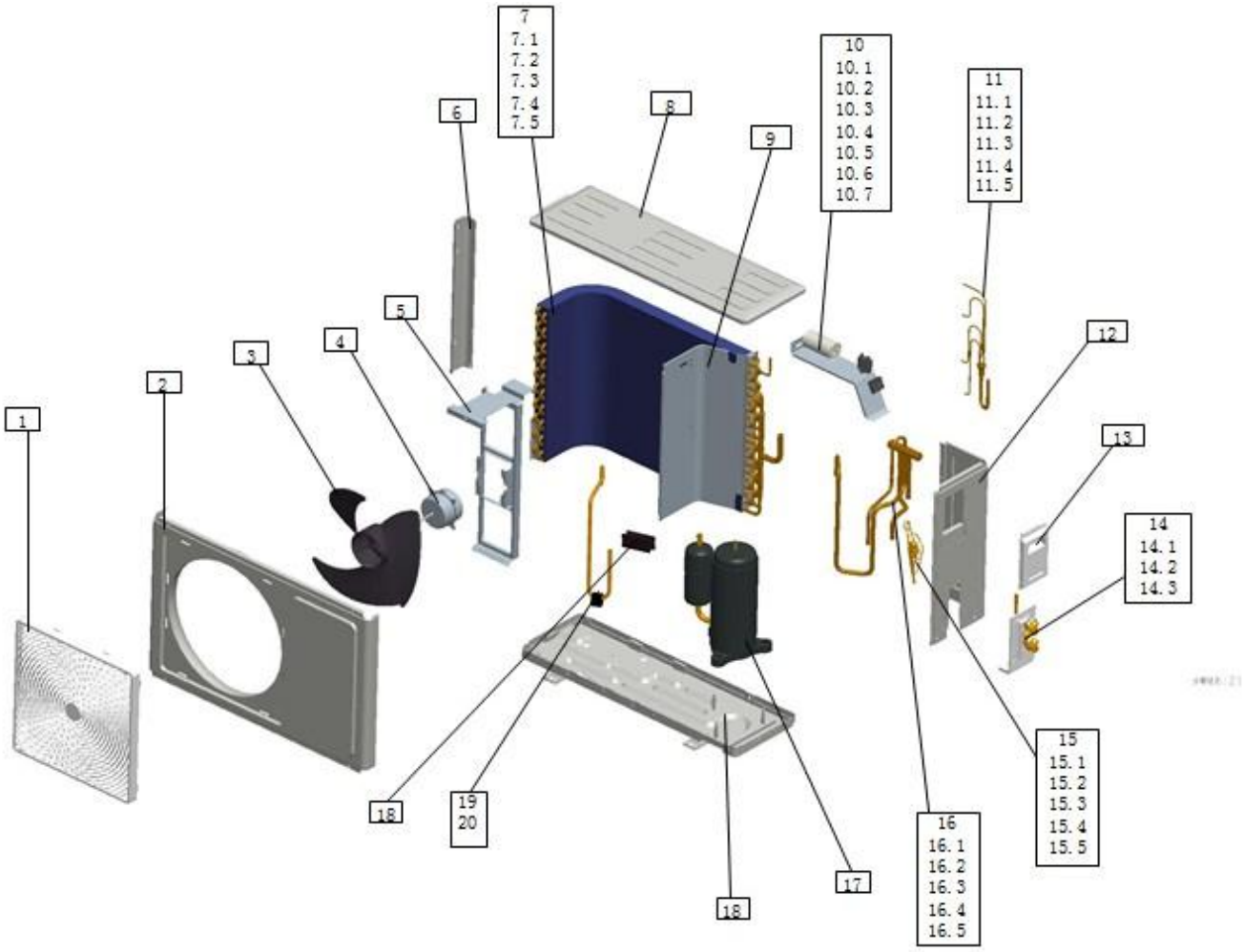


Note: The point A is in the middle of the whole outdoor panel.

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

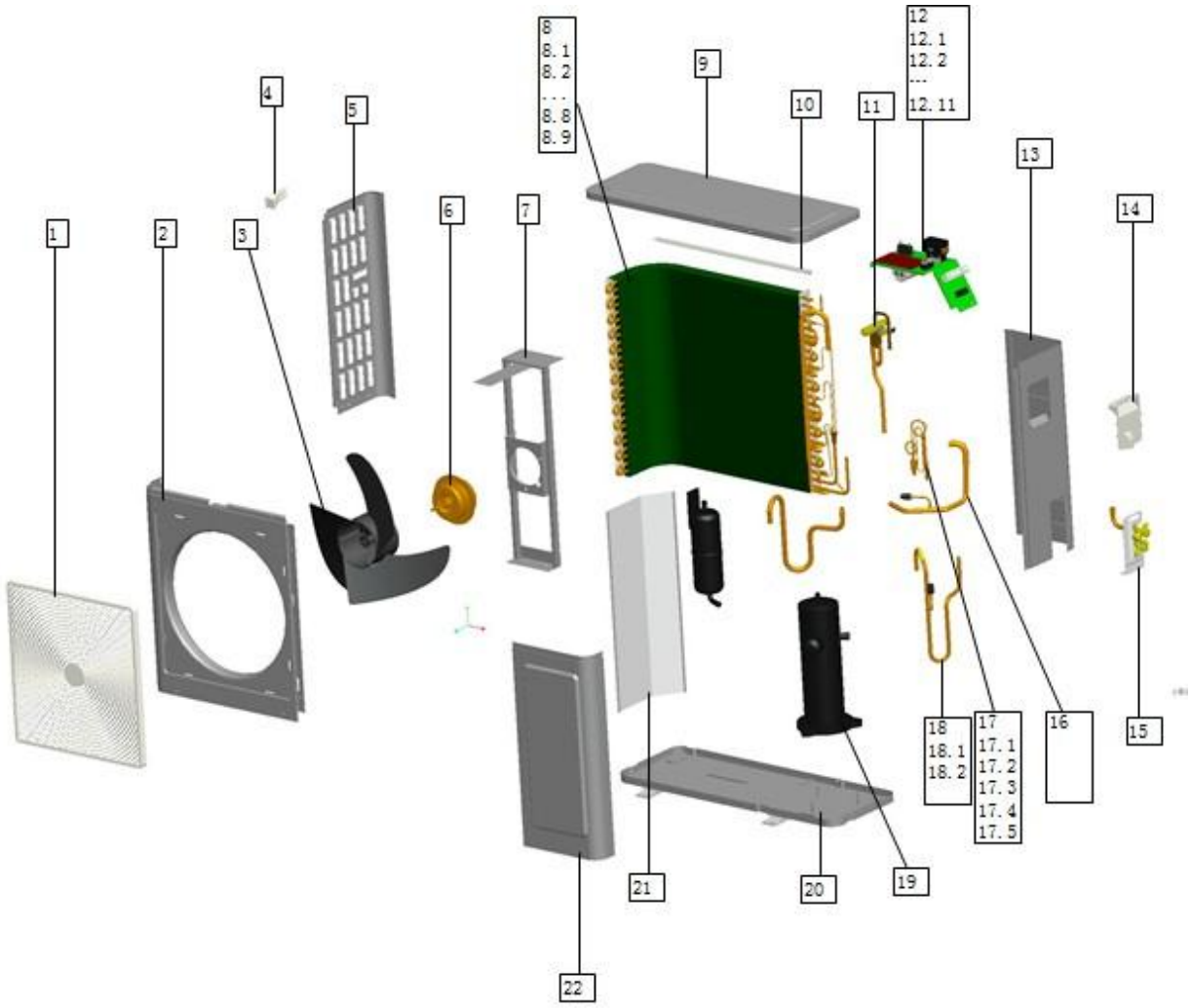
8.Exploded View

8.1 COU-18HR1



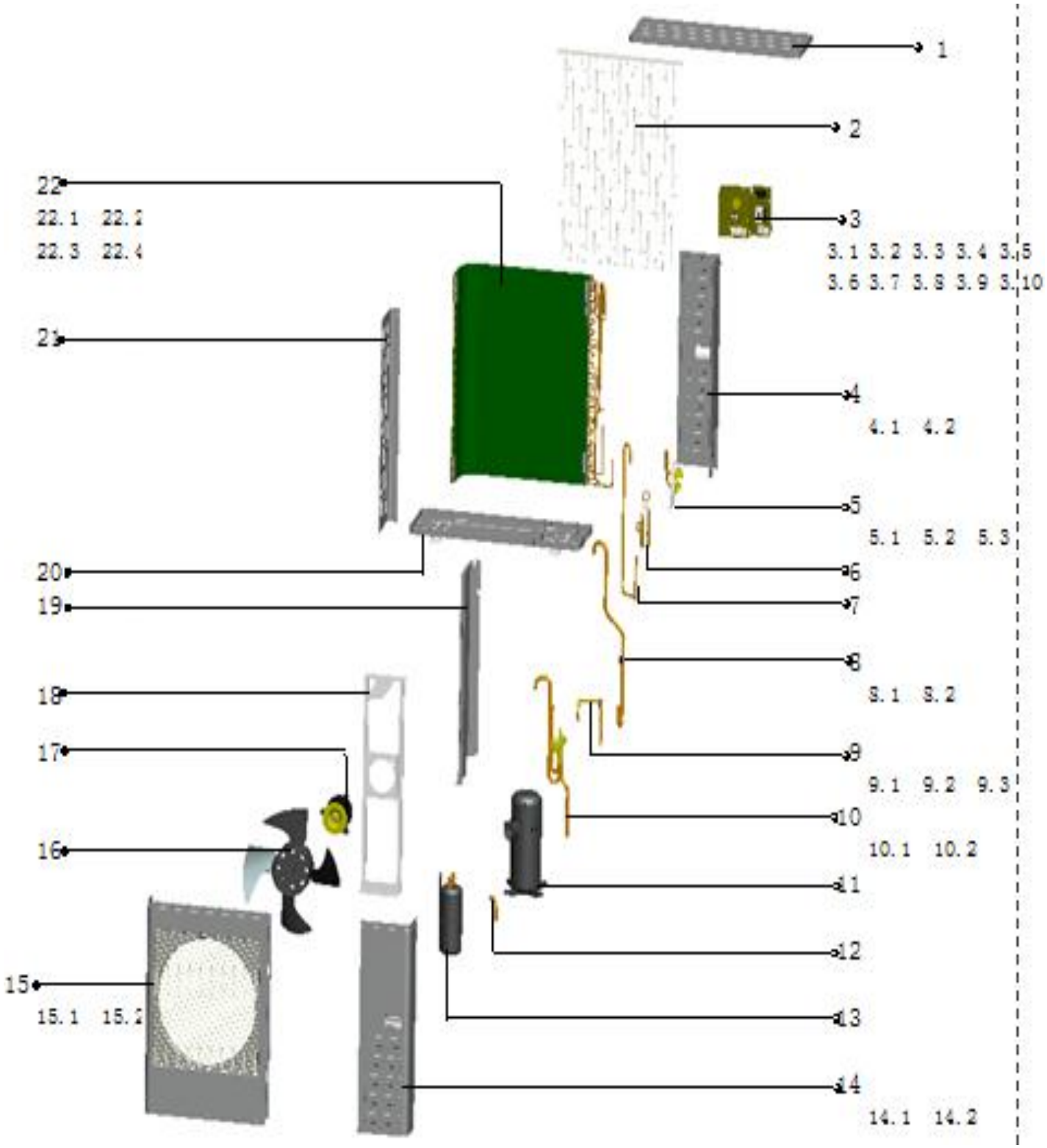
No.	Part Name	Quantity	No.	Part Name	Quantity
1	Top net	1	11	Pre-welding assy for distributing capillary	1
2	Panel assy	1	12	Right clapboard	1
3	Propeller fan	1	13	Handle	1
4	Fan motor	1	14	Valve holder assy	1
5	Holder for fan motor	1	15	Pre-welding assy for throttle capillary	1
6	column	1	16	4-Ways 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



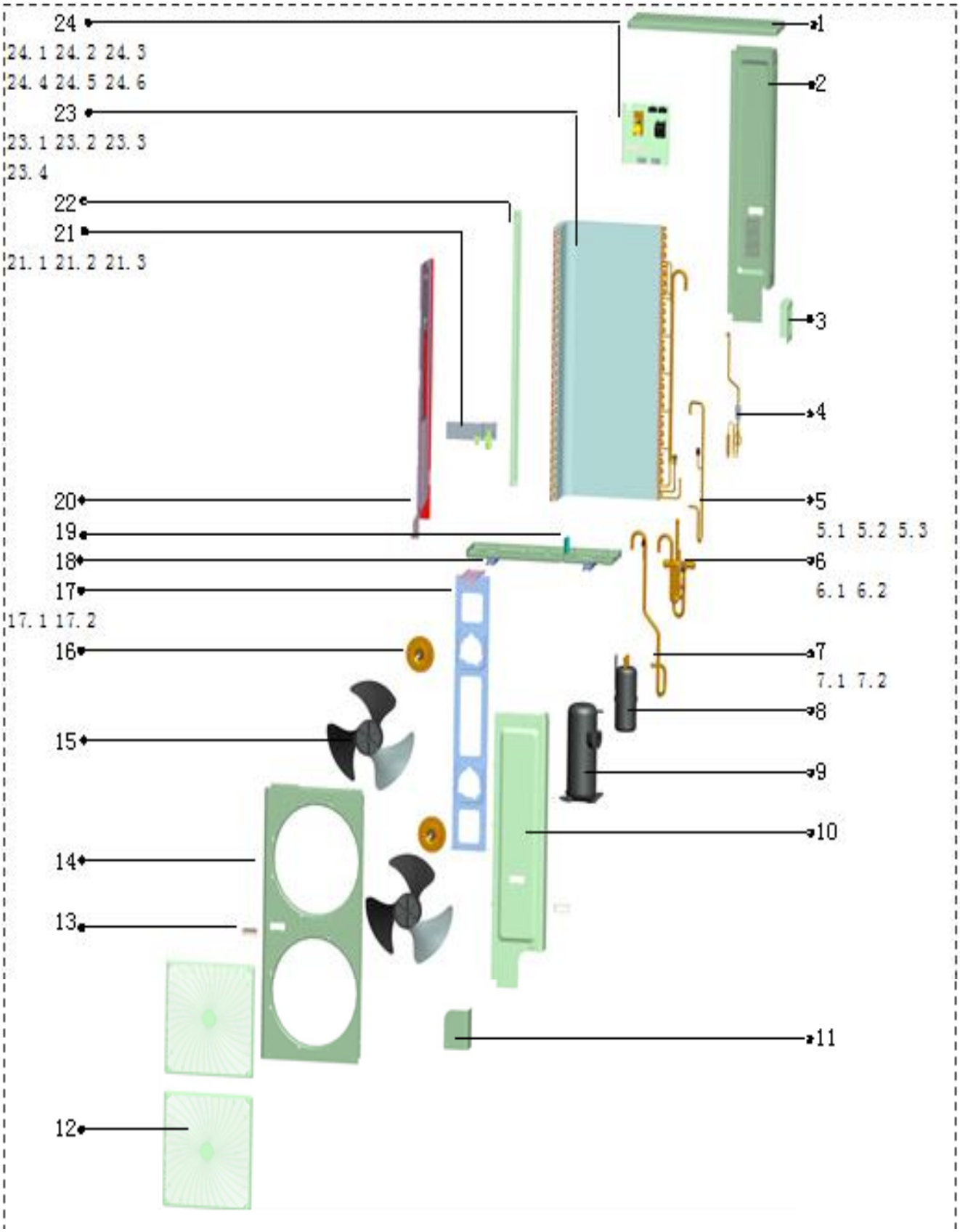
No.	Part Name	Quantity	No.	Part Name	Quantity
1	Front top net	1	12.10	Control wire for 4-Ways valve	1
2	Front panel	1	12.11	Contactor	1
3	Propeller fan	1	13	Right clapboard	1
4	Handle	1	14	Handle	1
5	Left clapboard	1	15.1	Valve holder	1
6	Fan motor	1	15.2	Cut-off valve DN8	1
7	Holder for fan motor	1	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	9.2	High-pressure switch	1
2	Rear net	1	9.3	Discharge temp sensor	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	Compressor capacitor	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	Patch board	1	14.1	Maintenance board	1
3.8	Protection cap	2	14.2	Handle	1
3.9	Capacitor clamp	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	throttle capillary Pre-welding assy	1	22	Condenser assy	1
7	Discharge pipe B for compressor	1	22.1	Condenser	1
8	compressor suction pipe B Pre-welding assy	1	22.2	Condenser collecting pipe Pre-welding assy	1
8.1	compressor Suction pipe B	1	22.3	distributing capillary Pre-welding assy	1
8.2	Low-pressure switch	1	22.4	Temp sensor	1
9	Pre-welding assy for discharge pipe A	1	23	Refrigerant R410a	2.1kg
9.1	Discharge pipe A for compressor	1			

8.4 COU-48HR1 , COU-60HR1



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Cover	1	17.1	Fan motor support	1
2	Rear clapboard	1	17.2	Joint board for fan motor support	1
3	Rear clapboard for valve	1	18	Chassis weld parts	1
4	High-pressure valve joint tube assy	1	19	Compressor foot cover	1
5	Discharge pipe assy	1	20	Separating board	1
5.1	Discharge pipe	1	21	Valve holder	1
5.2	High-pressure switch	1	21.1	Valve holder	1
5.3	Discharge temp sensor	1	21.2	Cut-off valve DN8	1
6	4-Way valve assy	1	21.3	Cut-off valve DN16	1
6.1	4-Way valve assy	1	22	column	1
6.2	Control wire for 4-Ways valve	1	23	Condenser assy	1
7	Suction pipe assy	1	23.1	Condenser	1
7.1	Suction pipe	1	23.2	Condenser collecting pipe assy	1
7.2	Low-pressure swicth	1	23.3	Distributing capillary assy	1
8	Vapor-liquid separator	1	23.4	Temp sensor	1
9	Compressor	1	24	E-parts assy	1
10	Right clapboard	1	24.1	Installation board for E-parts	1
11	Right clapboard for valve	1	24.2	Sequence protector	1
12	Top net	2	24.3	Contactor	1
13	Handle	3	24.4	Fan motor capacitor	1
14	Front panel	1	24.5	Terminal	1
15	Propeller fan	2	24.6	Groove clamp	2
16	Asynchronous motor	2	25	Refrigerant R410a	3.6kg
17	Fan motor support	1			

9.Troubleshooting

Fault display

No.	Malfunction name	Outdoor LED
1	High pressure & low pressure protection	Flash once per five seconds
2	Outdoor coil temperature sensor fault	Flash twice per five seconds
3	Over current protection	Flash three times per five seconds
4	Phase sequence protection	Flash four times per five seconds
5	Communication fault	Flash five times per five seconds

Part 4 Installation

1.Precaution on Installation

1.1. Measure the necessary length of the connecting pipe, and make it by the following way.

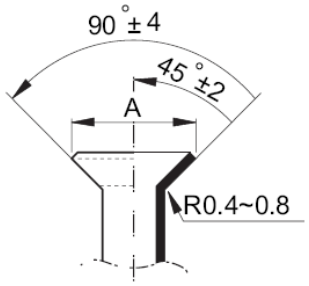
a. Connect the indoor unit at first, then the outdoor unit.

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.

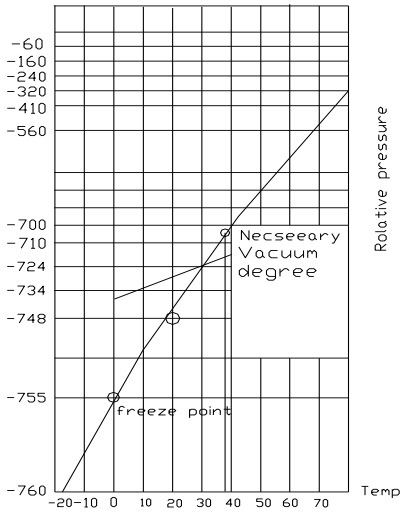
1.4. Then, open the stem of stop values of the outdoor unit to make the refrigerant pipe connecting the indoor unit with the outdoor unit in fluent flow.

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.

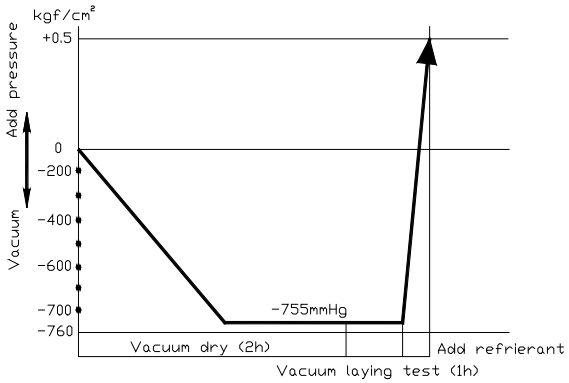


2.2 Vacuum dry procedure

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

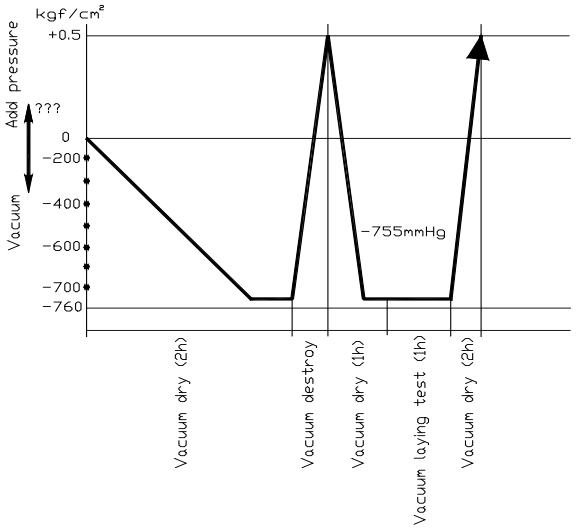
Because nitrogen is for drying gas, it has vacuum drying effect during vacuum destroy. But if the moisture is too much, this method can't dry thoroughly. So, please pay more attention to prevent water entering and forming condensation water.

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.

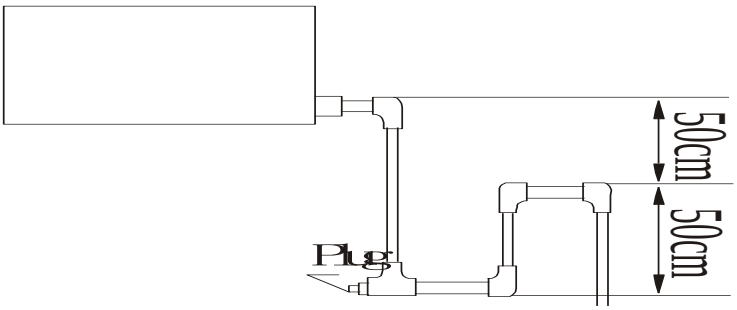
⑨ Indoor units with different drainage type can't share one convergent drainpipe.

4.2 Drainpipe Trap

4.2.1. If the pressure at the connection of the drainpipe is negative, it needs to design drainpipe trap.

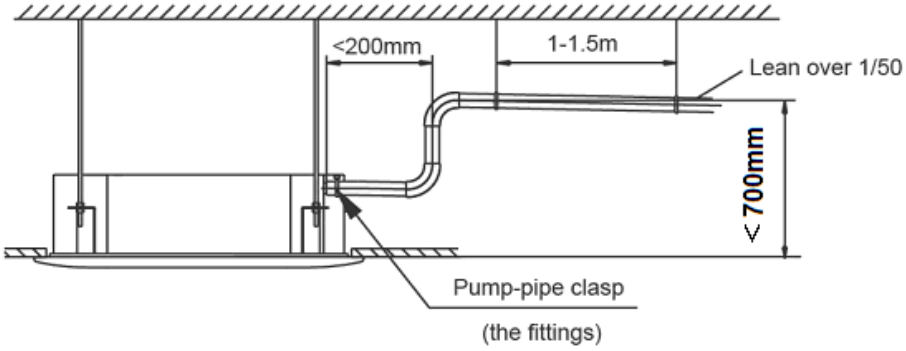
4.2.2. Every indoor unit needs one drainpipe trap.

4.2.3. A plug should be designed to do cleaning.

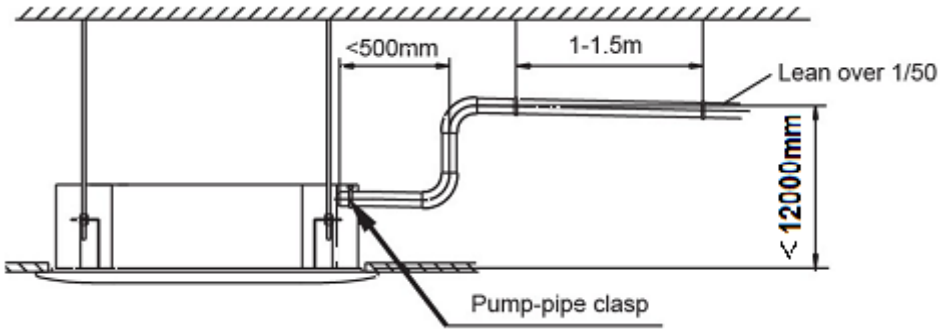


4.3 Upwards drainage (drain pump)

For Four-way cassette(compact)



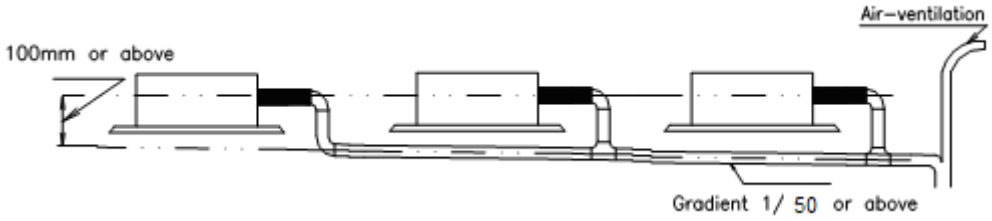
For Four-way cassette



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	≤14	¢25	3.0
Hard PVC	14＜≤88	¢30	3.5
Hard PVC	88＜≤334	¢40	4.0
Hard PVC	175＜≤334	¢50	4.5
Hard PVC	334＜	¢80	6.0

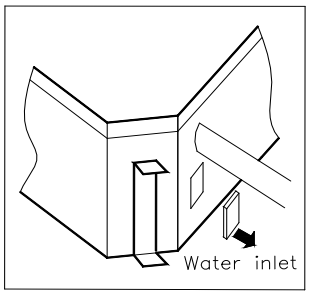
4.5 Drainage test

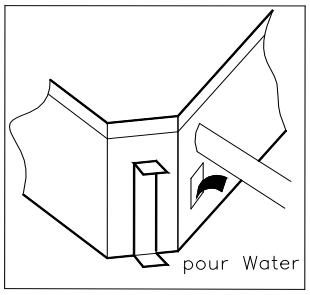
4.5.1Drainage without drain pump

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

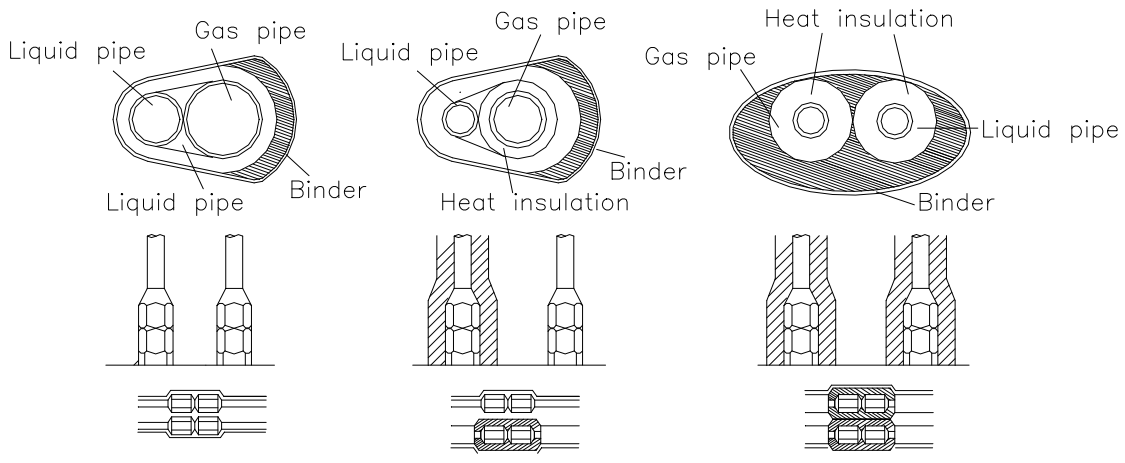
5.2.1. Work Procedure

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

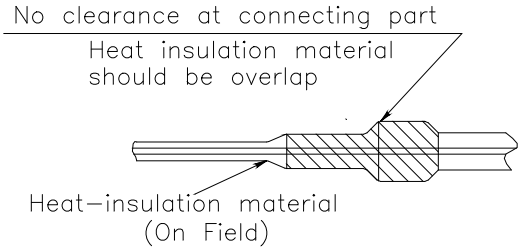


For construction convenience, before laying pipes, use insulation material to insulate the pipes to be deal with, at the same time, at two ends of the pipe, remain some length not to be insulated, in order to be welded and check the leakage after laying the pipes.

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.

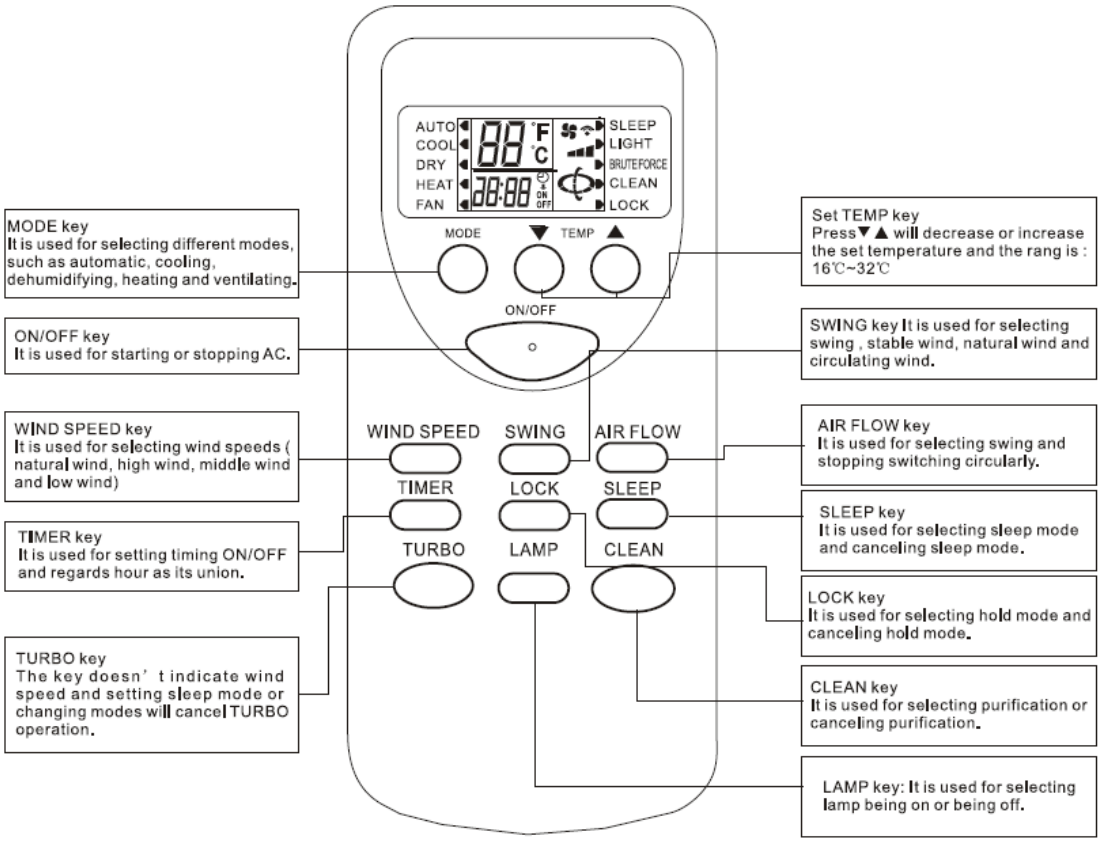
Outdoor unit

- 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.Wire 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

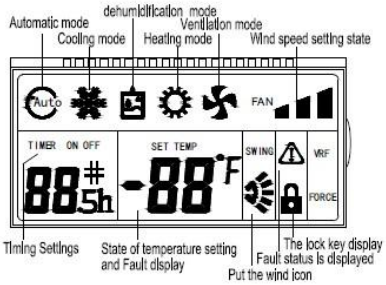


Fig2 LCD display content of Wire Controller

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.

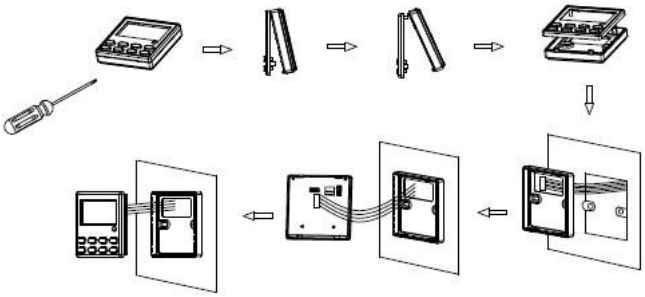
2、The installation of the wire controller

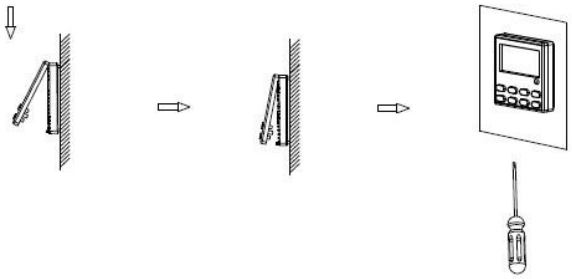
First of all, the wire controller signal line connection mode is as follows:

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

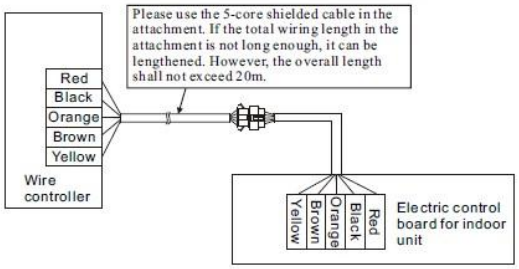
2) Plug the wire controller signal lines within the five core needle base on the indoor machine circuit boards, and using cable tie line tied tightly fixed.

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



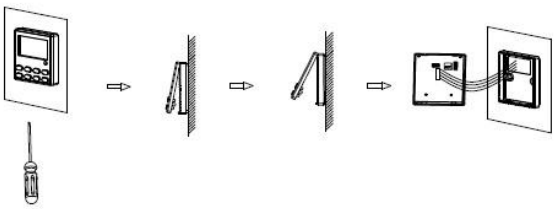
Brief description of the installation process is as follows

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.