



R32 50Hz Universal Outdoor Series
Inverter type

Technical Manual

LCAC/2020.02



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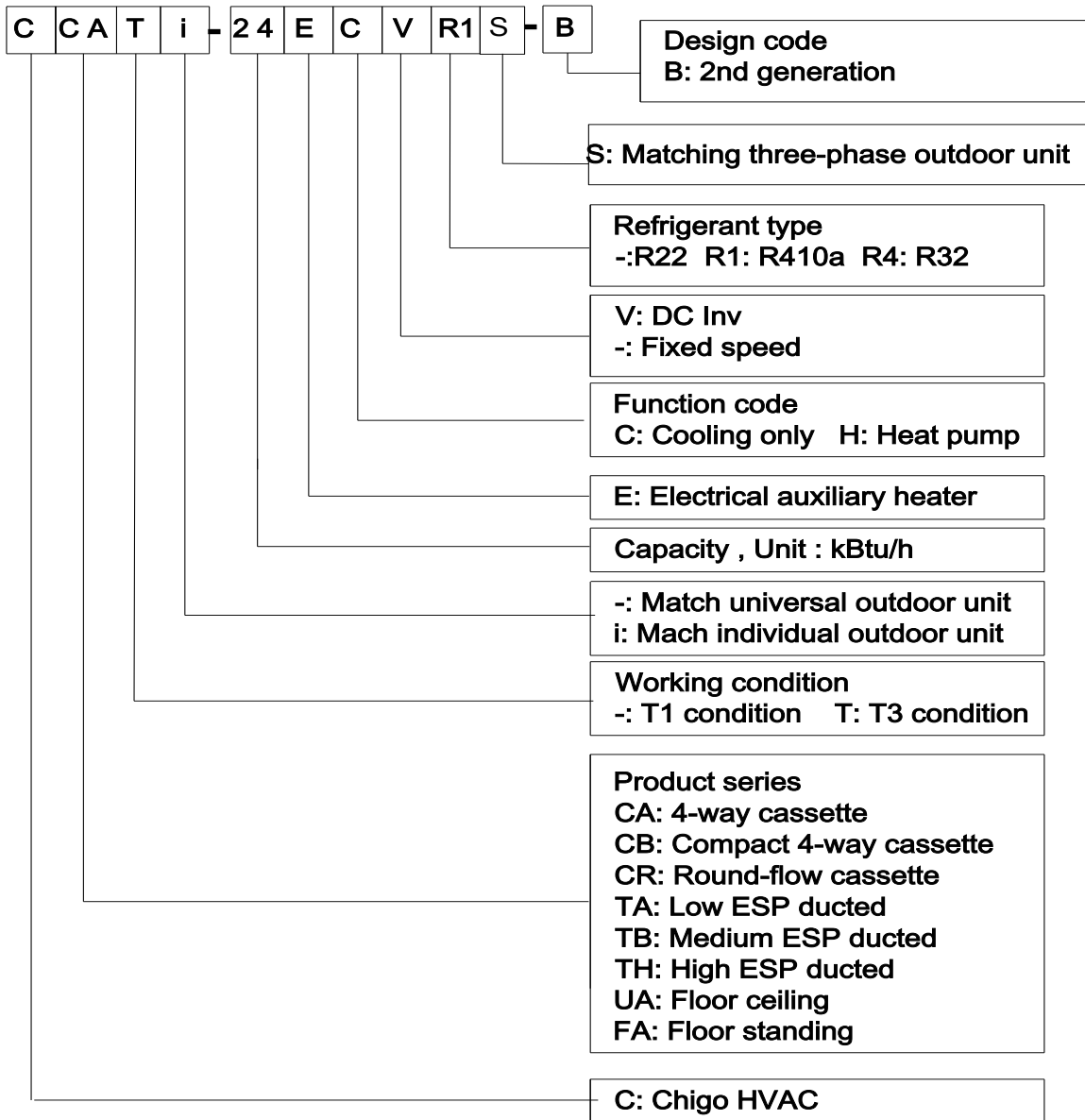
R32 50Hz Universal Outdoor series

Part1. General Information

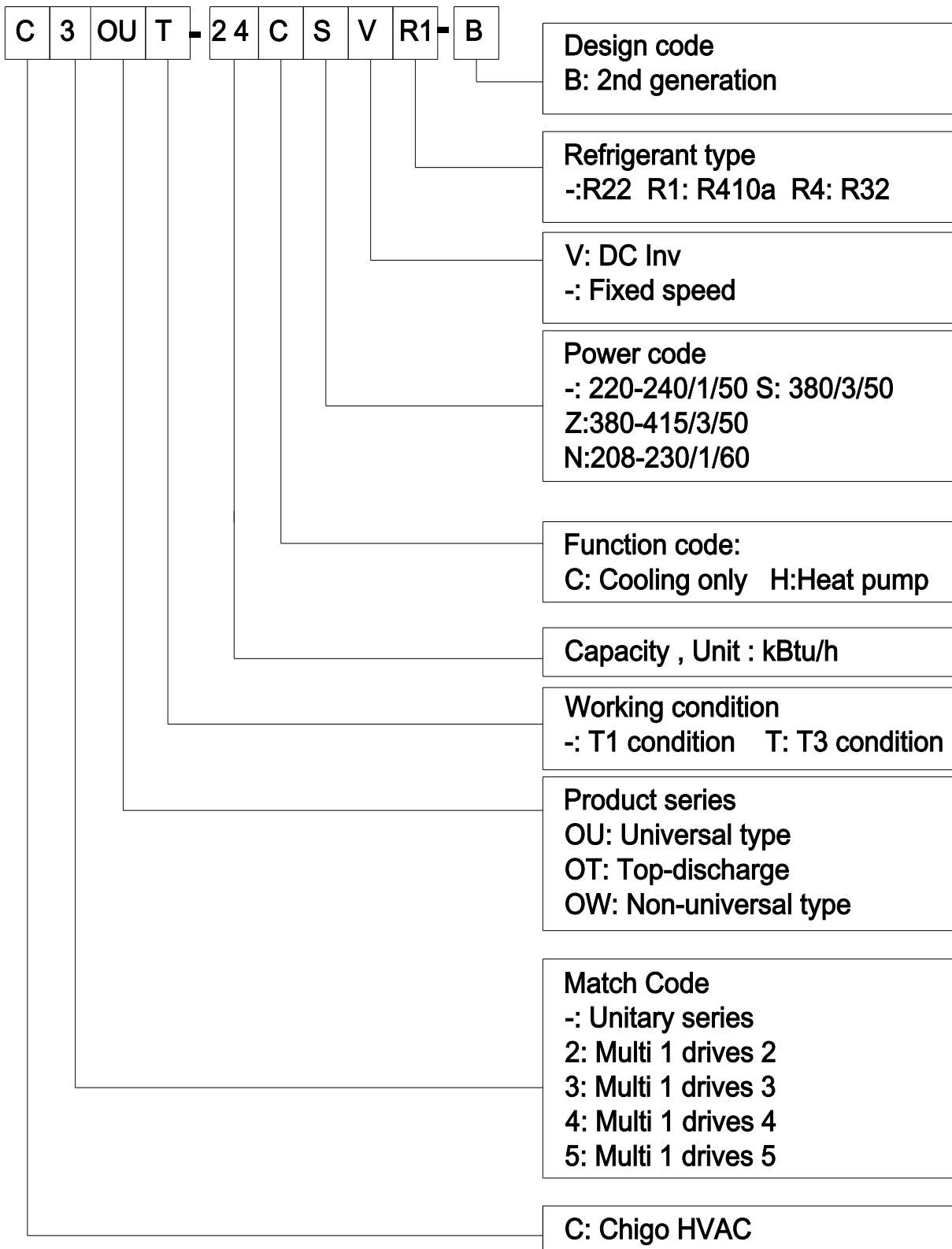
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1. Nomenclature

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-18HVR4	565×267×565	16.5/21.5	220~240V-1Ph-50Hz
CCR-18HVR4	840×230×840	25/30	220~240V-1Ph-50Hz
CCR-24HVR4	840×230×840	25/30	220~240V-1Ph-50Hz
CCR-36HVR4	840×285×840	30.5/36	220~240V-1Ph-50Hz
CCR-36HVR4S	840×285×840	30.5/36	220~240V-1Ph-50Hz
CCR-48HVR4	840×285×840	29.5/35	220~240V-1Ph-50Hz
CCR-48HVR4S	840×285×840	29.5/35	220~240V-1Ph-50Hz
CCR-55HVR4S	840×285×840	29.5/35	220~240V-1Ph-50Hz
CTA-18HVR4	1214×210×467	22.5/25.5	220~240V-1Ph-50Hz
CTA-24HVR4	1214×210×467	25/28	220~240V-1Ph-50Hz
CTB-36HVR4	1425×260×643	46/50	220~240V-1Ph-50Hz
CTB-36HVR4S	1425×260×643	46/50	220~240V-1Ph-50Hz
CTB-48HVR4	1279×307×830	49/56	220~240V-1Ph-50Hz
CTB-48HVR4S	1279×307×830	49/56	220~240V-1Ph-50Hz
CTB-55HVR4S	1279×307×830	49/56	220~240V-1Ph-50Hz
CUA-18HVR4	1245×680×240	34/40	220~240V-1Ph-50Hz
CUA-24HVR4	1245×680×240	35/41	220~240V-1Ph-50Hz
CUA-36HVR4	1245×680×240	35/41	220~240V-1Ph-50Hz
CUA-36HVR4S	1245×680×240	35/41	220~240V-1Ph-50Hz
CUA-48HVR4	1670×680×245	49/56	220~240V-1Ph-50Hz
CUA-48HVR4S	1670×680×245	49/56	220~240V-1Ph-50Hz
CUA-55HVR4S	1670×680×245	49/56	220~240V-1Ph-50Hz

2.2 Outdoor Units

Model name	Dimension (W×H×D) (mm)	Net/Gross weight(kg)	Power supply
COU-18HDR4	925×700×366	42/45	220~240V-1Ph-50Hz
COU-24HDR4	958×843×392	52/62	220~240V-1Ph-50Hz
COU-36HDR4	1030×788×432	68/74	220~240V-1Ph-50Hz
COU-36HZDR4	1030×788×432	75/81	380~415V-3Ph-50Hz
COU-48HDR4	1014×1430×450	109/123.6	220~240V-1Ph-50Hz
COU-48HZDR4	1014×1430×450	109/123.6	380~415V-3Ph-50Hz
COU-55HZDR4	1014×1430×450	112/126.6	380~415V-3Ph-50Hz

3. External Appearance

3.1 Indoor unit

Round-way Cassette



Compact 4-way cassette



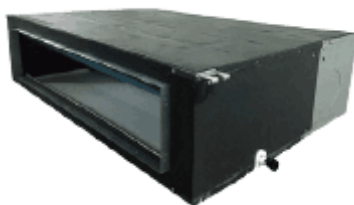
Low ESP Duct



Middle ESP Duct for 36K



Middle ESP Duct for 48/55K



Floor & Ceiling



3.2 Outdoor unit

COU-18HDR4



COU-24HDR4



COU-36HDR4, COU-36HZDR4



COU-48HDR4, COU-48HZDR4,
COU-55HZDR4



4. Features

- 4.1 Wide operation range, -15 for cooling and -15 for heating.
- 4.2 Excellent in efficiency, SCOP higher than 3.8, meet the EU's new energy efficiency standards.
- 4.3 High quality coils
The coil is constructed of advanced inner grooved copper tube and aluminum fins.
- 4.4 Low operation sound level: Well-known stable and quiet running DC fan motor.
- 4.5 Well-known compressor, GMCC and Mitsubishi.
- 4.6 Universal design: convenient for market stock and spare parts stock.
- 4.8 R32 is environment friendly refrigerant.
- 4.9 CE certification, ROHS certification.

Part2. Indoor Unit

Round-Way Cassette Type

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1. Features



Standard round-way cassette



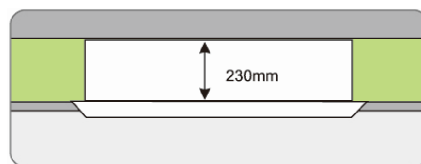
Compact 4-way cassette

1.1 Standard round-flow cassette

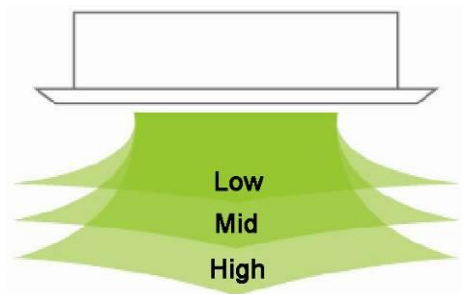
- (1) Brand-new panel design. Indoor unit use uniform panel, simple and convenient.
- (2) Simple, fealty and vogueish appearance suit for different requirements, it's mostly used for office, shopping center, restaurant, meeting room and etc.
18kbtu/h~55kbtu/h, standard type, 950mm*950mm



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



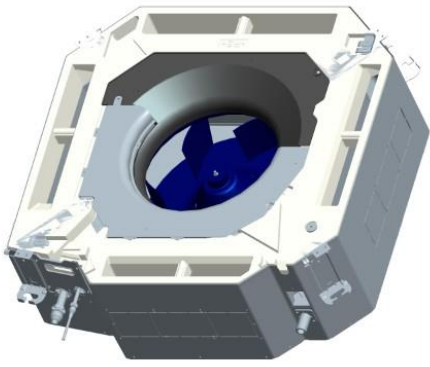
- (4) Round air flow, cold air can reach each corner of the room, providing a stable and comfortable environment.
- (5) 3 fan speed, meet for different requirement.



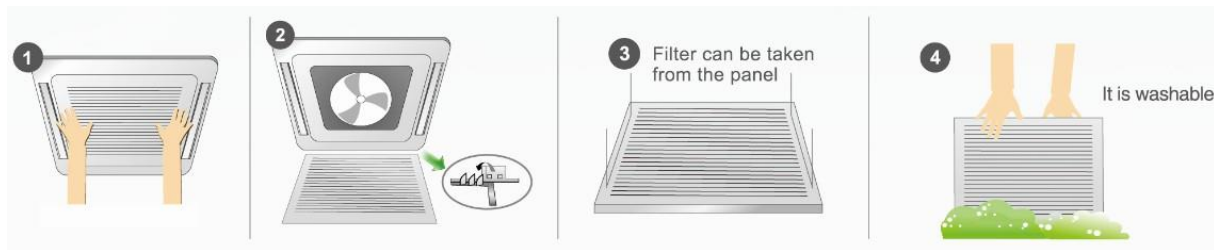
- (6) New streamlined fan design.



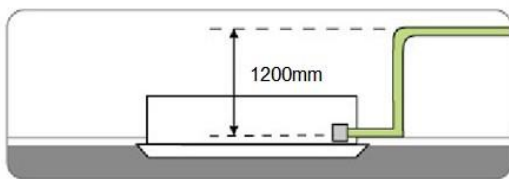
- (7) Occupied a small installation space, saving interior space



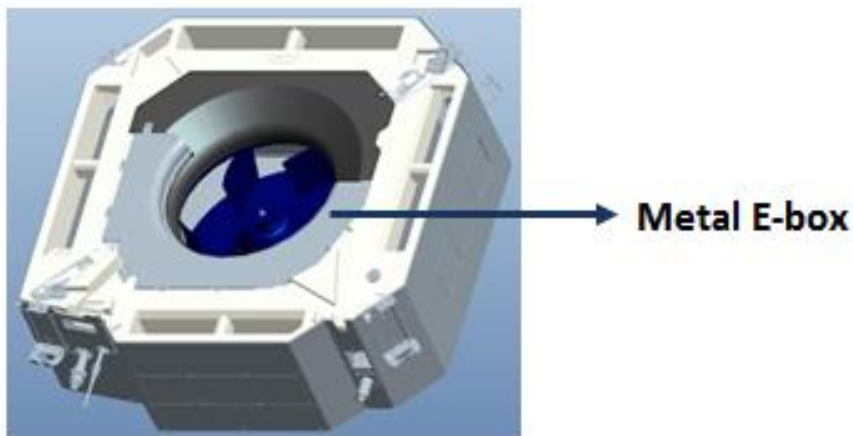
(8) Easy and convenient installation and maintenance, washable filter design.



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



(10) Integrated electric control box, The E-box is safely covered by metal plate, for better fire-resistance, save using.



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



- (12) Multi protection and auto-restart function.
- (13) Low operation sound level: Well-known stable and quiet running DC fan motor.
- (14) Standard for wireless controller; option for wired controller.



Standard



optional

- (15) DC inverter motor, operate in ultra-low frequency in order to precisely control the indoor temperature.

1.2 Compact 4-way cassette

(1) Compact type , ultra-thin body design, the Min height is 275mm,saving installation space



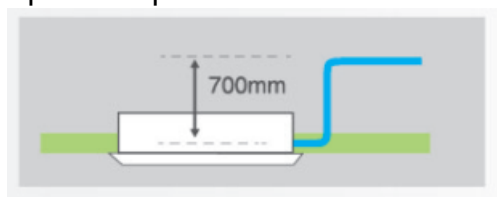
(2) Washable filter, convenient to install and maintain



(3) Streamlined design and 3D spiral fan blade reduces air resistance and operation noise



(4) Built-in water pump, pump head up to 700mm



(5) Foam water tray coated with special plastic convenient to install, preventing the leakage of condensed water effectively.



2. Specification

2.1 Specification of round-flow cassette

Model		CCR-18HVR4	CCR-24HVR4
Indoor power supply		V/Ph/Hz	220~240/1/50
Cooling	Capacity	KW	2.0-5.3-5.6
	Power input	W	420-1580-2100
	Current input	A	2.1-10.1
	EER	W/W	3.35
	SEER	W/W	6.1
Heating	Capacity	KW	2.5-5.9-6.0
	Input	W	500-1470-1940
	Rated current	A	2.5-9.2
	COP	W/W	4.01
	SCOP	W/W	4.0
Energy rate		Cooling	A++
Energy rate		Heating	A+
Max. power input		W	2400
Max. current input		A	11.4
Indoor fan motor	Model		DR-310-60Q-8
	Brand		Panasonic
	Power output	W	60
	Capacitor	μF	-
	Speed	r/min	850/790/600
	Insulation class		E
Indoor coil	Number of rows		2
	Tube pitch(a) x row pitch(b)	mm	21×13.37
	Fin spacing	mm	1.45
	Fin type		Hydrophilic
	Tube outside dia. and type	mm	Φ7
			inner grooved
	Coil length x height x width	mm	2000×168×26.74
Number of circuits		8	
Indoor air flow (High speed)		m ³ /h	900/800/650
Indoor noise level	power level	dB(A)	46~58
	pressure level		36/41/45
Indoor unit	Dimension (W*H*D)	Body(mm)	840×230×840
		Panel(mm)	950×50×950
	Packing (W*H*D)	Body(mm)	920×265×920
		Panel(mm)	1030×105×1030
	Net/Gross weight	Body(Kg)	25/30
		Panel(Kg)	6.5/9.5
Max pressure		MPa	4.2
Refrigerant type			R32
Refrigerant piping	Liquid side/Gas side	mm	Φ6.35/Φ12.7
Drainage pipe		mm	DN25
Standard controller		Standard for remote controller(wired controller for option)	
Operation temp		°C	16~32
Ambient temp	cooling	°C	-15~50
	heating	°C	-15~30

Model			CCR-36HVR4	CCR-36HVR4S
Indoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50
Cooling	Capacity	KW	6.6-10.5-12.8	6.6-10.5-12.8
	Power input	W	740-3150-3900	740-3150-3900
	Current input	A	2.8-13.6-20	1.8-8.0-10
	EER	W/W	3.33	3.33
	SEER	W/W	6.1	6.1
Heating	Capacity	KW	7.35-11.5-13.2	7.35-11.5-13.2
	Input	W	1100-3375-4000	1100-3375-4000
	Rated current	A	4.2-14.7-20.4	2.8-7.8-10.2
	COP	W/W	3.09	3.09
	SCOP	W/W	4.0	4.0
Energy rate		Cooling	A++	A++
Energy rate		Heating	A+	A+
Max. power input		W	4800	4800
Max. current input		A	26	10.3
Indoor fan motor	Model		DR-310-100Q-8	DR-310-100Q-8
	Brand		Panasonic	Panasonic
	Power output	W	100	100
	Capacitor	μF	-	-
	Speed	r/min	840/750/650	840/750/650
	Insulation class			E
Indoor coil	Number of rows		2	2
	Tube pitch(a) x row pitch(b)	mm	21×13.37	21×13.37
	Fin spacing	mm	1.45	1.45
	Fin type		Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7	Φ7
			inner grooved	inner grooved
	Coil length x height x width	mm	2000×252×26.74	2000×252×26.74
Number of circuits		12	12	
Indoor air flow (High speed)		m ³ /h	1800/1700/1550	1800/1700/1550
Indoor noise level	power level	dB(A)	53~61	53~61
	pressure level		43/45/48	43/45/48
Indoor unit	Dimension (W*H*D)	Body(mm)	840×285×840	840×285×840
		Panel(mm)	950×50×950	950×50×950
	Packing (W*H*D)	Body(mm)	920×310×920	920×310×920
		Panel(mm)	1030×105×1030	1030×105×1030
	Net/Gross weight	Body(Kg)	30.5/36	30.5/36
		Panel(Kg)	6.5/9.5	6.5/9.5
Max pressure		MPa	4.2	4.2
Refrigerant type			R32	R32
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ15.88	Φ9.52/Φ15.88
Drainage pipe		mm	DN25	DN25
Standard controller			Standard for remote controller(wired controller for option)	
Operation temp		°C	16~32	16~32
Ambient temp	cooling	°C	-15~50	-15~50
	heating	°C	-15~30	-15~30

Model		CCR-48HVR4	CCR-48HVR4S
Indoor power supply		V/Ph/Hz	220~240/1/50
Cooling	Capacity	KW	7.0-14.0-15.5
	Power input	KW	1.1-4.95-5.8
	Current input	A	3-24-28
	EER	W/W	2.83
Heating	Capacity	KW	8.0-15.2-16.0
	Input	KW	1.2-4.92-6.0
	Rated current	A	4-20.5-24
	COP	W/W	3.09
Energy rate		Cooling	A++
Energy rate		Heating	A+
Max. power input		W	5700
Max. current input		A	28
Indoor fan motor	Model		DR-310-100Q-8
	Brand		Panasonic
	Power output	W	100
	Capacitor	μF	-
	Speed	r/min	850/750/650
	Insulation class		E
Indoor coil	Number of rows		3
	Tube pitch(a) x row pitch(b)	mm	21×13.37
	Fin spacing	mm	1.6
	Fin type		Hydrophilic
	Tube outside dia. and type	mm	Φ7
			inner grooved
	Coil length x height x width	mm	2000×252×40.01
Number of circuits		12	
Indoor air flow (High speed)		m ³ /h	1900/1800/1600
Indoor noise level	power level	dB(A)	56-63
	pressure level		45~52
Indoor unit	Dimension (W*H*D)	Body(mm)	840×285×840
		Panel(mm)	950×50×950
	Packing (W*H*D)	Body(mm)	920×310×920
		Panel(mm)	1030×105×1030
	Net/Gross weight	Body(Kg)	30.5/36
		Panel(Kg)	6.5/9.5
Max pressure		MPa	4.5
Refrigerant type			R32
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ15.88
Drainage pipe		mm	DN25
Standard controller		Standard for remote controller(wired controller for option)	
Operation temp		°C	16~32
Ambient temp	cooling	°C	-15~50
	heating	°C	-15~30

Model			CCR-55HVR4
Indoor power supply		V/Ph/Hz	220~240/1/50
Cooling	Capacity	KW	7.5-16.0-17.0
	Power input	KW	1.4-5.9-6.3
	Current input	A	3.5-15-15.8
	EER	W/W	2.71
Heating	Capacity	KW	8.5-16.8-17.5
	Input	KW	1.5-5.46-6.5
	Rated current	A	3.7-14-16.3
	COP	W/W	3.08
Energy rate		Cooling	A++
Energy rate		Heating	A+
Max. power input		W	6700
Max. current input		A	17
Indoor fan motor	Model		DR-310-100Q-8
	Brand		Panasonic
	Power output	W	100
	Capacitor	μF	-
	Speed	r/min	850/750/650
	Insulation class		
Indoor coil	Number of rows		3
	Tube pitch(a) x row pitch(b)	mm	21×13.37
	Fin spacing	mm	1.6
	Fin type		Hydrophilic
	Tube outside dia. and type	mm	Φ7
			inner grooved
	Coil length x height x width	mm	2000×252×40.01
Number of circuits			12
Indoor air flow (High speed)		m ³ /h	2000/1900/1700
Indoor noise level	power level	dB(A)	56-63
	pressure level		45~52
Indoor unit	Dimension (W*H*D)	Body(mm)	840×285×840
		Panel(mm)	950×50×950
	Packing (W*H*D)	Body(mm)	920×310×920
		Panel(mm)	1030×105×1030
	Net/Gross weight	Body(Kg)	30.5/36
		Panel(Kg)	6.5/9.5
Max pressure		MPa	4.2
Refrigerant type			R32
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ15.88
Drainage pipe		mm	DN25
Standard controller			
Operation temp		°C	16~32
Ambient temp	cooling	°C	-15~50
	heating	°C	-15~30

2.2 Specification of compact 4-way cassette

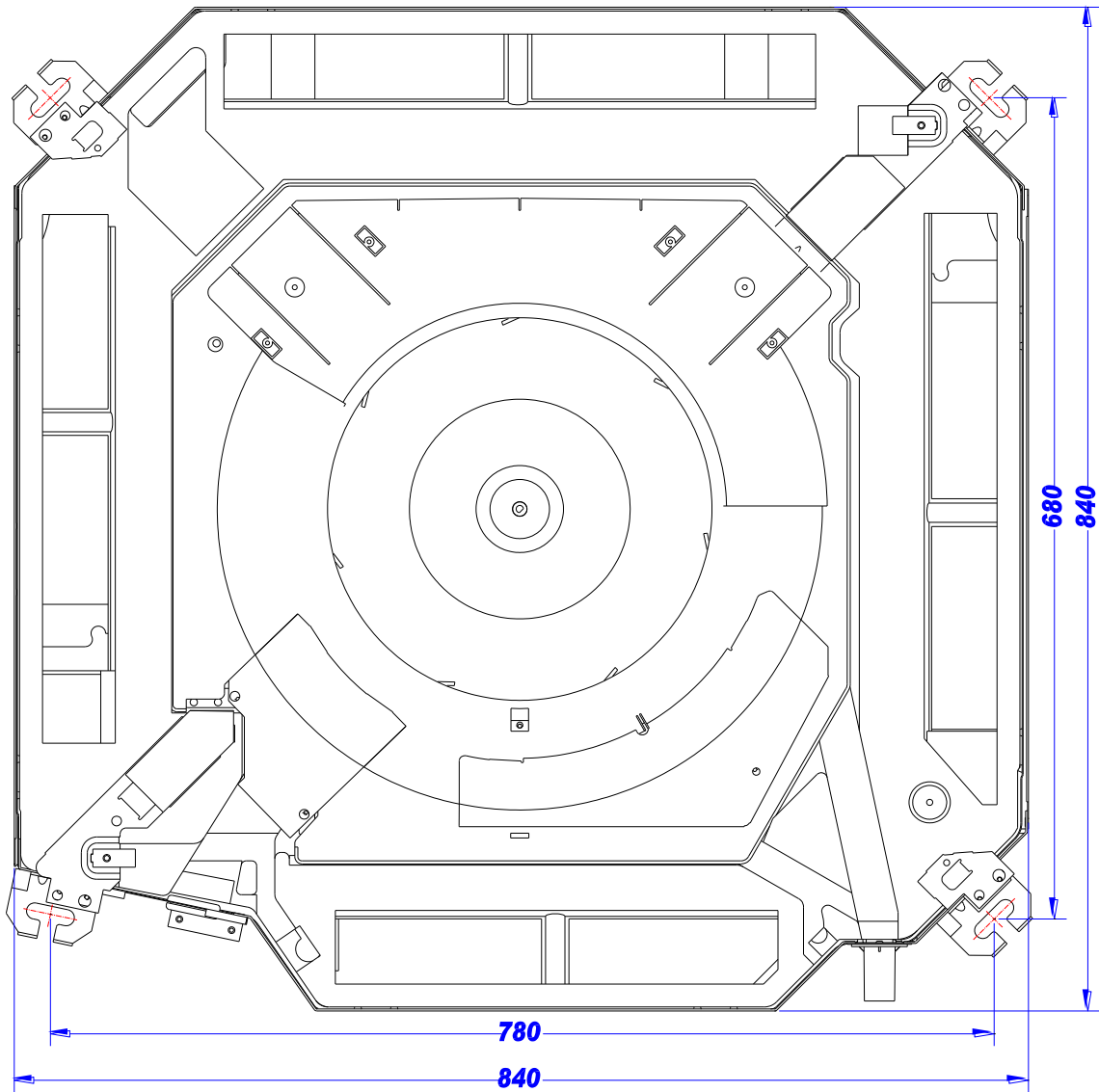
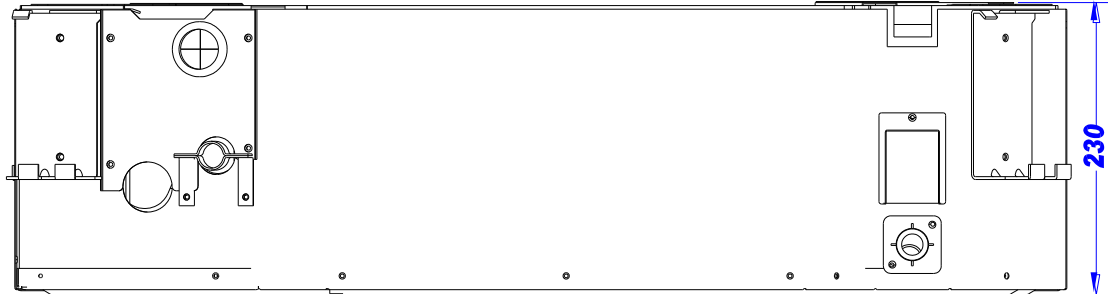
Model			CCB-12HVR4	CCB-18HVR4
Indoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50
Cooling	Capacity	KW	1.4~3.5~3.8	2.0-5.3-5.6
	Power input	W	300~1020~1400	420-1555-2100
	Current input	A	1.5~6.6	2.1-10.1
	EER	W/W	3.43	3.41
	SEER	W/W	6.1	6.1
Heating	Capacity	KW	1.6~4.0~4.1	2.5-5.9-6.0
	Input	W	350~980~1300	500-1445-1940
	Rated current	A	1.7~6.2	2.5-9.2
	COP	W/W	4.08	4.08
	SCOP	W/W	4.0	4.0
Energy rate		Cooling	A++	A++
Energy rate		Heating	A+	A+
Max. power input		W	2100	2400
Max. current input		A	10.4	11.4
Indoor fan motor	Model		DR-310-35Q-8-1	DR-310-35Q-8-1
	Brand		Shibaura	Shibaura
	Power output	W	35	35
	Speed	r/min	690	790
	Insulation class		E	E
Indoor coil	Number of rows		2	2
	Tube pitch(a) x row pitch(b)	mm	21×13.37	21×13.37
	Fin spacing	mm	1.4	1.4
	Fin type		Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7	Φ7
			inner grooved	inner grooved
	Coil length x height x width	mm	1317x210x26.74	1317x210x26.74
Number of circuits		4	4	
Indoor air flow (High speed)		m ³ /h	560	650
Indoor noise level	power level	dB(A)	44~52	46-55
	pressure level		32/36/40	36/39/43
Indoor unit	Dimension (W*H*D)	Body(mm)	565x267x565	565x267x565
		Panel(mm)	650x29.8x650	650x29.8x650
	Packing (W*H*D)	Body(mm)	745x375x675	745x375x675
		Panel(mm)	750x95x750	750x95x750
	Net/Gross weight	Body(Kg)	16.5/21.5	16.5/21.5
		Panel(Kg)	2.7/4.0	2.7/4.0
Max pressure		MPa	4.2	4.2
Refrigerant type			R32	R32
Refrigerant piping	Liquid side/Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7
Drainage pipe		mm	DN25	DN25
Standard controller			Remote controller	
Operation temp		°C	16~32	16~32
Ambient temp	cooling	°C	-15~50	-15~50
	heating	°C	-15~30	-15~30

Notes:

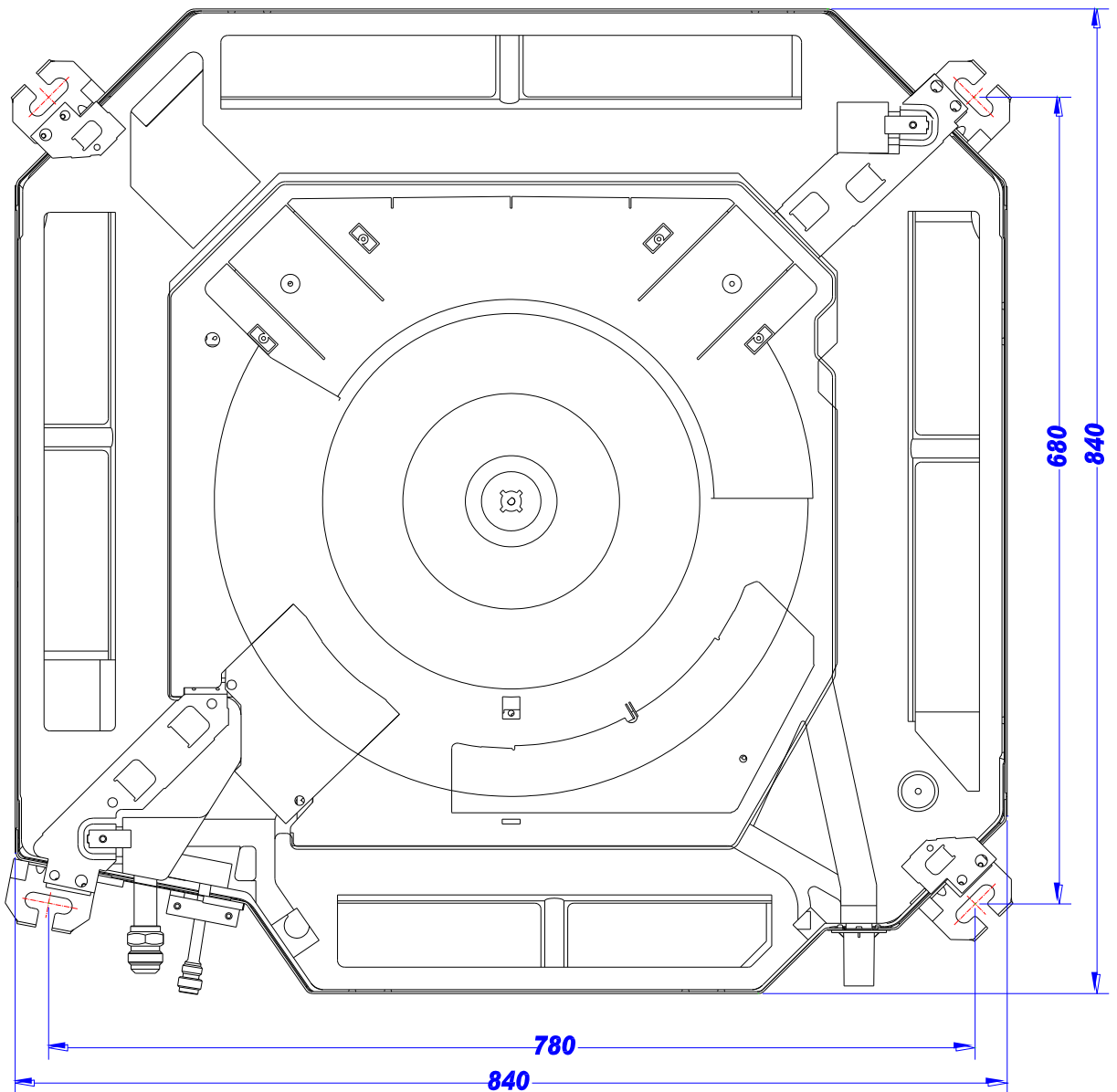
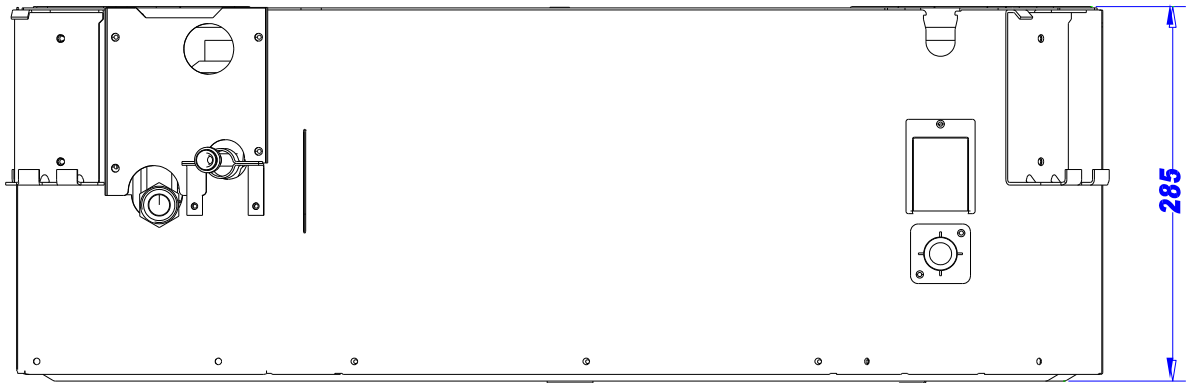
1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. piping: 5m (horizontal)
2. Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. piping: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

3. Dimension

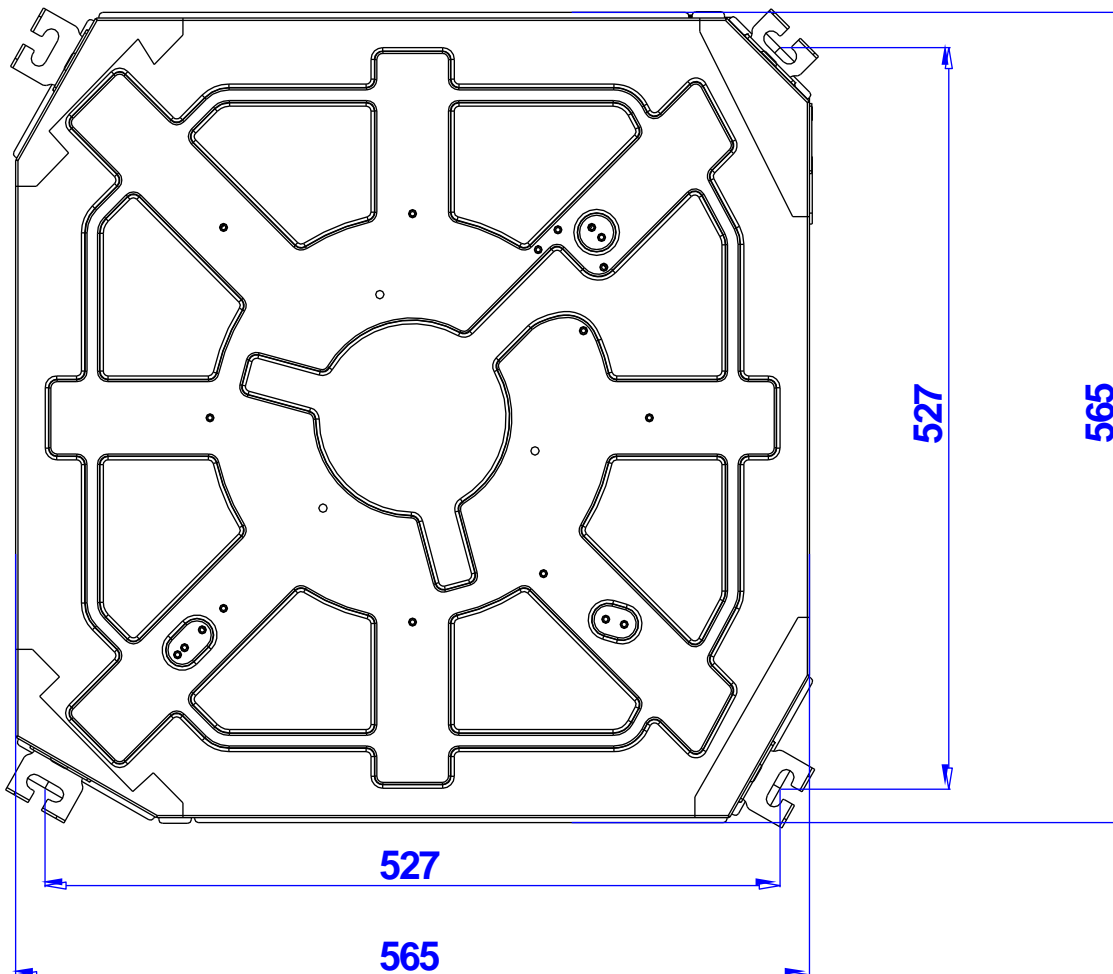
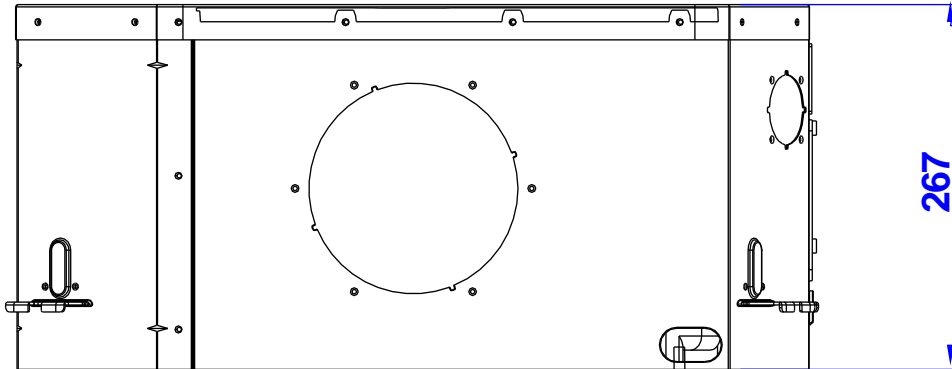
3.1 CCR-18HVR4, CCR-24HVR4



3.2 CCR-36HVR4, CCR-36HVR4S, CCR-48HVR4, CCR-48HVR4S, CCR-55HVR4S



3.3 CCB-12HVR4, CCB-18HVR4

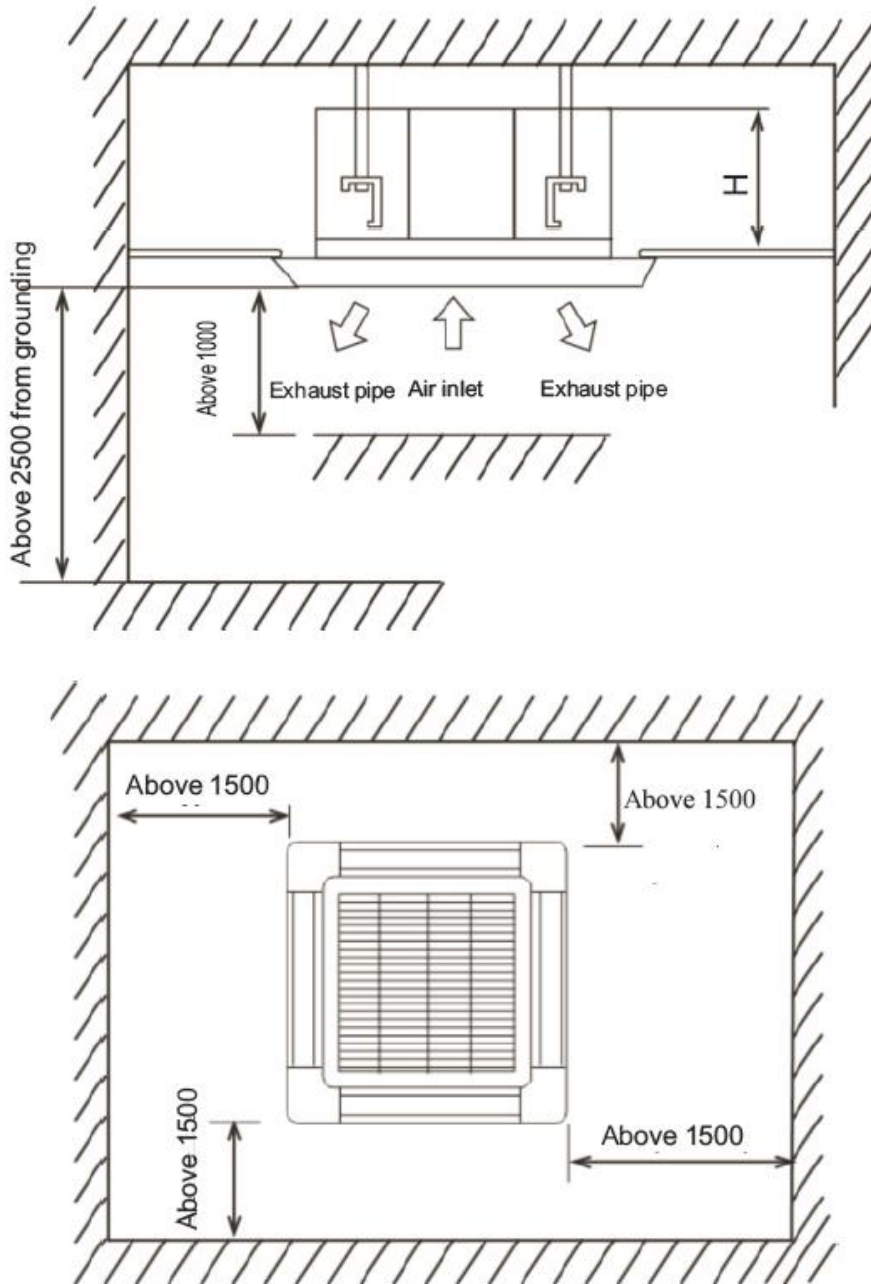


4. Service Space

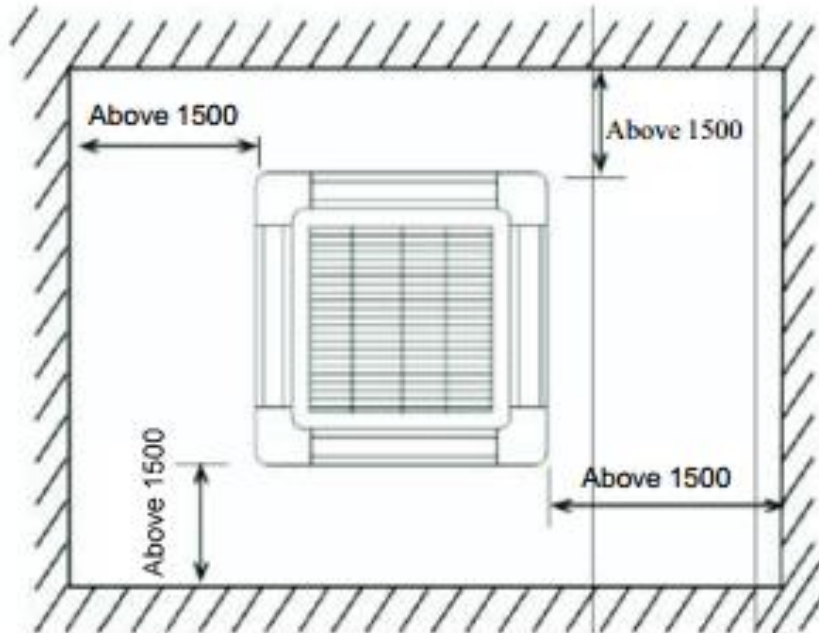
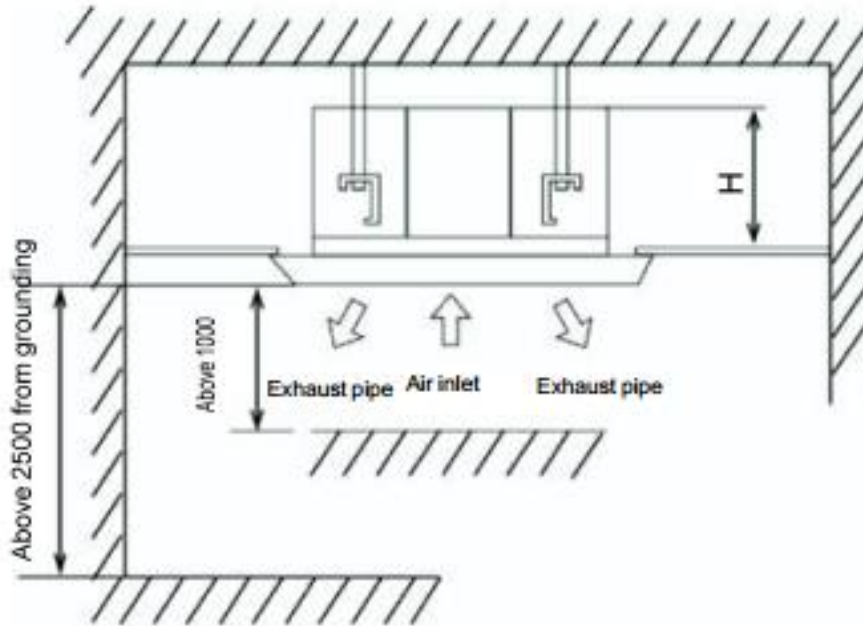
The indoor unit should be installed in a location that meets the following requirements:

- 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.

Round-flow cassette:



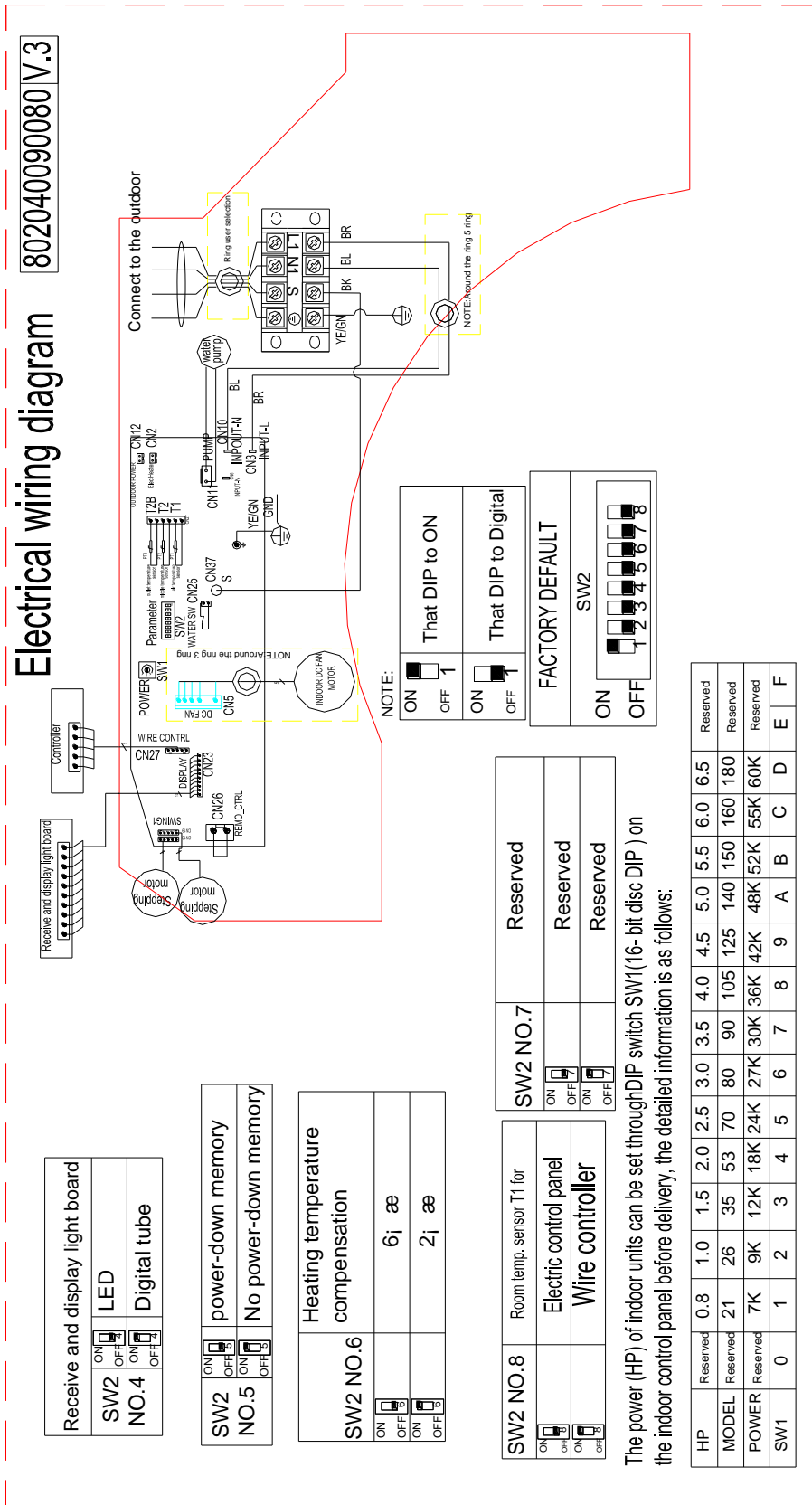
Compact 4-way cassette



Model	Height (mm)
3.5kW, 5.3kW	267
5.3kW, 7.0kW	230
10.5kW, 14kW, 16kW	285

5. Wiring Diagrams

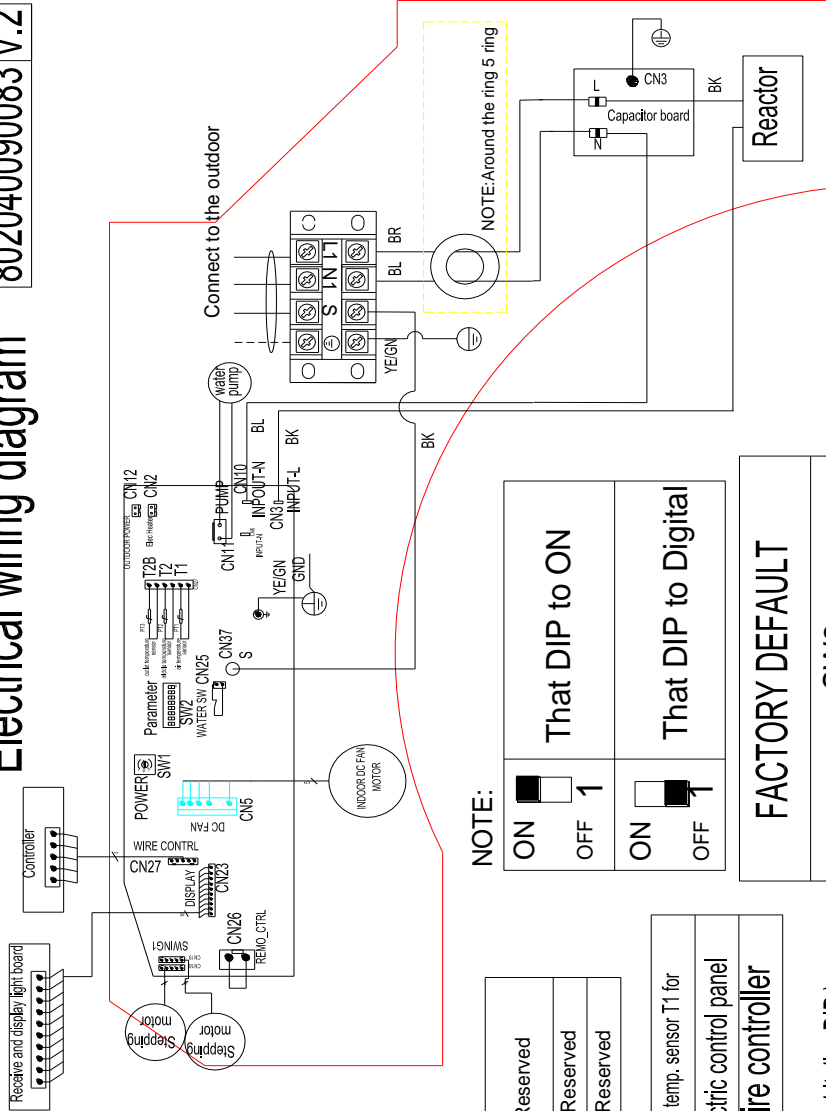
5.1 CCR-18HVR4, CCR-24HVR4



5.3 CCR-48HVR4, CCR-48HVR4S, CCR-18HVR4S

802040090083 V.2

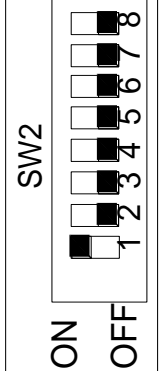
Electrical wiring diagram



NOTE:

- ON OFF 1
- ON OFF That DIP to Digital

FACTORY DEFAULT



Indoor models Select bits	
SW2 NO.1,2	Indoor models
ON <input type="checkbox"/> OFF <input type="checkbox"/>	Low static pressure duct unit
ON <input type="checkbox"/> OFF <input type="checkbox"/>	Ceiling cassette unit
ON <input type="checkbox"/> OFF <input type="checkbox"/>	360° ceiling cassette unit
ON <input type="checkbox"/> OFF <input type="checkbox"/>	Floor & Ceiling unit

Receive and display light board	
SW2 NO.4	LED
ON <input type="checkbox"/> OFF <input type="checkbox"/>	Digital tube

SW2 NO.5	power-down memory
ON <input type="checkbox"/> OFF <input type="checkbox"/>	No power-down memory

SW2 NO.6	Heating temperature compensation
ON <input type="checkbox"/> OFF <input type="checkbox"/>	6j æ
ON <input type="checkbox"/> OFF <input type="checkbox"/>	2j æ

SW2 NO.7	Reserved
ON <input type="checkbox"/> OFF <input type="checkbox"/>	Reserved
ON <input type="checkbox"/> OFF <input type="checkbox"/>	Reserved

SW2 NO.8	Room temp. sensor T1 for
ON <input type="checkbox"/> OFF <input type="checkbox"/>	Electric control panel
ON <input type="checkbox"/> OFF <input type="checkbox"/>	Wire controller

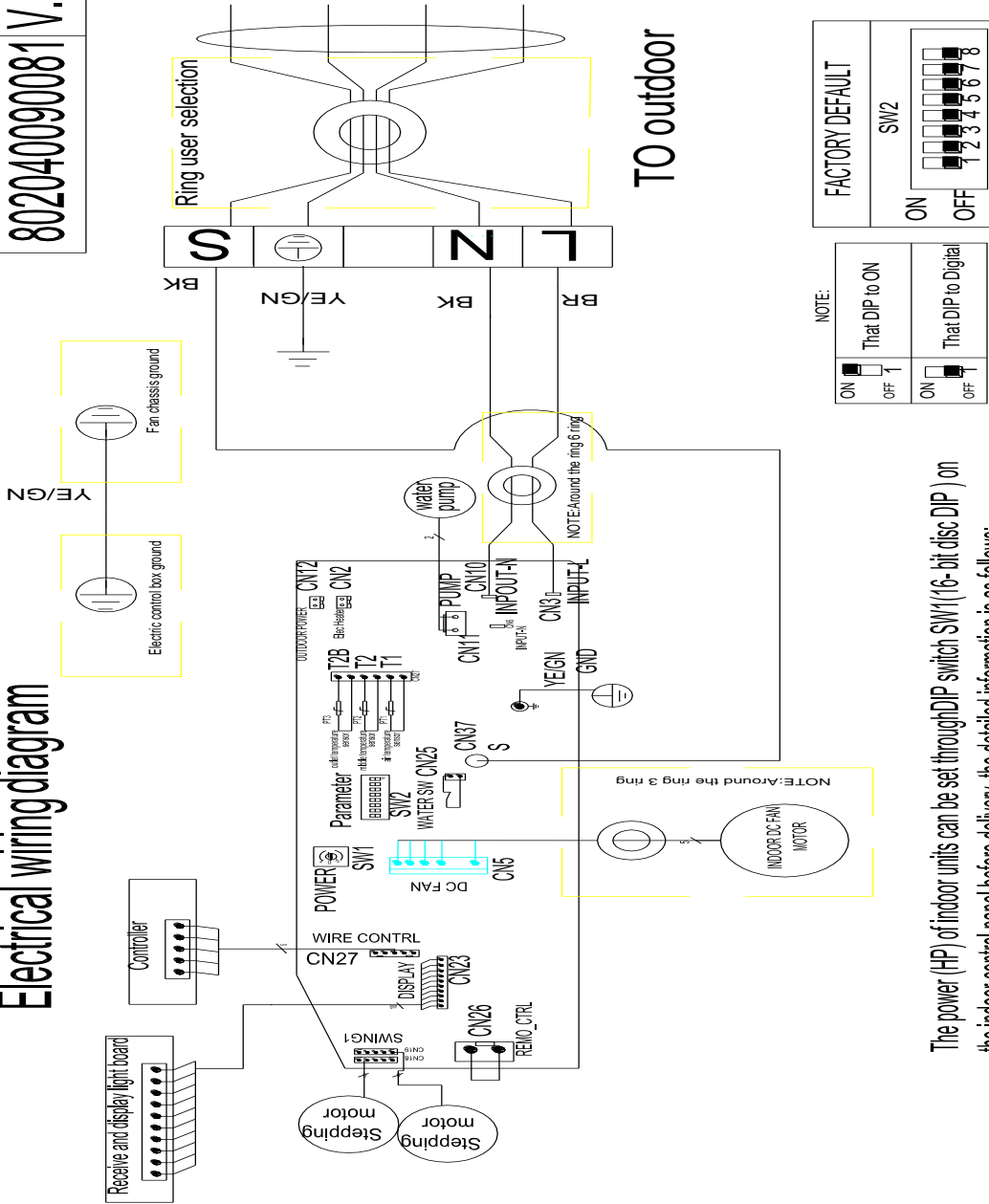
The power (PH) of indoor units can be set through DIP switch SW1 (16-bit disc DIP) on the indoor control panel before delivery, the detailed information is as follows:

HP	Reserved	0,8	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0	6,5	Reserved	
MODEL	Reserved	21	26	35	53	70	80	90	105	125	140	150	160	180	Reserved	
POWER	Reserved	7K	9K	12K	18K	24K	27K	30K	36K	42K	48K	52K	55K	60K	Reserved	
SW1	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

5.4 CCB-12HVR4, CCB-18HVR4

Electrical wiring diagram

802040090081 V.3



TO outdoor

Indoor models Select bits	
SW2 NO.1,2	Indoor models
Small Ceiling cassette unit	
ON	OFF

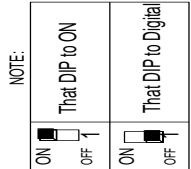
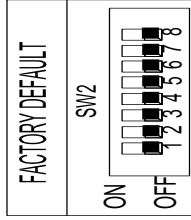
Receive and display light board	
SW2 NO.2	LED
NO.4	Digital tube
ON	OFF

power-down memory	
SW2 NO.5	No power-down memory
ON	OFF

Heating temperature compensation	
SW2 NO.6	6j æ
ON	OFF
ON	OFF
ON	OFF

SW2 NO.7	Reserved
ON	OFF
ON	OFF
ON	OFF

Room temp. sensor T1 for	
SW2 NO.8	Electric control panel
ON	OFF
ON	OFF



The power (HP) of indoor units can be set through DIP switch SW1 (16-bit disc DIP) on the indoor control panel before delivery, the detailed information is as follows:

HP	Reserved	0.8	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Reserved
MODEL	Reserved	21	26	35	53	70	80	90	105	125	140	150	160	180	Reserved
POWER	Reserved	7K	9K	12K	18K	24K	27K	30K	36K	42K	48K	52K	55K	60K	Reserved
SW1	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E
															F

6. Capacity Table

6.1 Cooling

6.1.1 CCR-18HVR4

MODEL		CCR-18HVR4						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25	28°C	32°C	35°C	42°C	49 °C
21°C D	Total capacity kW	5.09	5.06	5.04	5.01	4.99	4.93	4.88
15°C W	Input kW.	1.49	1.50	1.51	1.53	1.54	1.62	1.70
24°C D	Total capacity kW	5.25	5.22	5.20	5.17	5.15	5.09	5.03
17°C W	Input kW.	1.51	1.52	1.53	1.55	1.56	1.64	1.72
27°C D	Total capacity kW	5.41	5.38	5.36	5.32	5.30	5.24	5.18
19°C W	Input kW.	1.53	1.54	1.55	1.57	1.58	1.66	1.74
29°C D	Total capacity kW	5.48	5.44	5.42	5.39	5.36	5.30	5.24
21°C W	Input kW.	1.55	1.57	1.58	1.60	1.61	1.69	1.77
32°C D	Total capacity kW	5.58	5.55	5.52	5.49	5.47	5.40	5.34
23°C W	Input kW.	1.56	1.57	1.59	1.60	1.61	1.69	1.78

6.1.2 CCR-24HVR4

MODEL		CCR-24HVR4						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25	28°C	32°C	35°C	42°C	49 °C
21°C D	Total capacity kW	6.82	6.78	6.75	6.71	6.68	6.61	6.35
15°C W	Input kW.	2.02	2.04	2.05	2.07	2.09	2.19	2.30
24°C D	Total capacity kW	7.04	7.00	6.97	6.92	6.89	6.82	6.74
17°C W	Input kW.	2.04	2.06	2.08	2.10	2.11	2.22	2.33
27°C D	Total capacity kW	7.25	7.21	7.17	7.13	7.00	7.02	6.94
19°C W	Input kW.	2.07	2.09	2.10	2.12	2.14	2.25	2.36
29°C D	Total capacity kW	7.34	7.29	7.26	7.22	7.19	7.11	7.03
21°C W	Input kW.	2.10	2.12	2.14	2.16	2.18	2.29	2.40
32°C D	Total capacity kW	7.48	7.43	7.40	7.35	7.32	7.24	7.16
23°C W	Input kW.	2.11	2.13	2.15	2.17	2.18	2.29	2.41

6.1.3 CCR-36HVR4, CCR-36HVR4S

MODEL		CCR-36HVR4, CCRHVR4S						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25	28°C	32°C	35°C	42°C	49 °C
21°C D	Total capacity kW	10.09	10.03	9.99	9.93	9.88	9.77	9.66
15°C W	Input kW.	2.97	3.00	3.02	3.04	3.06	3.22	3.38
24°C D	Total capacity kW	10.41	10.35	10.30	10.24	10.19	10.08	9.97
17°C W	Input kW.	3.01	3.03	3.05	3.08	3.10	3.27	3.43
27°C D	Total capacity kW	10.72	10.56	10.61	10.55	10.50	10.38	10.27
19°C W	Input kW.	3.04	3.07	3.09	3.12	3.15	3.30	3.47
29°C D	Total capacity kW	10.85	10.79	10.79	10.67	10.63	10.51	10.39
21°C W	Input kW.	3.09	3.12	3.14	3.18	3.20	3.36	3.52
32°C D	Total capacity kW	11.06	10.99	10.94	10.88	10.83	10.71	10.59
23°C W	Input kW.	3.10	3.13	3.16	3.19	3.21	3.37	3.54

6.1.4 CCR-48HVR4, CCR-48HVR4S

MODEL		CCR-48HVR4, CCR-48HVR4S						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25	28°C	32°C	35°C	42°C	49 °C

R3250Hz Universal Outdoor Series Technical Manual

21°C D	Total capacity kW	13.45	13.37	13.31	13.23	13.18	13.02	12.89
15°C W	Input kW.	4.66	4.71	4.74	4.80	4.83	5.07	5.33
24°C D	Total capacity kW	13.87	13.79	13.74	13.66	13.60	13.45	13.29
17°C W	Input kW.	4.74	4.77	4.80	4.86	4.89	5.13	5.39
27°C D	Total capacity kW	14.29	14.21	14.16	14.05	14.00	13.84	13.68
19°C W	Input kW.	4.80	4.83	4.86	4.92	4.95	5.19	5.45
29°C D	Total capacity kW	14.48	14.37	14.32	14.24	14.16	14.00	13.84
21°C W	Input kW.	4.86	4.92	4.95	5.01	5.04	5.30	5.54
32°C D	Total capacity kW	14.74	14.66	14.58	14.50	14.45	14.26	14.11
23°C W	Input kW.	4.89	4.92	4.98	5.01	5.04	5.30	5.57

6.1.5 CCR-55HVR4S

MODEL		CCR-55HVR4S						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25	28°C	32°C	35°C	42°C	49 °C
21°C D	Total capacity kW	15.37	15.28	15.22	15.12	15.06	14.88	14.73
15°C W	Input kW.	5.56	5.61	5.64	5.72	5.75	6.05	6.35
24°C D	Total capacity kW	15.85	15.76	15.70	15.61	15.55	15.37	15.18
17°C W	Input kW.	5.64	5.68	5.72	5.79	5.82	6.12	6.42
27°C D	Total capacity kW	16.33	16.24	16.18	16.06	16.00	15.82	15.64
19°C W	Input kW.	5.72	5.75	5.79	5.87	5.90	6.19	6.50
29°C D	Total capacity kW	16.54	16.42	16.36	16.27	16.18	16.00	15.82
21°C W	Input kW.	5.79	5.87	5.90	5.98	6.01	6.31	6.61
32°C D	Total capacity kW	16.85	16.75	16.66	16.57	16.51	16.30	16.12
23°C W	Input kW.	5.82	5.87	5.93	5.98	6.01	6.31	6.64

6.1.6 CCB-12HVR4

MODEL		CCB-12HVR4						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25	28°C	32°C	35°C	42°C	49 °C
21°C D	Total capacity kW	3.36	3.34	3.33	3.31	3.30	3.26	3.22
15°C W	Input kW.	0.96	0.97	0.97	0.99	0.99	1.04	1.09
24°C D	Total capacity kW	3.47	3.45	3.43	3.41	3.40	3.36	3.32
17°C W	Input kW.	0.97	0.98	0.99	1.00	1.01	1.05	1.11
27°C D	Total capacity kW	3.57	3.55	3.54	3.51	3.50	3.46	3.42
19°C W	Input kW.	0.99	0.99	1.00	1.01	1.02	1.07	1.12
29°C D	Total capacity kW	3.62	3.59	3.58	3.56	3.54	3.50	3.46
21°C W	Input kW.	1.00	1.01	1.02	1.03	1.03	1.09	1.14
32°C D	Total capacity kW	3.68	3.67	3.65	3.63	3.61	3.57	3.53
23°C W	Input kW.	1.01	1.01	1.02	1.03	1.03	1.09	1.14

6.1.7 CCB-18HVR4

MODEL		CCB-18HVR4						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25	28°C	32°C	35°C	42°C	49 °C
21°C D	Total capacity kW	5.09	5.06	5.04	5.01	4.99	4.93	4.88
15°C W	Input kW.	1.47	1.48	1.49	1.51	1.52	1.59	1.67
24°C D	Total capacity kW	5.25	5.22	5.20	5.17	5.15	5.09	5.03
17°C W	Input kW.	1.49	1.50	1.51	1.53	1.54	1.61	1.69
27°C D	Total capacity kW	5.41	5.38	5.36	5.32	5.30	5.24	5.18
19°C W	Input kW.	1.51	1.52	1.53	1.55	1.56	1.63	1.71
29°C D	Total capacity kW	5.48	5.44	5.42	5.39	5.36	5.30	5.24
21°C W	Input kW.	1.53	1.55	1.56	1.57	1.58	1.66	1.74
32°C D	Total capacity kW	5.58	5.55	5.52	5.49	5.47	5.40	5.34

23°C W	Input kW.	1.54	1.55	1.56	1.57	1.58	1.66	1.75
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6.2 Heating

6.2.1 CCR-18HVR4

MODEL		CCR-18HVR4						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C DB 2°C WB	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	6.05	6.00	5.98	5.81	5.55	5.47	4.93
	Input kW.	1.54	1.45	1.42	1.40	1.37	1.36	1.30
18°C	Capacity kW	5.99	5.96	5.94	5.77	5.52	5.43	4.90
	Input kW.	1.57	1.48	1.44	1.42	1.39	1.38	1.32
20°C	Capacity kW	5.96	5.92	5.90	5.73	5.48	5.40	4.86
	Input kW.	1.59	1.51	1.47	1.45	1.42	1.41	1.34
22°C	Capacity kW	5.93	5.88	5.86	5.69	5.44	5.36	4.83
	Input kW.	1.62	1.53	1.49	1.47	1.44	1.43	1.36
27°C	Capacity kW	5.80	5.84	5.82	5.65	5.40	5.32	4.79
	Input kW.	1.65	1.56	1.52	1.50	1.47	1.46	1.39

6.2.2 CCR-24HVR4

MODEL		CCR-24HVR4						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C DB 2°C WB	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	7.95	7.83	7.81	7.58	7.25	7.14	6.34
	Input kW.	1.95	1.95	1.95	1.95	1.95	1.95	1.95
18°C	Capacity kW	7.90	7.78	7.75	7.53	7.20	7.09	6.30
	Input kW.	1.98	1.94	1.88	1.86	1.82	1.81	1.71
20°C	Capacity kW	7.86	7.73	7.70	7.47	7.15	7.04	6.25
	Input kW.	2.03	1.98	1.92	1.89	1.86	1.84	1.74
22°C	Capacity kW	7.82	7.67	7.65	7.42	7.10	6.99	6.21
	Input kW.	2.07	2.00	1.95	1.92	1.88	1.87	1.77
27°C	Capacity kW	7.73	7.62	7.59	7.37	7.05	6.94	6.16
	Input kW.	2.11	2.04	1.98	1.96	1.92	1.90	1.80

6.2.3 CCR-36HVR4, CCR-36HVR4S

MODEL		CCR-36HVR4, CCR-36HVR4S						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C DB 2°C WB	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	12.11	11.70	11.66	11.32	10.83	10.67	9.61
	Input kW.	3.43	3.35	3.26	3.22	3.14	3.12	2.97
18°C	Capacity kW	12.08	11.62	11.58	11.24	10.75	10.59	9.54
	Input kW.	3.47	3.41	3.31	3.27	3.21	3.17	3.03
20°C	Capacity kW	12.04	11.54	11.50	11.16	10.68	10.52	9.48
	Input kW.	3.52	3.47	3.38	3.32	3.26	3.24	3.08
22°C	Capacity kW	12.00	11.46	11.42	11.09	10.60	10.44	9.41
	Input kW.	3.59	3.52	3.43	3.39	3.31	3.29	3.13
27°C	Capacity kW	11.73	11.38	11.34	11.01	10.53	10.37	9.35
	Input kW.	3.68	3.60	3.49	3.45	3.38	3.35	3.20

6.2.4 CCR-48HVR4, CCR-48HVR4S

MODEL		CCR-48HVR4, CCR-48HVR4S						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C DB 2°C WB	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	15.59	15.46	15.41	14.97	14.30	14.09	12.70
	Input kW.	5.16	4.85	4.75	4.68	4.58	4.55	4.34
18°C	Capacity kW	15.43	15.35	15.30	14.87	14.22	13.99	12.62
	Input kW.	5.26	4.95	4.82	4.75	4.65	4.62	4.41
20°C	Capacity kW	15.35	15.25	15.20	14.76	14.12	13.91	12.52
	Input kW.	5.33	5.06	4.92	4.85	4.75	4.71	4.48
22°C	Capacity kW	15.28	15.15	15.10	14.66	14.01	13.81	12.44
	Input kW.	5.43	5.13	4.99	4.92	4.82	4.78	4.55
27°C	Capacity kW	14.94	15.05	14.99	14.56	13.91	13.71	12.34
	Input kW.	5.54	5.22	5.09	5.02	4.92	4.89	4.65

6.2.5 CCR-55HVR4S

MODEL		CCR-55HVR4S						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C DB 2°C WB	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	17.23	17.09	17.03	16.54	15.81	15.58	14.04
	Input kW.	5.72	5.38	5.27	5.20	5.09	5.04	4.81
18°C	Capacity kW	17.06	16.97	16.91	16.43	15.72	15.46	13.96
	Input kW.	5.83	5.49	5.35	5.27	5.15	5.12	4.89
20°C	Capacity kW	16.97	16.86	16.80	16.31	15.61	15.38	13.84
	Input kW.	5.91	5.61	5.46	5.38	5.27	5.23	4.96
22°C	Capacity kW	16.89	16.74	16.69	16.20	15.49	15.26	13.76
	Input kW.	6.03	5.69	5.54	5.46	5.35	5.31	5.04
27°C	Capacity kW	16.51	16.63	16.57	16.08	15.38	15.15	13.64
	Input kW.	6.14	5.80	5.65	5.57	5.46	5.43	5.15

6.2.6 CCB-12HVR4

MODEL		CCB-12HVR4						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C DB 2°C WB	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	4.10	4.07	4.05	3.94	3.76	3.71	3.34
	Input kW.	1.03	0.97	0.95	0.93	0.91	0.91	0.86
18°C	Capacity kW	4.06	4.04	4.03	3.91	3.74	3.68	3.32
	Input kW.	1.05	0.99	0.96	0.95	0.93	0.92	0.88
20°C	Capacity kW	4.04	4.01	4.00	3.88	3.72	3.66	3.29
	Input kW.	1.06	1.01	0.98	0.97	0.95	0.94	0.89
22°C	Capacity kW	4.02	3.99	3.97	3.86	3.69	3.63	3.27
	Input kW.	1.08	1.02	0.99	0.98	0.96	0.95	0.91
27°C	Capacity kW	3.93	3.96	3.95	3.83	3.66	3.61	3.25
	Input kW.	1.10	1.04	1.01	1.00	0.98	0.97	0.93

6.2.7 CCB-18HVR4

MODEL	CCB-18HVR4
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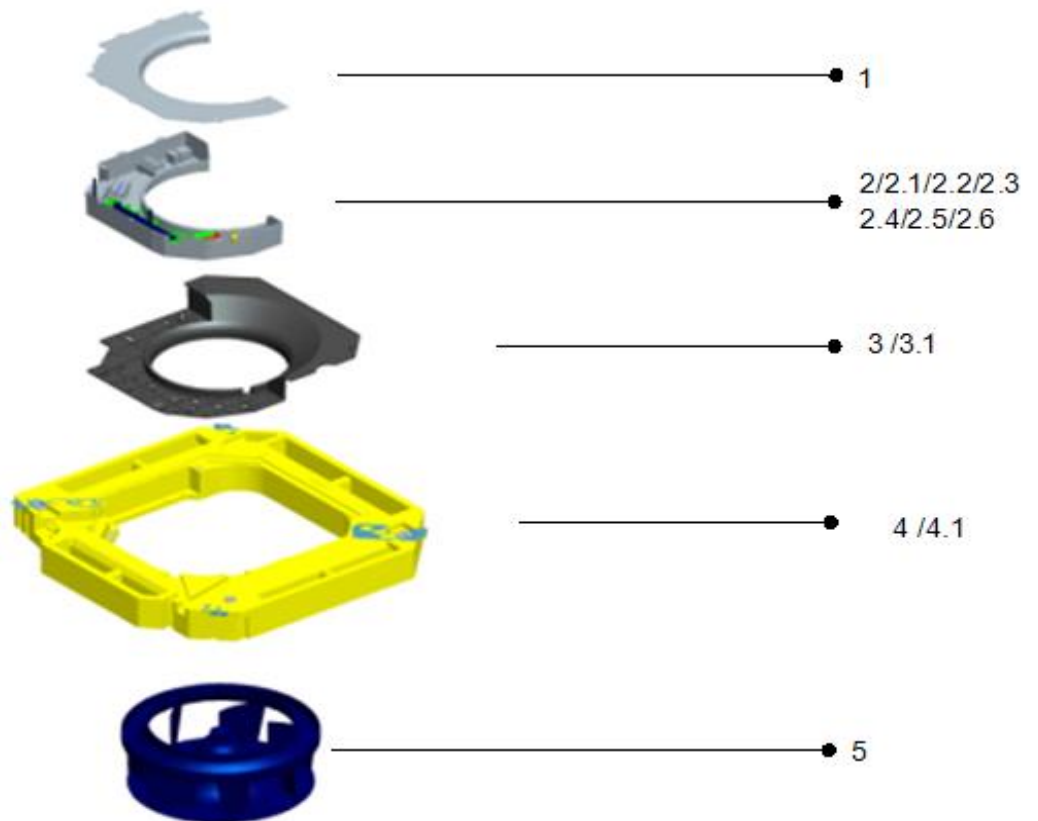
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C DB 2°C WB	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	6.05	6.00	5.98	5.81	5.55	5.47	4.93
	Input kW.	1.51	1.42	1.39	1.37	1.34	1.33	1.27
18°C	Capacity kW	5.99	5.96	5.94	5.77	5.52	5.43	4.90
	Input kW.	1.54	1.45	1.41	1.39	1.36	1.35	1.29
20°C	Capacity kW	5.96	5.92	5.90	5.73	5.48	5.40	4.86
	Input kW.	1.56	1.48	1.44	1.42	1.39	1.38	1.31
22°C	Capacity kW	5.93	5.88	5.86	5.69	5.44	5.36	4.83
	Input kW.	1.59	1.50	1.46	1.44	1.41	1.40	1.33
27°C	Capacity kW	5.80	5.84	5.82	5.65	5.40	5.32	4.79
	Input kW.	1.62	1.53	1.49	1.47	1.44	1.43	1.36

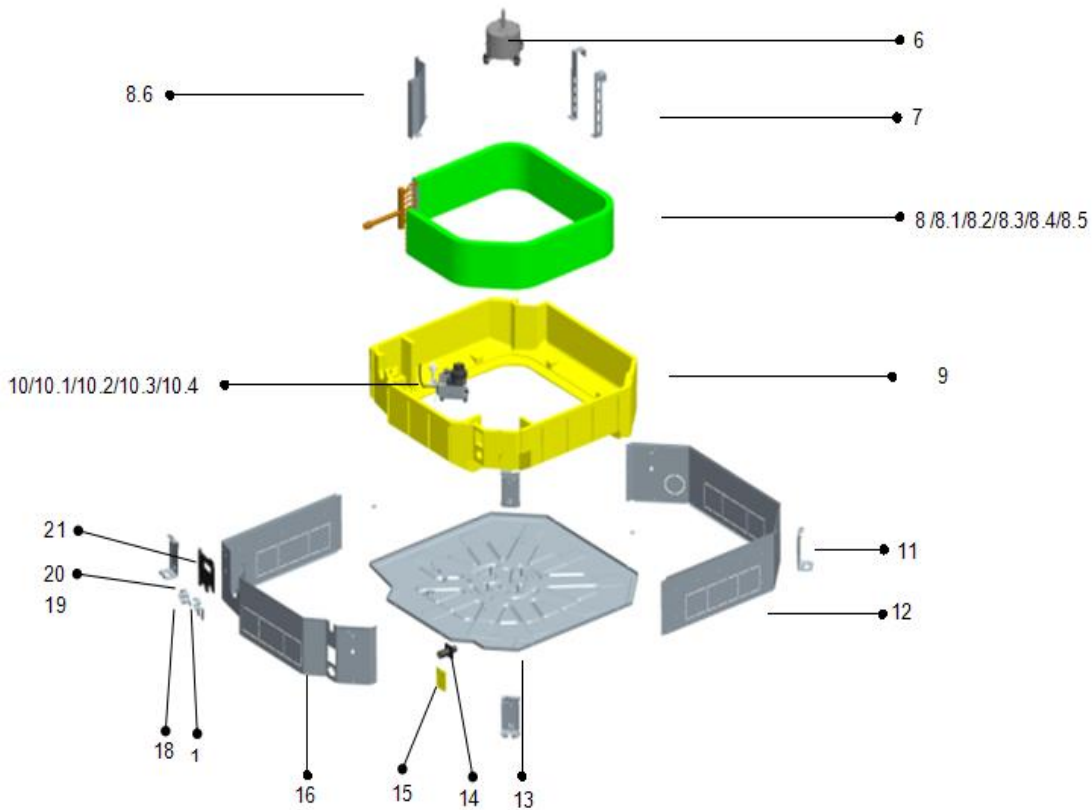
7. Electric Characteristics

Model	Indoor Units				Indoor Fan Motor
	Hz	Voltage	Min.	Max.	kW
CCB-12HVR4	50	220-240V	198V	254V	0.035
CCB-18HVR4	50	220-240V	198V	254V	0.035
CCR-18HVR4	50	220-240V	198V	254V	0.06
CCR-24HVR4	50	220-240V	198V	254V	0.06
CCR-36HVR4	50	220-240V	198V	254V	0.10
CCR-36HVR4S	50	220-240V	198V	254V	0.10
CCR-48HVR4	50	220-240V	198V	254V	0.10
CCR-48HVR4S	50	220-240V	198V	254V	0.10
CCR-55HVR4S	50	220-240V	198V	254V	0.10

8. Exploded View

8.1 CCR-18HVR4, CCR-24HVR4

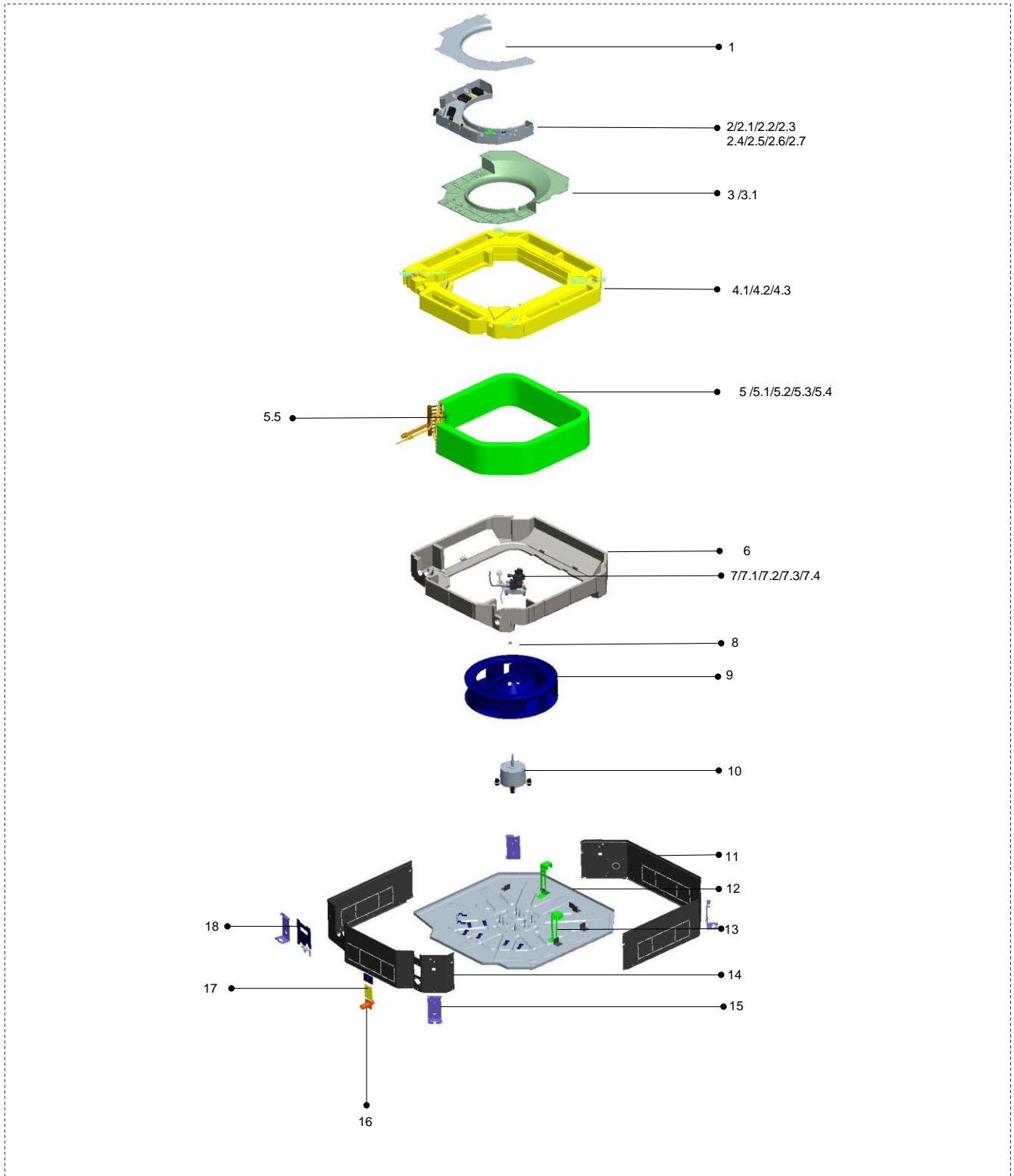




No.	Part Name	No.	Part Name
1	E-parts box cover	8.4.2	Evaporator
2	Electric control components for indoor unit	8.4.3	Collecting pipe welding assy
2.1	E-parts board for indoor unit	8.4.4	Current divider capillary assy
2.2	Temperature sensor	8.5	Main fixing board
2.3	Terminal	9	Upper foam components
2.4	Terminal	10	Pre-assembling assy for water pump
2.5	Relay	10.1	Water pump support
2.6	Welded chassis for E-parts box	10.2	Water pump
3	Wind inlet guide assy	10.3	Liquid-level sensor
3.1	Wind inlet guide	10.4	Underlay for water pump support
4	Water pan components	11	Hanger
4.1	Foam pendant	12	Rear brattice
5	Centrifugal fan	13	Chassis assy
6	Fan motor for indoor unit	14	Discharge pipe joint
7	Auxiliary fixing board for evaporator	15	Side maintenance board for water pump
8	Evaporator components	16	Front brattice
8.1	Insulating pipe	17	Lower pipe clamp
8.2	Insulating pipe	18	Lower pipe clamp(φ35)

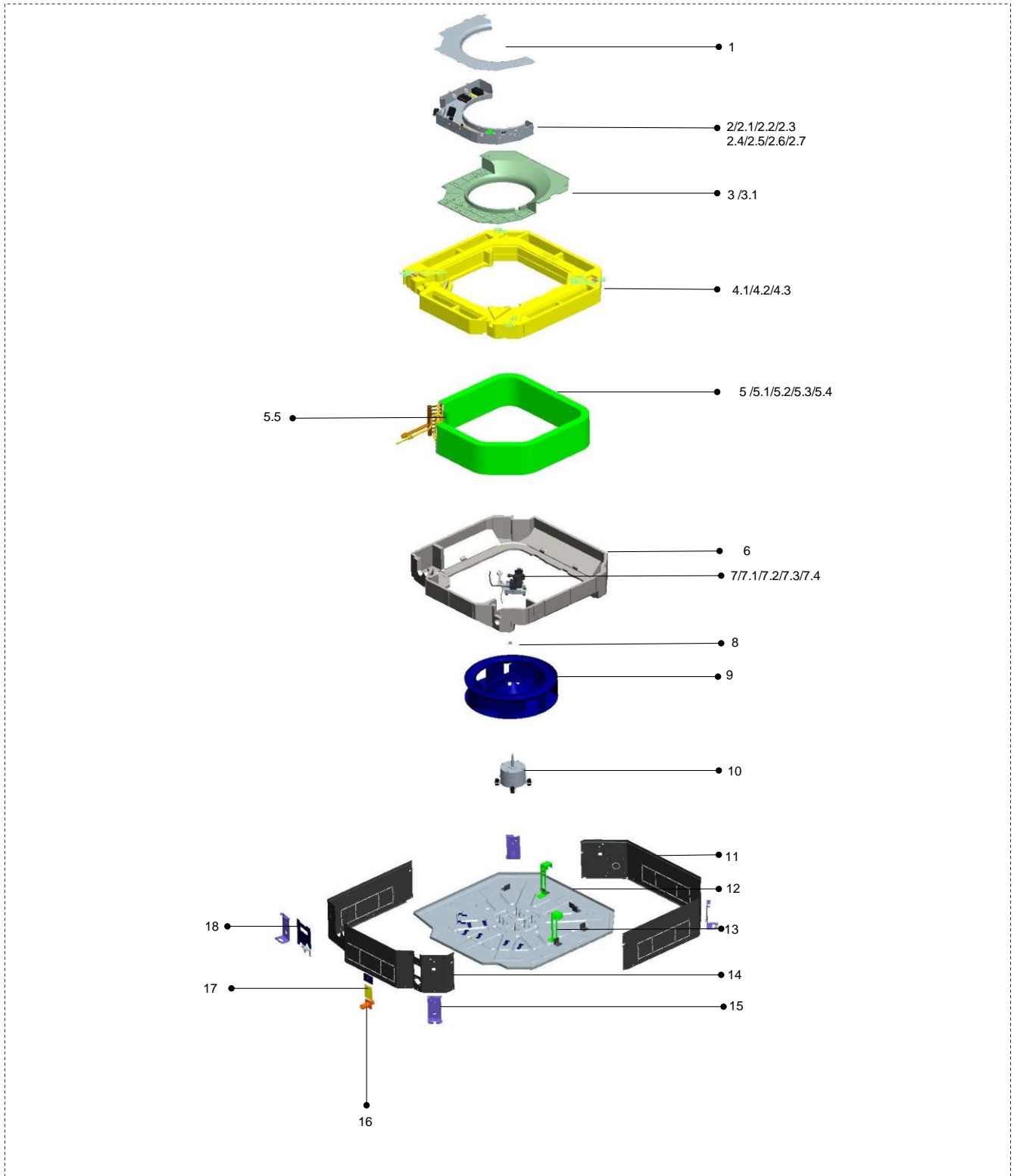
8.3	Evaporator attached cotton	19	Upper pipe clamp
8.4	Evaporator welding assy	20	Upper pipe clamp(φ35)
8.4.1	Installation tube for probe	21	Valve panel

8.2 CCR-36HVR4, CCR-36HVR4S



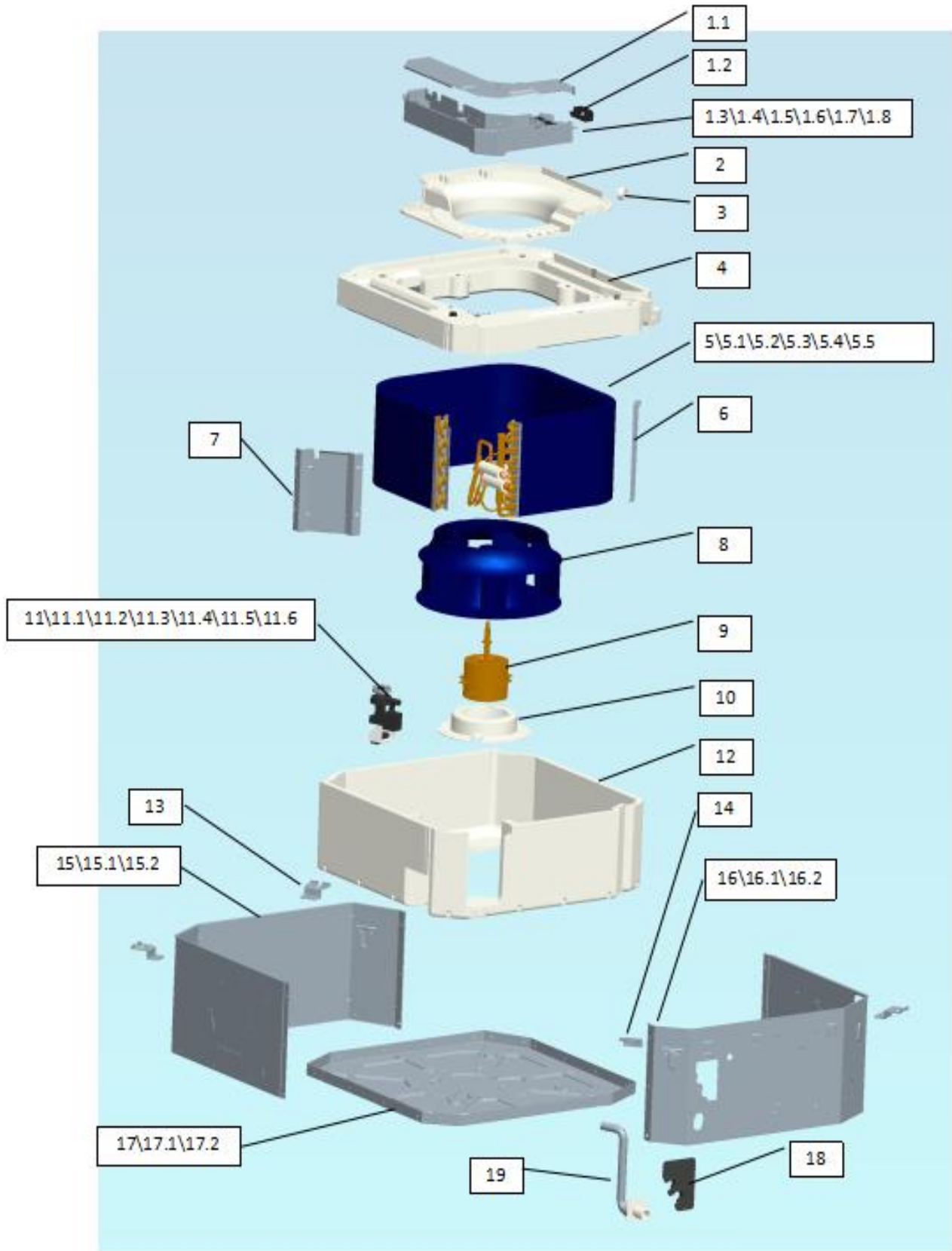
No.	Part Name	No.	Part Name
1	E-parts box cover	5.4.3	Current collecting assy for evaporator
2	Electric control components for indoor unit	5.4.4	Current divider capillary assy for evaporator
2.1	Reactor	6	Upper foam components
2.2	Capacitor board	7	Water pump components
2.3	Terminal	7.1	Water pump fan motor holder
2.4	E-parts board for indoor unit	7.2	Water pump
2.5	Temperature sensor group	7.3	Underlay for water pump support
2.6	Welded chassis for E-parts box	8	Wind wheel clasp
3	Wind inlet guide assy	9	Centrifugal fan
3.1	Wind inlet guide	10	Fan motor for indoor unit(YDK-45Q-6P2)
4	Water pan	11	Rear brattice
5	Evaporator components	12	Chassis assy
5.1	Insulating pipe	13	Auxiliary fixing board for evaporator
5.2	Insulating pipe	14	Front brattice
5.3	Insulating pipe	15	Hanger
5.4	Evaporator welding assy	16	Discharge pipe joint
5.4.1	Installation tube for probe	17	Side maintenance board for water pump
5.4.2	Evaporator	18	Valve panel

8.3 CCR-48HVR4, CCR-48HVR4S, CCR-55HVR4



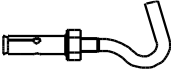









No.	Part Name	No.	Part Name
1	E-parts box cover	5.4.3	Current collecting assy for evaporator
2	Electric control components for indoor unit	5.4.4	Current divider capillary assy for evaporator
2.1	Reactor	6	Upper foam components
2.2	Capacitor board	7	Water pump components
2.3	Terminal	7.1	Water pump fan motor holder
2.4	E-parts board for indoor unit	7.2	Water pump
2.5	Temperature sensor group	7.3	Underlay for water pump support
2.6	Welded chasis for E-parts box	8	Wind wheel clasp
3	Wind inlet guide assy	9	Centrifugal fan
3.1	Wind inlet guide	10	Fan motor for indoor unit (YDK-45Q-6P2)
4	Water pan	11	Rear brattice
5	Evaporator components	12	Chassis assy
5.1	Insulating pipe	13	Auxiliary fixing board for evaporator
5.2	Insulating pipe	14	Front brattice
5.3	Insulating pipe	15	Hanger
5.4	Evaporator welding assy	16	Discharge pipe joint
5.4.1	Installation tube for probe	17	Side maintenance board for water pump
5.4.2	Evaporator	18	Valve panel

8.4 CCB-12HVR4, CCB-18HVR4



No.	Part Name	No.	Part Name
1	Electric control components	10	Motor bracket
1.1	E-parts box cover assembly	11	Pump parts
1.2	Pressure line buckle	11.1	Water pump
1.3	Electrical box welding components	11.2	Water pump support frame
1.4	Fan motor capacitor	11.3	Water pump filter
1.5	Terminal	11.4	Water pump gasket 1
1.6	E-parts board for indoor unit	11.5	Water pump gasket 2
1.7	Temperature sensor	11.6	Water level switch
1.8	Temperature sensor	12	Chassis foam components
2	Wind inlet guide	13	Hanging ear 1
3	Pressure line buckle	14	Hanging ear 2
4	Water pan components	15	Rear panel assembly
5	Evaporator components	15.1	Rear panel
5.1	Insulating pipe	15.2	Rear panel insulation cotton
5.2	Insulating pipe	16	Front panel assembly
5.3	attached cotton	16.1	Front panel
5.4	Damping glue	16.2	Front cover insulation cotton
5.5	Evaporator	17	Chassis parts
6	Evaporator tightening	17.1	Chassis welding components
7	End plate fixing plate	17.2	Chassis external insulation cotton
8	Centrifugal leaves	18	Refrigerant tube support plate assembly
9	Main fixing board	19	Drain pipe assembly

9. Accessories

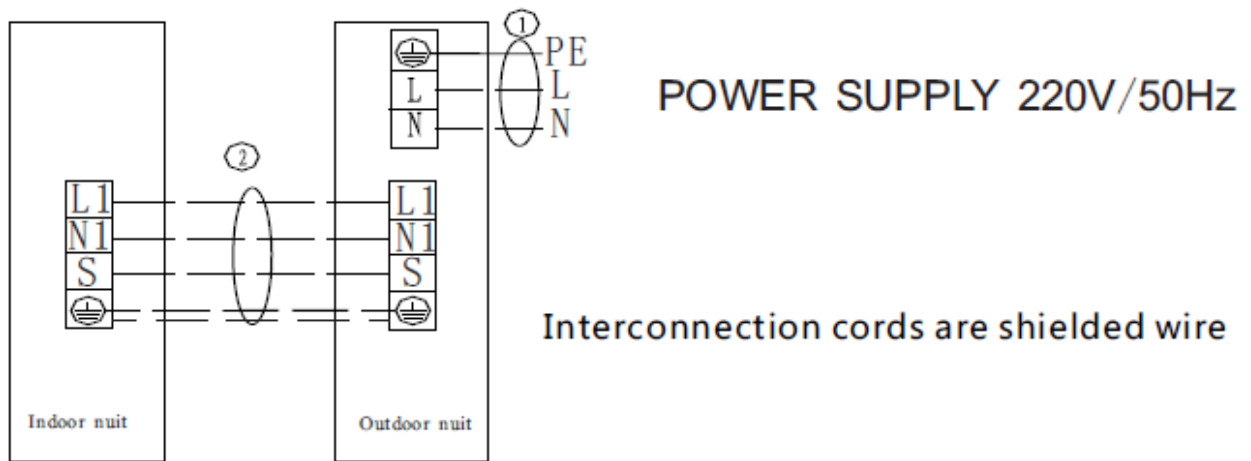
	Name	Shape	Quantity
Installation Fittings	Expansible hook		4
	Installation hook		4
	Installation paper board		1
	Bolt M5		4
Drainpipe Fittings	Out-let pipe sheath		1
	Tightening band		5
Remote controller	Remote controller		1
	Mounting screw(ST2.9×10-C-H)		2
	Alkaline dry batteries (AM4)		2
Others	Operation&installation instruction manual		1

10. The Specification of Wiring

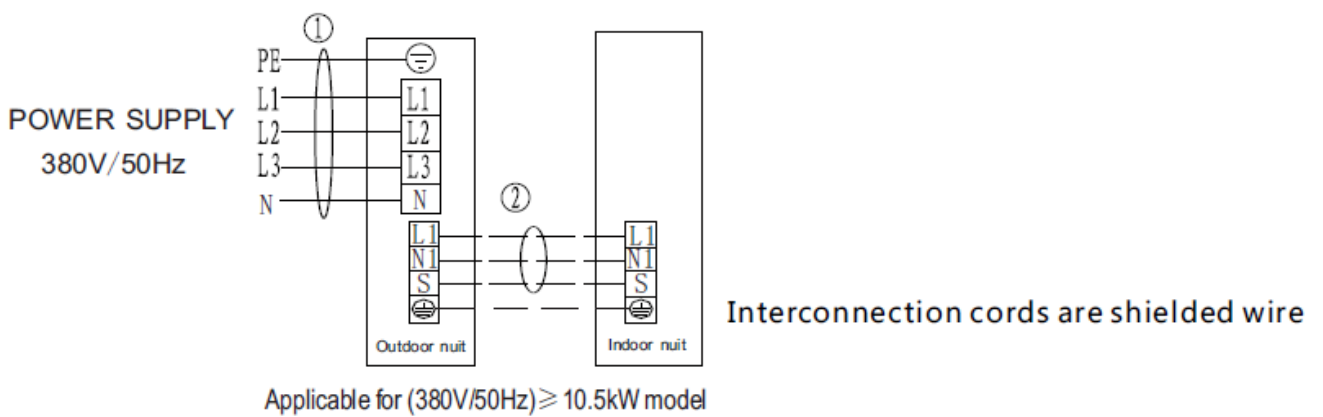
Model		12, 18kBtu/h	24kBtu/h	36kBtu/h(1 phase)	48kBtu/h (1 phase)	
Indoor power supply	V/Ph/Hz	220~240/1/50				
Outdoor power supply	V/Ph/Hz	220~240/1/50				
Connection wiring	Power Supply		From outdoor unit			
	Power wiring	mm ²	4×14AWG	4×14AWG	4×14AWG	4×14AWG
	Signal wiring	mm ²	4×2.5	4×2.5	3×1.0	3×1.0

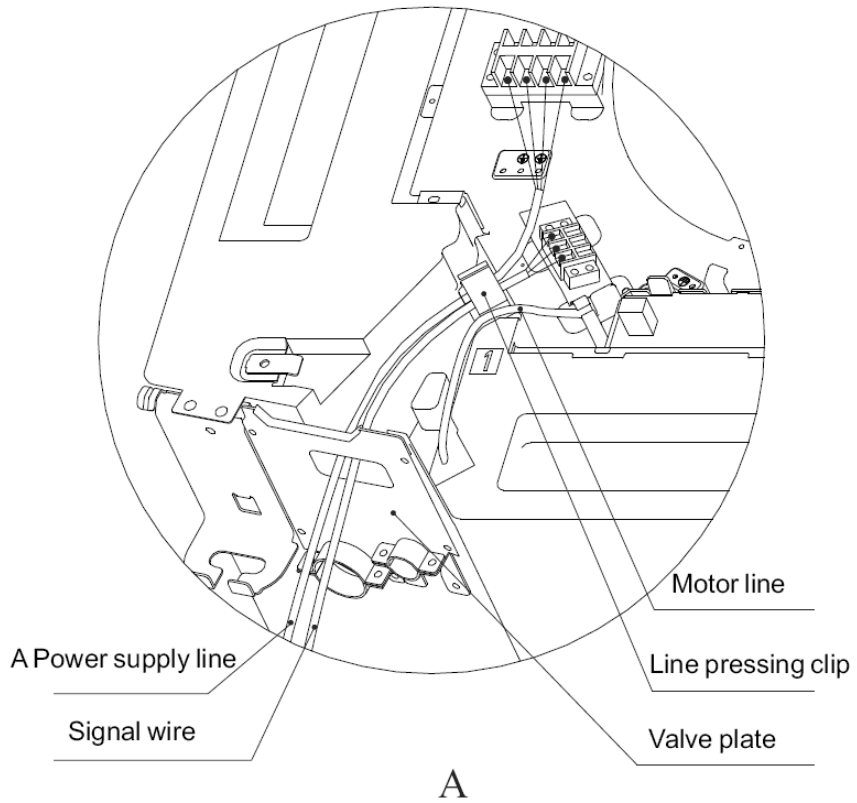
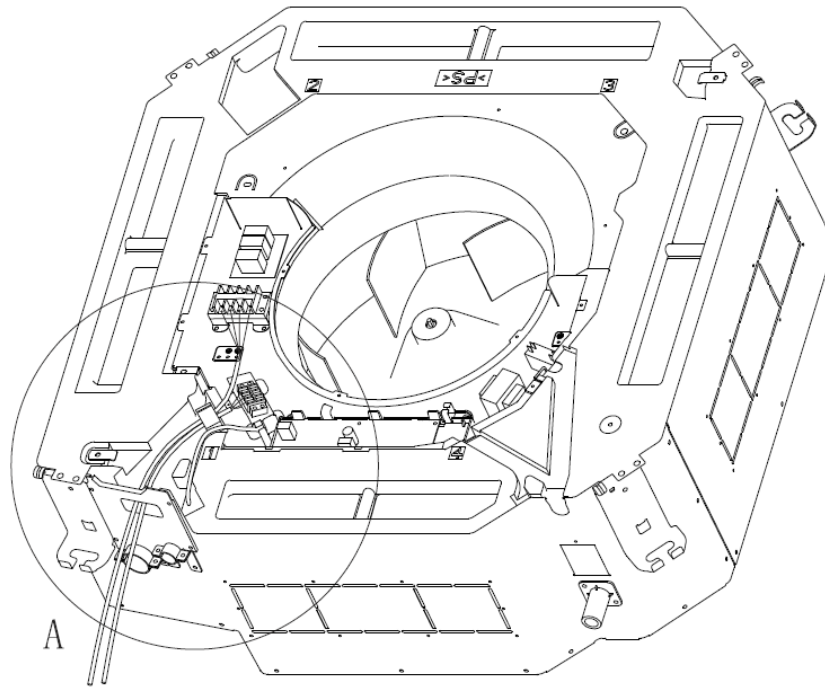
Model		36kBtu/h (3 phase)	48kBtu/h (3 phase)	55kBtu/h
Indoor power supply	V/Ph/Hz	220~240/1/50		
Outdoor power supply	V/Ph/Hz	380~415/3/50		
Connection wiring	Power Supply		From outdoor unit	
	Power wiring	mm ²	4×14AWG	
	Signal wiring	mm ²	3×1.0	

11. Field Wiring



Applicable for (220V/50Hz) 3.5kW, 5.3kW, 7.0kW and ≥ 10.5 kW unit.





12. Trouble shooting

12.1 Fault codes table

Table 1: Indoor unit (digital display)

When unit is standby after first time power on, running light flash slowly, after operation, all the lights off when the unit is off or standby.

When unit is running, running light flashes, digital tube shows setting temperature in cooling and heating mode, digital tube shows indoor temperature in fan only mode; defrost light turns on when defrosting, timer light turns on when in timer mode.

Display	Error description	Display	Error description
E0	Phase protection	F0	(reserve)
E1	Communication error between outdoor unit and indoor unit	F1	(reserve)
E2	Indoor room temperature (T1) sensor error	F2	(reserve)
E3	Indoor coil middle temperature (T2) sensor error	F3	Outdoor unit current error cannot recover Display P3 error for 3 times within 60 minutes
E4	Indoor coil outlet temperature (T2B) sensor error	F4	Outdoor temperature (T4) sensor error
E5	Outdoor unit error	F5	(reserve)
E6	Zero speed protection	F6	Outdoor unit condenser outlet (T3) sensor error
E7	EERPOM error	F7	Secondary side current protection
E8	Indoor fan motor speed lose protection	F8	Heat T2 temp. protection
E9	Wired controller communication error	F9	Outdoor unit voltage error
EE	Water level alarm error	EF	EF(Reserve)

Table 2: Indoor unit (LED display)

Error description	Display content
Indoor unit waiting for address assignment	LED timer and running flash together
(reserve)	LED timer, running, protection, defrost flash together
Communication error between outdoor unit and indoor unit	LED timer flash quickly
Fan motor stall protection	LED timer flash slowly
Indoor unit temperature sensor error	LED run flash
Water level alarm	LED protection flash
(reserve)	LED defrost flash
Outdoor unit error	LED protection flash slowly
EEPROM error	LED defrost flash slowly

Quickly flash is 2.5Hz, slowly flash is 0.5Hz.

Error type	Running	Defrost	Timer	Protection
Outdoor unit condenser outlet (T3) sensor error	OFF	OFF	ON	ON
Outdoor temperature (T4) sensor error	OFF	OFF	Flashing	ON
AC overvoltage/under voltage protection	OFF	Flashing	OFF	ON
P6 protection	OFF	Flashing	ON	ON
Compressor protection	OFF	ON	OFF	ON
Compressor top temperature (T5) over-high protection	OFF	ON	ON	ON
Outdoor DC fan motor error	OFF	ON	Flashing	ON
Over current protection	ON	ON	OFF	ON

Table 3: wired controller

Display	Error description	Display	Error description
E0	Phase protection	F0	(reserve)
E1	Communication error between outdoor unit and indoor unit	F1	(reserve)
E2	Indoor room temperature (T1) sensor error	F2	(reserve)
E3	Indoor coil middle temperature (T2) sensor error	F3	Outdoor unit current error cannot recover Display P3 error for 3 times within 60 minutes
E4	Indoor coil outlet temperature (T2B) sensor error	F4	Outdoor temperature (T4) sensor error
E5	Outdoor unit error	F5	(reserve)
E6	Zero speed protection	F6	Outdoor unit condenser outlet (T3) sensor error
E7	EERPOM error	F7	Secondary side current protection
E8	Indoor fan motor speed lose protection	F8	Heat T2 temp. protection
E9	Wired controller communication error	F9	Outdoor unit voltage error
EE	Water level alarm error	EF	EF(Reserve)

Display	Error description	Display	Error description
P0	(reserve)	H0	Communication error between outdoor unit mainboard and driver board
P1	(reserve)	H1	(reserve)
P2	(reserve)	H2	(reserve)
P3	Primary/secondary overcurrent protection	H3	(reserve)
P4	Exhaust temperature over-high protection	H4	3 times of P6 error within 30 minutes
P5	Outdoor unit condenser outlet (T3) temperature over-high protection	H5	3 times of P2 error within 30 minutes
P6	Compressor driver error or IPM protection	H6	3 times of P4 error within 100 minutes
P7	(reserve)	H7	(reserve)
P8	(reserve)	H8	(reserve)
P9	Outdoor unit DC fan motor error	H9	2 times of P9 error within 10 minutes

12.2 Wired controller spot check

Spot check NO.	Content	Spot check NO.	Content
1	Indoor unit capacity	8	Outdoor unit condenser outlet (T3) temperature
2	Indoor unit capacity demand	9	Outdoor temperature (T4) temperature
3	Indoor demand after T4 amendment	10	Compressor top temperature (T5) temperature (maximum 99°C)
4	Indoor demand after T2 amendment	11	Opening of EXV
5	Indoor room temperature (T1) temperature	12	Running frequency of compressor
6	Indoor coil middle temperature (T2) temperature	13	Primary voltage/4
7	Indoor coil outlet temperature (T2B) temperature		

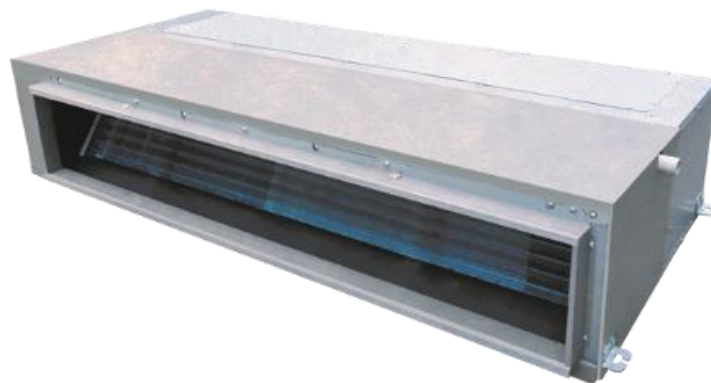
Duct Type

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1. Features



Low Static Pressure Duct



Medium Static Pressure Duct(36K)



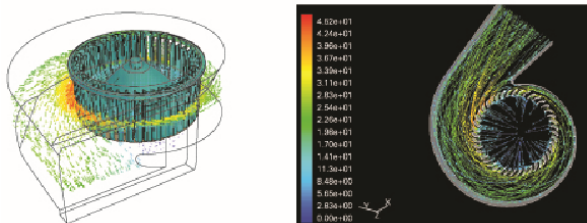
Medium Static Pressure Duct (48/55K)

1.1 Low ESP Ducted Unit

1. Thin body, min 210mm, easy to install.



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



3. Three fan speed, meet different requirement.



4. High efficiency DC fan motor, low noise and more comfortable. Operate in low frequency and control indoor temperature precisely.
5. E-box is body-side design, convenient installation and maintenance.
6. Standard for wireless remote controller, wired controller for option.



Standard



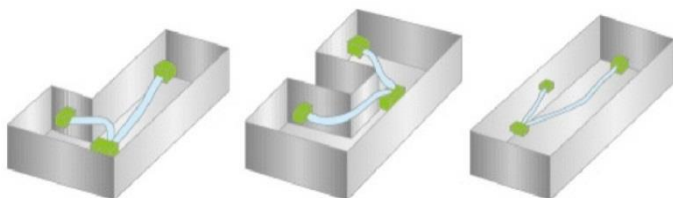
optional

1.2 Medium ESP Ducted Unit

1. Adopting aviation centrifugal fans, and CFD technology design, increasing air-volume and decreasing noise level.
2. Three fan speed, meet different requirement.



3. 30-50Pa ESP design for the medium static pressure duct type, duct connected installation meet for different room structure.



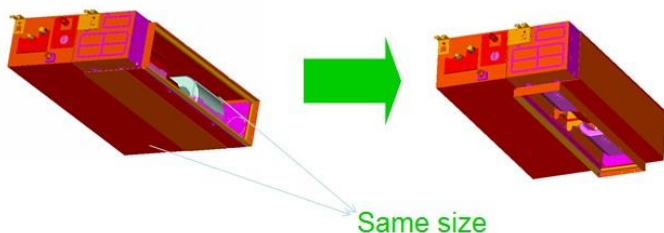
4. Filter can be taken out easily for clear. Easy maintenance.



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



6. High efficiency DC fan motor, low noise and more comfortable.
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. Remote controller is standard, wired controller is optional ;



2. Specification

Model			CTA-18HVR4	CTA-24HVR4
Indoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50
Cooling	Capacity	KW	2.0-5.3-5.6	3.5-7.0-8.0
	Power input	W	420-1590-2100	650-2150-3050
	Current input	A	2.1-10.1	2.8-9.7-13.3
	EER	W/W	3.33	3.26
	SEER	W/W	6.1	6.1
Heating	Capacity	KW	2.5-5.9-6.0	4.5-7.7-8.5
	Input	W	500-1475-1940	630-1925-2650
	Rated current	A	2.5-9.2	3.0-11.3
	COP	W/W	4.0	3.3
	SCOP	W/W	4	4
Energy rate		Cooling	A++	A++
Energy rate		Heating	A+	A+
Max. power input		W	2400	3250
Max. current input		A	11.4	14.5
Indoor fan motor	Model		DR-310-68F-8	DR-310-68F-8
	Brand		Panasonic	Panasonic
	Power output	W	68	68
	Speed	r/min	1275/1080/880/720	1275/1080/880/720
	Insulation class		E	E
Indoor coil	Number of rows		3*2	3*2
	Tube pitch(a)xrow pitch(b)	mm	21×12.7	21×12.7
	Fin spacing	mm	1.4	1.4
	Fin type		Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7	Φ7
			inner grooved	inner grooved
	Coil lengthxheightxwidth	mm	920×200×46	920×200×46
Number of circuits		6	6	
Indoor air flow(High speed)		m ³ /h	800/630/530	800/630/530
Static Pressure	Rated	Pa	0	0
	Recommended	Pa	0-30	0-30
	Range*	Pa	0-60	0-60
Indoor noise level	Power level	dB(A)	46~58	56~63
	Pressure level	dB(A)	36/40/45	43/45/47
Indoor unit	Dimension(W*H*D)	Body(mm)	1214×210×467	1214×210×467
	Packing(W*H*D)	Body(mm)	1310×240×510	1310×240×510
	Net/Gross weight	Body(Kg)	22.5/25.5	25/28
Maxpressure		MPa	4.2	4.2
Refrigerant piping	Liquid side/Gas side	mm	Φ6.35/Φ12.7	Φ9.52/Φ15.88
Drainage pipe		mm	DN25	DN25
Standard controller			Standard for remote controller(wired controller for option)	
Operation temp of indoor		° C	16~32	16~32
Ambient temp	heating	° C	-15~30	-15~30
	cooling	° C	-15~50	-15~50

Model			CTB-36HVR4	CTB-36HVR4S
Indoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50
Cooling	Capacity	KW	6.6-10.5-12.8	6.6-10.5-12.8
	Power input	W	830-3275-3900	830-3275-3900
	Current input	A	3.1-13.6-20	2.1-8.0-10
	EER	W/W	3.21	3.21
	SEER	W/W	6.1	6.1
Heating	Capacity	KW	7.35-11.5-13.2	7.35-11.5-13.2
	Input	W	1200-3500-4000	1200-3500-4000
	Rated current	A	4.5-14.7-20.4	3-7.8-10.2
	COP	W/W	3.3	3.3
	SCOP	W/W	4.0	4.0
Energy rate		Cooling	A++	A++
Energy rate		Heating	A+	A+
Max. power input		W	4800	4800
Max. current input		A	26	10.3
Indoor fan motor	Model		DR-310-150F-8 + DR-310-75F-8	DR-310-150F-8 + DR-310-75F-8
	Brand		Panasonic	Panasonic
	Power output	W	150+75	150+75
	Speed	r/min	1350/1240/1140/1040 + 1350/1270/1200/1130	1350/1240/1140/1040 + 1350/1270/1200/1130
	Insulation class		E	E
Indoor coil	Number of rows		3	3
	Tube pitch(a)xrow pitch(b)	mm	22×19.05	22×19.05
	Fin spacing	mm	1.7	1.7
	Fin type		Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7.94	Φ7.94
			inner grooved	inner grooved
	Coil lengthxheightxwidth	mm	1136×240×57.15	1136×240×57.15
Number of circuits		6	6	
Indoor air flow(High speed)		m ³ /h	1800/1500/1200	1800/1500/1200
Static Pressure	Rated	Pa	37	37
	Recommended	Pa	30-50	30-50
	Range*	Pa	0~120	0~120
Indoor noise level dB(A)		Power level	55~63	55~63
		Pressure level	42/46/48	42/46/48
Indoor unit	Dimension(W*H*D)	Body(mm)	1425×260×663	1425×260×663
	Packing(W*H*D)	Body(mm)	1490×325×720	1490×325×720
	Net/Gross weight	Body(Kg)	46/50	46/50
Maxpressure		MPa	4.2	4.2
Refrigerant type			R32	R32
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.52/Φ15.88	Φ9.52/Φ15.88
	Drainage pipe	mm	DN25	DN25
Standard controller			Standard for remote controller(wired controller for option)	
Operation temp		° C	16~32	16~32
Ambient temp	heating	° C	-15~30	-15~30
	cooling	° C	-5~50	-5~50

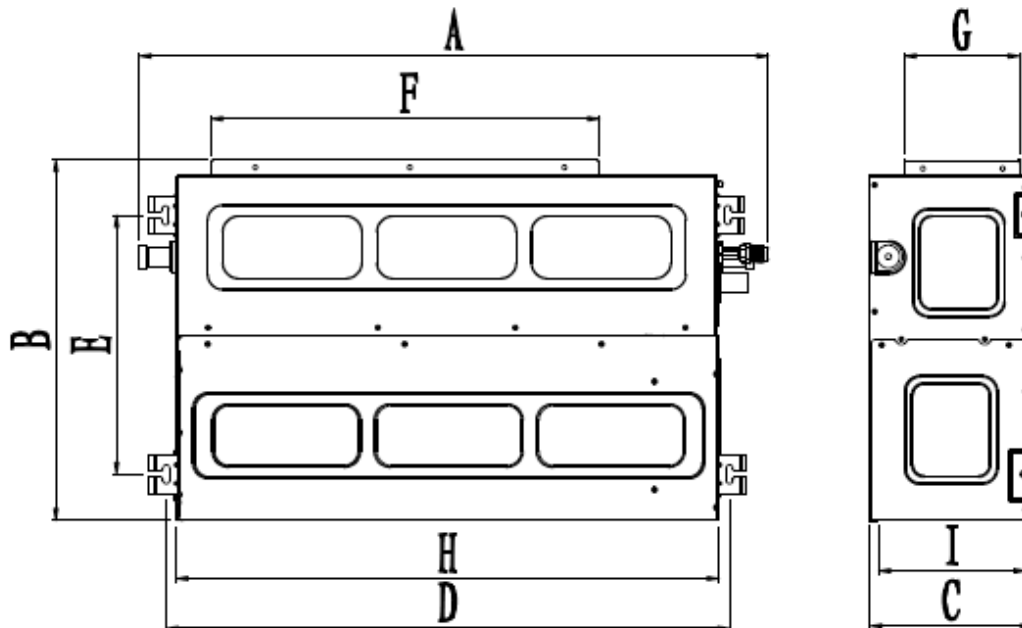
Model			CTB-48HVR4	CTB-48HVR4S	CTB-55HVR4S
Indoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50
Cooling	Capacity	KW	7.0-14.0-15.5	7.0-14.0-15.5	7.5-16.0-17.0
	Power input	W	1100-5090-5800	1100-5090-5800	1400-6040-6300
	Current input	A	3-24-28	2.8-14-14.6	3.5-15-15.8
	EER	W/W	2.75	2.75	3.65
	SEER	W/W	6.1	6.1	6.1
Heating	Capacity	KW	8.0-15.2-16.0	8.0-15.2-16.0	8.5-16.8-17.5
	Power Input	W	1200-5060-6000	1200-5060-6000	1500-5600-6500
	Rated current	A	4-20.5-24	3-12-15	3.7-14-16.3
	COP	W/W	3.0	3.0	3.0
	SCOP	W/W	4.0	4.0	4.0
Energy rate		Cooling	A++	A++	A++
Energy rate		Heating	A+	A+	A+
Max. power input		W	6300	6300	6800
Max. current input		A	29.0	14.0	15.5
Indoor fan motor	Model		DR-310-240F-8	DR-310-240F-8	DR-310-240F-8
	Brand		Kaibang	Kaibang	Kaibang
	Power output	W	240	240	240
	Capacitor	μF	-	-	-
	Speed	r/min	1100/900/800	1100/900/800	1100/900/800
	Insulation class		E	E	E
Indoor coil	Number of rows		4	4	4
	Tube pitch(a) x row pitch(b)	mm	22×19.05	22×19.05	22×19.05
	Fin spacing	mm	1.5	1.5	1.5
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7.94	Φ7.94	Φ7.94
			inner grooved	inner grooved	inner grooved
	Coil length x height x width	mm	1030×396×76.2	1030×396×76.2	1030×396×76.2
Number of circuits		8	8	8	
Indoor air flow (High speed)		m ³ /h	2000/1800/1600	2000/1800/1600	2000/1800/1600
Static Pressure	Rated	Pa	50	50	50
	Recommended	Pa	30-50	30-50	30-50
	Range*	Pa	0-160	0-160	0-160
Indoor noise level	power level	dB(A)	55-65	55-65	55-65
	pressure level		42~47	42~47	42~47
Indoor unit	Dimension(W*H*D)	Body(mm)	1279×307×830	1279×307×830	1279×307×830
	Packing(W*H*D)	Body(mm)	1395×380×920	1395×380×920	1395×380×920
	Net/Gross weight	Body(Kg)	49/56	49/56	49/56
Max pressure		MPa	4.9	4.9	4.9
Refrigerant type			R32	R32	R32
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88
Drainage pipe		mm	DN25	DN25	DN25
Standard controller			Standard for remote controller(wired controller for option)		
Operation temp		°C	16~32	16~32	16~32
Ambient temp	cooling	°C	-15~50	-15~50	-15~50
	heating	°C	-15~30	-15~30	-15~30

Notes:

1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. Piping: 5m (horizontal)
 2. Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. Piping: 5m (horizontal)
 3. Actual noise level may differ, depending on the room structure, etc., since these noise values are from an anechoic room.
- *: We suggest that for 18K&24K units, external static pressure is lower than 80Pa, for 36K units, external static pressure is lower than 80Pa and for 48K&55K units, external static pressure is lower than 120Pa. If higher static pressure is needed, please contact with supplier.

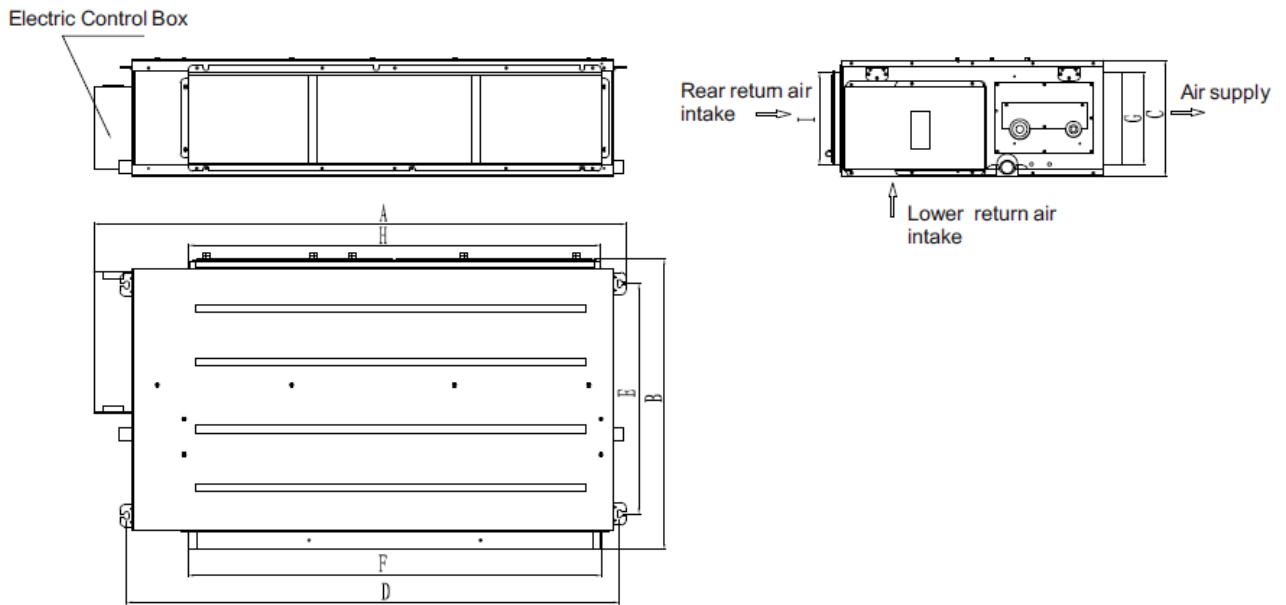
3. Dimensions

CTA-18HVR4,CTA-24HVR4



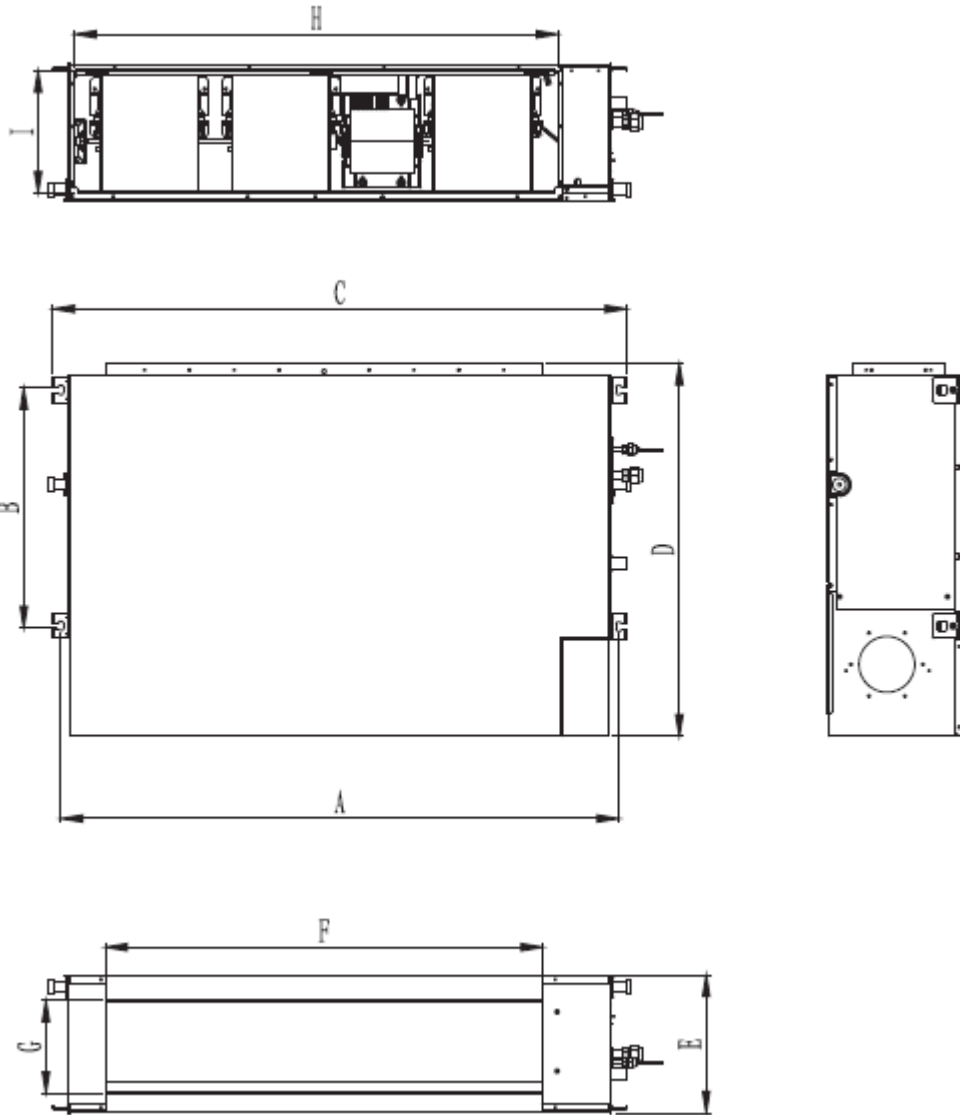
Dimension \ Capacity	Device body dimension			Installation dimension		Air outlet dimension		Return air dimension	
	A	B	C	D	E	F	G	H	I
5.3kW	1214	467	210	1128	335	905	150	1011	200
7.1kW	1214	467	210	1128	335	905	150	1011	200

CTB-36HVR4, CTB-36HVR4S,



Indoor unit capacity	Dimension generation	Device body dimension			Installation Device body		Air outlet dimension		Return air intake dimension	
		A	B	C	D	E	F	G	H	I
10.5kW		1425	643	260	1337	515	1156	197	1156	207

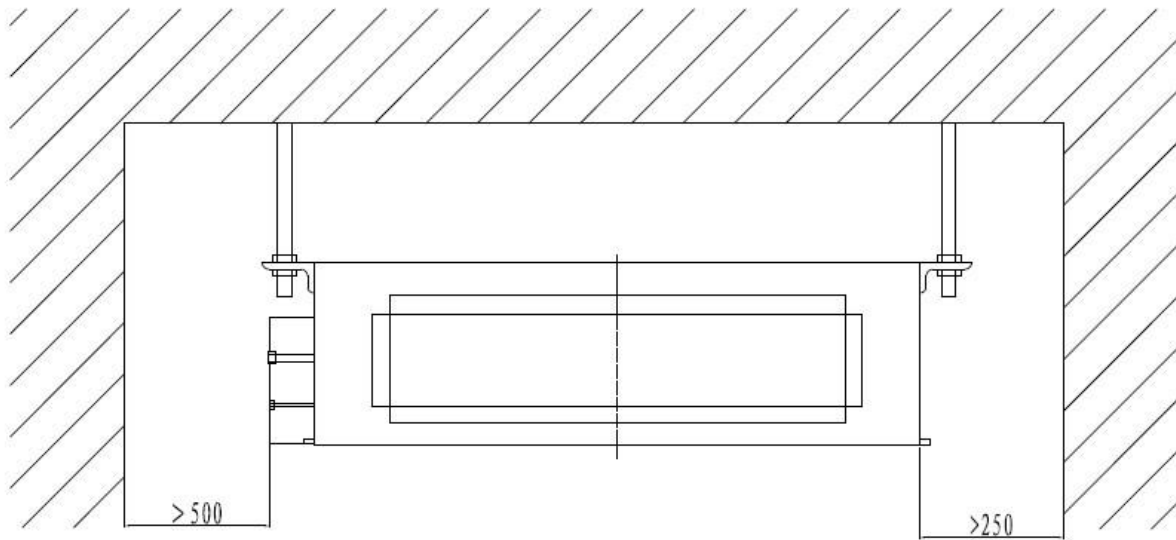
CTB-48HVR4, CTB-48HVR4S, CTB-55HVR4



Dimension generation / Indoor unit capacity	A	B	C	D	E	F	G	H	I
48/55K	1242	535	1279	830	307	973	207	1077	273

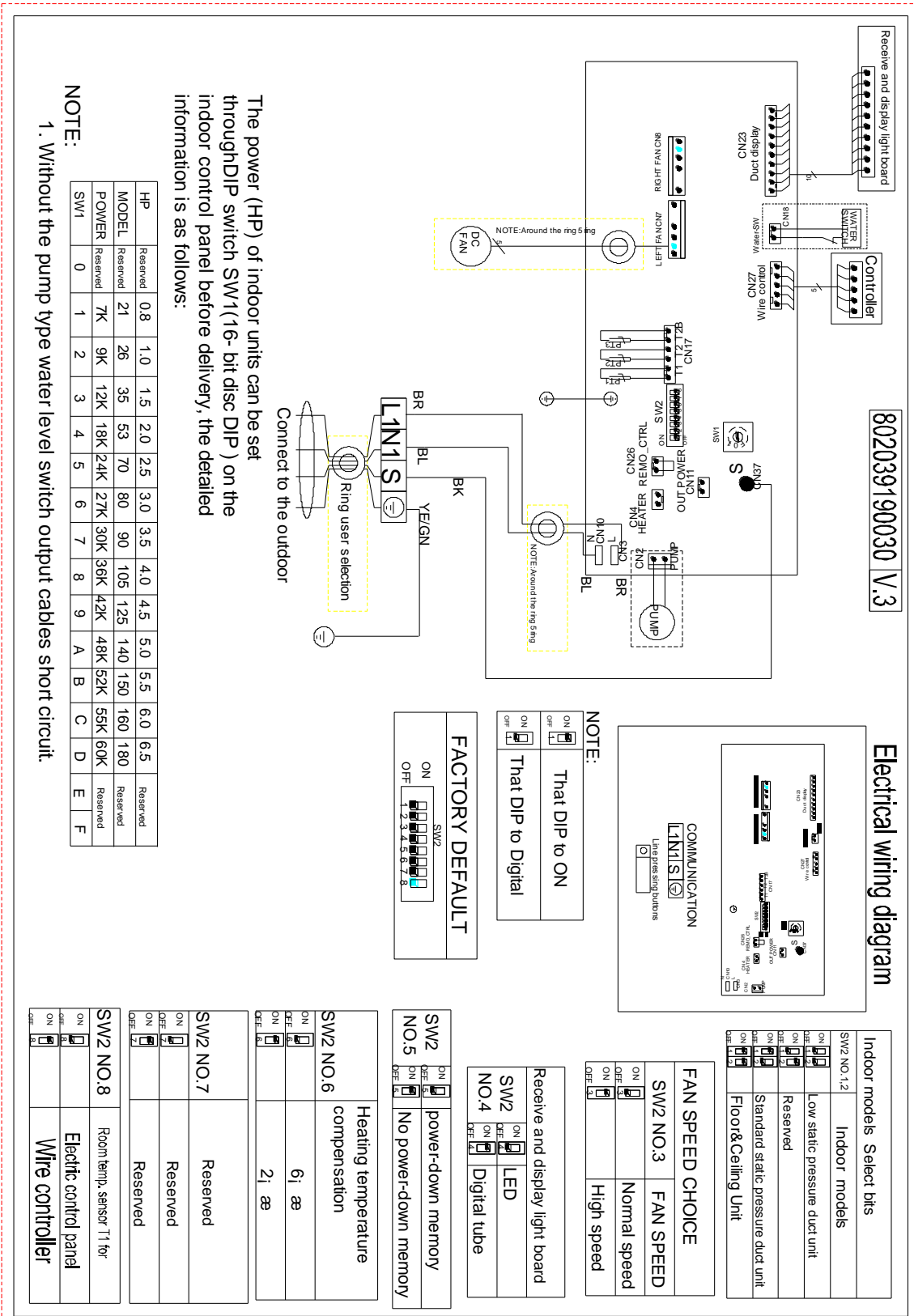
4. Service Space

Ensure enough space required for installation and maintenance.



5. Wiring Diagrams

5.1 CTA-18HVR4, CTA-24HVR4



5.2 CTB-36HVR4, CTB-36HVR4S

Electrical wiring diagram

NOTE:

- That DIP to ON
- That DIP to Digital

FACTORY DEFAULT

Indoor models		Select bits
SW2 NO.1,2	ON OFF	Indoor models
	ON OFF	Low static pressure duct unit
	ON OFF	Ceiling cassette unit
	ON OFF	Standard static pressure duct unit
	ON OFF	Floor&Ceiling unit

FAN SPEED CHOICE	
SW2 NO.3	FAN SPEED
ON OFF	High speed
ON OFF	Super speed

Receive and display light board	
SW2 NO.4	LED
ON OFF	Digital tube

SW2 NO.5	power-down memory
ON OFF	No power-down memory

Heating temperature compensation	
SW2 NO.6	Reserved
ON OFF	6j æ
ON OFF	2i æ

SW2 NO.7	Reserved
ON OFF	Reserved
ON OFF	Reserved

SW2 NO.8	Room temp. sensor T1 for
ON OFF	Electric control panel
ON OFF	Wire controller

802039390059 V.3

The power (PH) of indoor units can be set through DIP switch SW1 (16-bit disc DIP) on the indoor control panel before delivery, the detailed information is as follows:

HP	Reserved	0.8	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Reserved	
MODEL	Reserved	21	26	35	53	70	80	90	105	125	140	150	160	180	Reserved	
POWER	Reserved	7K	9K	12K	18K	24K	27K	30K	36K	42K	48K	52K	55K	60K	Reserved	
SW1	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

NOTE:

- The factory default CN18 need cables short circuit
- The water pump outlet are connected by a field installation

5.3 CTB-48HVR4, CTB-48HVR4S, CTB-55HVR4S

802039390060 V.2

Indoor models Select bits	
SW2 NO.12	Indoor models
<input type="checkbox"/> ON	Low static pressure duct unit
<input type="checkbox"/> OFF	High static pressure duct unit
<input type="checkbox"/> ON	Standard static pressure duct unit
<input type="checkbox"/> OFF	Floor&Ceiling unit

FAN SPEED CHOICE	
SW2 NO.3	FAN SPEED
<input type="checkbox"/> ON	High speed
<input type="checkbox"/> OFF	Super speed

Receive and display light board	
SW2 NO.4	LED
<input type="checkbox"/> ON	Digital tube
<input type="checkbox"/> OFF	

SW2 NO.5	power-down memory
<input type="checkbox"/> ON	No power-down memory
<input type="checkbox"/> OFF	

SW2 NO.6	Heating temperature compensation
<input type="checkbox"/> ON	Reserved
<input type="checkbox"/> OFF	6j æ
<input type="checkbox"/> ON	2j æ
<input type="checkbox"/> OFF	

SW2 NO.7	Reserved
<input type="checkbox"/> ON	Reserved
<input type="checkbox"/> OFF	Reserved

SW2 NO.8	Room temp. sensor T1 for
<input type="checkbox"/> ON	Electric control panel
<input type="checkbox"/> OFF	Wire controller

NOTE:

<input type="checkbox"/> ON	That DIP to ON
<input type="checkbox"/> OFF	That DIP to Digital

FACTORY DEFAULT	
SW2	<input type="checkbox"/> ON
	<input type="checkbox"/> OFF

Connect to the outdoor

The power (PH) of indoor units can be set through DIP switch SW1 (16-bit disc DIP) on the indoor control panel before delivery, the detailed information is as follows:

HP	Reserved	0.8	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Reserved	
MODEL	Reserved	21	26	35	53	70	80	90	105	125	140	150	160	180	Reserved	
POWER	Reserved	7K	9K	12K	18K	24K	27K	30K	36K	42K	48K	52K	55K	60K	Reserved	
SW1	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

NOTE:

- The factory default CN18 need cables short circuit
- The water pump outlet are connected by a field installation

6. Capacity Tables

Cooling

6.1 CTA-18HVR4

MODEL		CTA-18HVR4						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	49 °C
21°C DB	Total capacity kW	5.09	5.06	5.03	4.99	4.95	4.91	4.88
15°C WB	Input kW.	1.50	1.51	1.53	1.55	1.60	1.66	1.71
24°C DB	Total capacity kW	5.25	5.22	5.18	5.15	5.10	5.06	5.03
17°C WB	Input kW.	1.52	1.53	1.55	1.57	1.63	1.68	1.73
27°C DB	Total capacity kW	5.41	5.38	5.34	5.30	5.26	5.22	5.18
19°C WB	Input kW.	1.54	1.55	1.57	1.59	1.65	1.70	1.75
29°C DB	Total capacity kW	5.48	5.44	5.40	5.36	5.32	5.28	5.24
21°C WB	Input kW.	1.56	1.58	1.60	1.62	1.67	1.73	1.78
32°C DB	Total capacity kW	5.58	5.55	5.51	5.47	5.42	5.38	5.34
23°C WB	Input kW.	1.57	1.58	1.60	1.62	1.68	1.74	1.79

6.2 CTA-24HVR4

MODEL		CTA-24HVR4						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	49 °C
21°C DB	Total capacity kW	6.82	6.78	6.73	6.68	6.63	6.58	6.53
15°C WB	Input kW.	2.03	2.05	2.07	2.10	2.17	2.25	2.31
24°C DB	Total capacity kW	7.04	7.00	6.95	6.89	6.84	6.78	6.74
17°C WB	Input kW.	2.05	2.07	2.10	2.12	2.20	2.28	2.34
27°C DB	Total capacity kW	7.25	7.21	7.15	7.00	7.04	6.99	6.94
19°C WB	Input kW.	2.08	2.10	2.12	2.15	2.23	2.31	2.37
29°C DB	Total capacity kW	7.34	7.29	7.24	7.19	7.13	7.07	7.03
21°C WB	Input kW.	2.11	2.13	2.16	2.19	2.26	2.34	2.41
32°C DB	Total capacity kW	7.48	7.43	7.38	7.32	7.26	7.21	7.16
23°C WB	Input kW.	2.12	2.14	2.17	2.19	2.27	2.35	2.42

6.3 CTB-36HVR4, CTB-36HVR4S

MODEL		CTB-36HVR4, CTB-36HVR4S						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	49 °C
21°C DB	Total capacity kW	10.09	10.03	9.96	9.88	9.80	9.73	9.66
15°C WB	Input kW.	3.08	3.11	3.14	3.18	3.30	3.41	3.51
24°C DB	Total capacity kW	10.41	10.35	10.27	10.19	10.11	10.03	9.97
17°C WB	Input kW.	3.12	3.15	3.19	3.22	3.34	3.46	3.55
27°C DB	Total capacity kW	10.72	10.66	10.58	10.50	10.42	10.33	10.27
19°C WB	Input kW.	3.16	3.19	3.23	3.27	3.38	3.50	3.60
29°C DB	Total capacity kW	10.85	10.79	10.71	10.63	10.54	10.46	10.39
21°C WB	Input kW.	3.21	3.24	3.28	3.32	3.44	3.56	3.66
32°C DB	Total capacity kW	11.06	10.99	10.91	10.83	10.74	10.66	10.59
23°C WB	Input kW.	3.22	3.25	3.29	3.33	3.45	3.57	3.68

6.4 CTB-48HVR4,CTB-48HVR4S

MODEL		CTB-48HVR4, CTB-48HVR4S						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	49 °C
21°C DB	Total capacity kW	13.45	13.37	13.29	13.18	13.08	12.97	12.89
15°C WB	Input kW.	4.80	4.83	4.89	4.97	5.12	5.32	5.47
24°C DB	Total capacity kW	13.87	13.79	13.68	13.60	13.47	13.37	13.29
17°C WB	Input kW.	4.86	4.89	4.97	5.03	5.21	5.38	5.53
27°C DB	Total capacity kW	14.29	14.21	14.11	14.00	13.89	13.79	13.68
19°C WB	Input kW.	4.93	4.97	5.03	5.09	5.29	5.44	5.61
29°C DB	Total capacity kW	14.48	14.37	14.26	14.16	14.05	13.95	13.84
21°C WB	Input kW.	5.00	5.06	5.12	5.18	5.35	5.53	5.70
32°C DB	Total capacity kW	14.74	14.66	14.55	14.45	14.32	14.21	14.11
23°C WB	Input kW.	5.03	5.06	5.12	5.18	5.38	5.57	5.73

6.5 CTB-55HVR4S

MODEL		CTA-55HVR4S						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	49 °C
21°C DB	Total capacity kW	15.37	15.28	15.18	15.06	14.94	14.82	14.73
15°C WB	Input kW.	5.70	5.73	5.81	5.89	6.07	6.30	6.49
24°C DB	Total capacity kW	15.85	15.76	15.64	15.55	15.40	15.28	15.18
17°C WB	Input kW.	5.78	5.81	5.89	5.96	6.19	6.38	6.57
27°C DB	Total capacity kW	16.33	16.24	16.12	16.00	15.88	15.76	15.64
19°C WB	Input kW.	5.85	5.89	5.96	6.04	6.27	6.46	6.65
29°C DB	Total capacity kW	16.54	16.42	16.30	16.18	16.06	15.94	15.82
21°C WB	Input kW.	5.93	6.01	6.07	6.15	6.35	6.57	6.77
32°C DB	Total capacity kW	16.85	16.75	16.63	16.51	16.36	16.24	16.12
23°C WB	Input kW.	5.96	6.01	6.07	6.15	6.38	6.61	6.80

Heating

6.6CTA-18HVR4

MODEL		CTA-18HVR4						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C D 2°C W	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	6.05	6.00	5.98	5.81	5.55	5.47	4.93
	Input kW.	1.59	1.46	1.42	1.40	1.37	1.36	1.30
18°C	Capacity kW	5.99	5.96	5.94	5.77	5.52	5.43	4.90
	Input kW.	1.62	1.49	1.44	1.42	1.39	1.39	1.32
20°C	Capacity kW	5.96	5.92	5.90	5.73	5.48	5.40	4.86
	Input kW.	1.64	1.52	1.48	1.45	1.42	1.41	1.35
22°C	Capacity kW	5.93	5.88	5.86	5.69	5.44	5.36	4.83
	Input kW.	1.68	1.54	1.50	1.48	1.44	1.43	1.37
27°C	Capacity kW	5.80	5.84	5.82	5.65	5.40	5.32	4.79
	Input kW.	1.71	1.57	1.53	1.51	1.48	1.46	1.39

6.7 CTA-24HVR4

MODEL		CTA-24HVR4						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C D 2°C W	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	7.95	7.83	7.81	7.58	7.25	7.14	6.43
	Input kW.	1.96	1.91	1.86	1.83	1.79	1.78	1.69
18°C	Capacity kW	7.90	7.78	7.75	7.53	7.20	7.09	6.39
	Input kW.	1.99	1.94	1.89	1.86	1.82	1.81	1.73
20°C	Capacity kW	7.86	7.73	7.70	7.47	7.15	7.04	6.35
	Input kW.	2.05	1.98	1.93	1.93	1.86	1.84	1.76
22°C	Capacity kW	7.82	7.67	7.65	7.65	7.10	6.99	6.30
	Input kW.	2.08	2.01	1.95	1.95	1.89	1.88	1.78
27°C	Capacity kW	7.73	7.62	7.59	7.59	7.05	6.94	6.26
	Input kW.	2.13	2.05	1.99	1.99	1.93	1.91	1.82

6.8 CTB-36HVR4, CTB-36HVR4S

MODEL		CTB-36HVR4, CTB-36HVR4S						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C D 2°C W	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	12.11	11.70	11.66	11.32	10.83	10.67	9.61
	Input kW.	3.66	3.48	3.38	3.33	3.26	3.24	3.08
18°C	Capacity kW	12.08	11.62	11.58	11.24	10.75	10.59	9.54
	Input kW.	3.70	3.53	3.43	3.39	3.32	3.30	3.14
20°C	Capacity kW	12.04	11.54	11.50	11.16	10.68	10.52	9.48
	Input kW.	3.76	3.60	3.50	3.45	3.38	3.35	3.20
22°C	Capacity kW	12.00	11.46	11.42	11.09	10.60	10.44	9.41
	Input kW.	3.83	3.66	3.56	3.51	3.43	3.41	3.25
27°C	Capacity kW	11.73	11.38	11.34	11.01	10.53	10.37	9.35
	Input kW.	3.93	3.73	3.62	3.58	3.50	3.48	3.31

6.9 CTB-48HVR4, CTB-48HVR4S

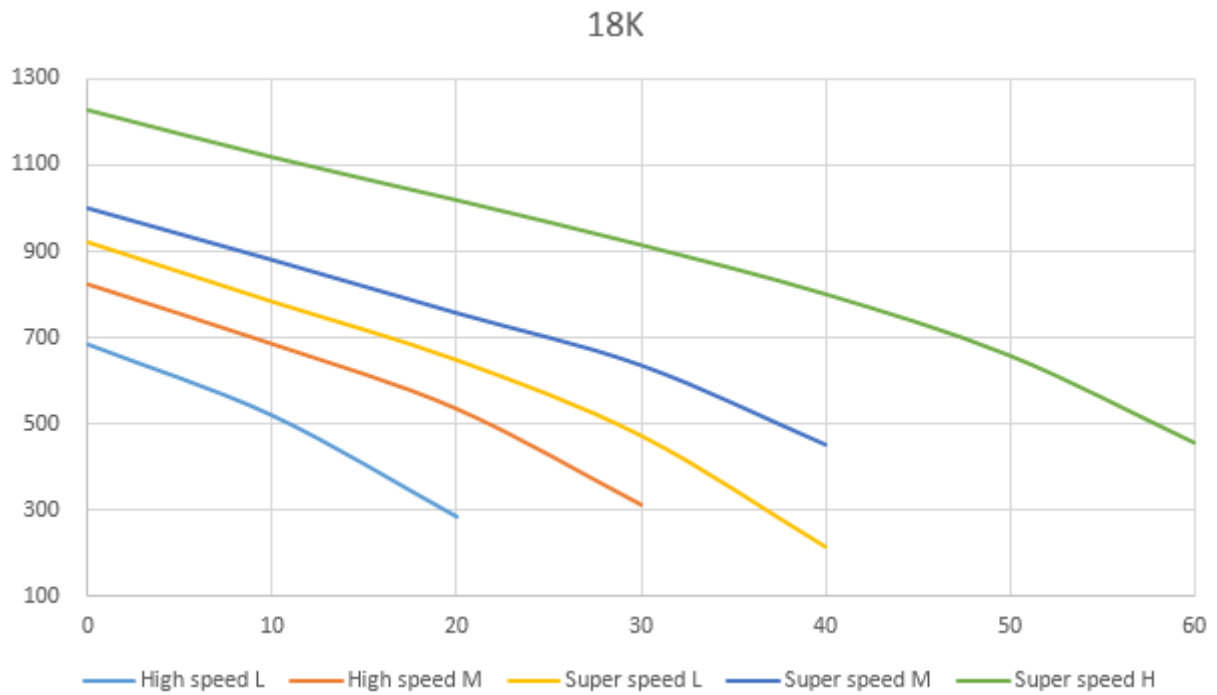
MODEL		CTB-48HVR4, CTB-48HVR4S						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C D 2°C W	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	15.59	15.46	15.41	14.97	14.30	14.09	12.70
	Input kW.	5.45	5.03	4.88	4.81	4.70	4.67	4.45
18°C	Capacity kW	15.43	15.35	15.30	14.87	14.22	13.99	12.62
	Input kW.	5.57	5.09	4.96	4.88	4.77	4.77	4.52
20°C	Capacity kW	15.35	15.25	15.20	14.76	14.12	13.91	12.52
	Input kW.	5.64	5.21	5.06	4.99	4.88	4.84	4.62
22°C	Capacity kW	15.28	15.15	15.10	14.66	14.01	13.81	12.44
	Input kW.	5.75	5.28	5.13	5.06	4.96	4.91	4.70
27°C	Capacity kW	14.94	15.05	14.99	14.56	13.91	13.71	12.34
	Input kW.	5.86	5.38	5.24	5.16	5.06	5.03	4.77

6.10 CTB-55HVR4S

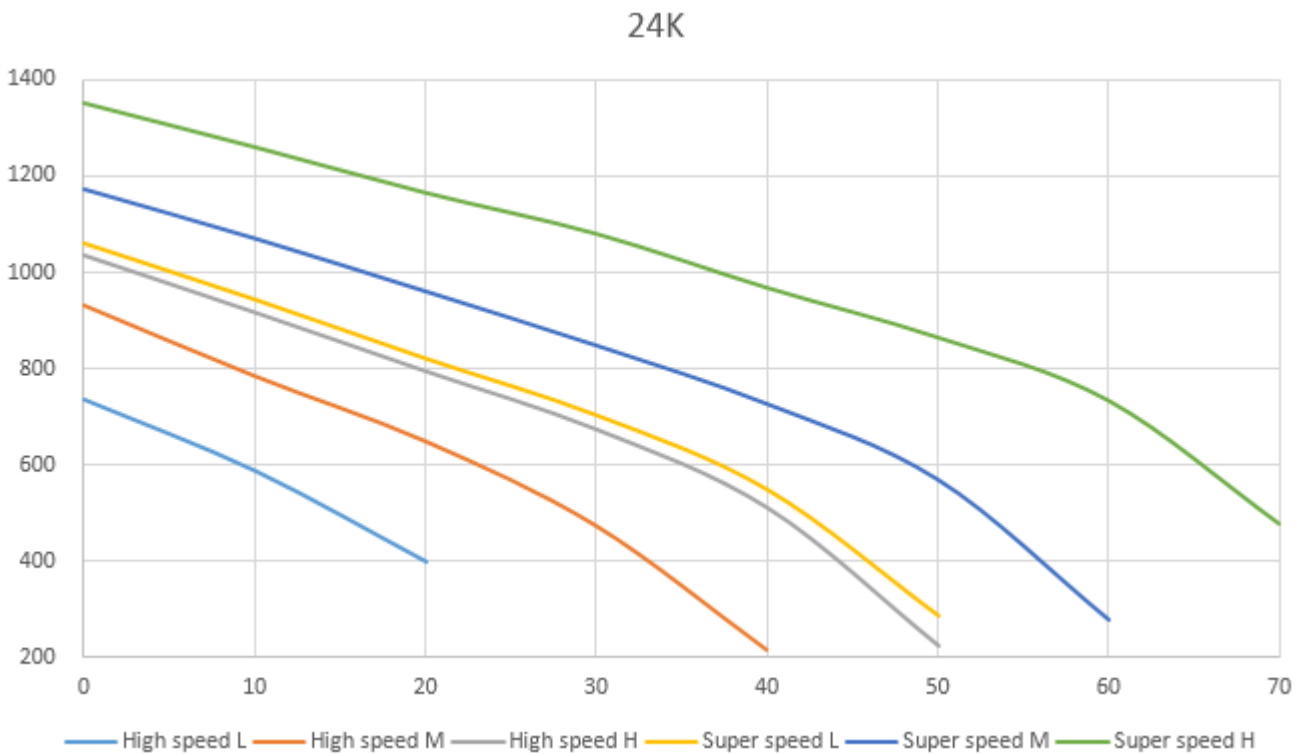
MODEL		CTB-55HVR4S						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C D 2°C W	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	17.23	17.09	17.03	16.54	15.81	15.58	14.04
	Input kW.	6.04	5.56	5.40	5.32	5.20	5.16	4.92
18°C	Capacity kW	17.06	16.97	16.91	16.43	15.72	15.46	13.96
	Input kW.	6.16	5.64	5.48	5.40	5.28	5.28	5.00
20°C	Capacity kW	16.97	16.86	16.80	16.31	15.61	15.38	13.84
	Input kW.	6.25	5.76	5.60	5.52	5.40	5.36	5.12
22°C	Capacity kW	16.89	16.74	16.69	16.20	15.49	15.26	13.76
	Input kW.	6.35	5.84	5.68	5.60	5.48	5.44	5.20
27°C	Capacity kW	16.51	16.63	16.57	16.08	15.38	15.15	13.64
	Input kW.	6.48	5.96	5.80	5.72	5.60	5.56	5.28

7. Static Pressure

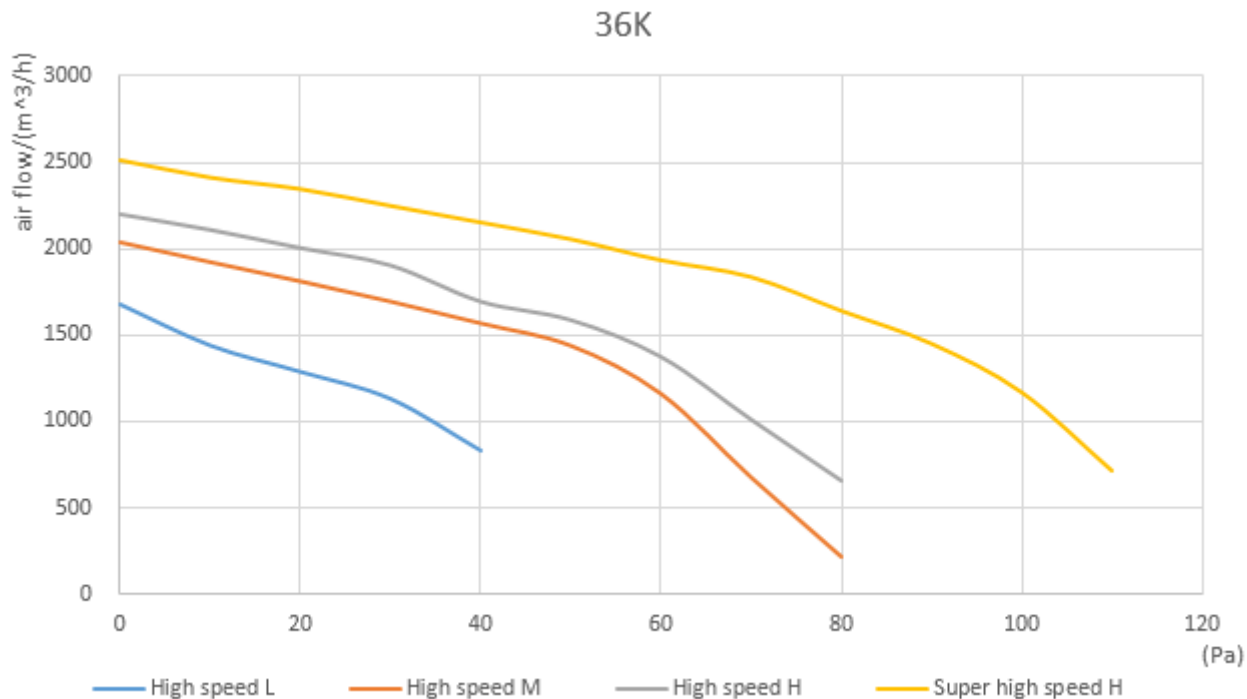
7.1 CTA-18HVR4



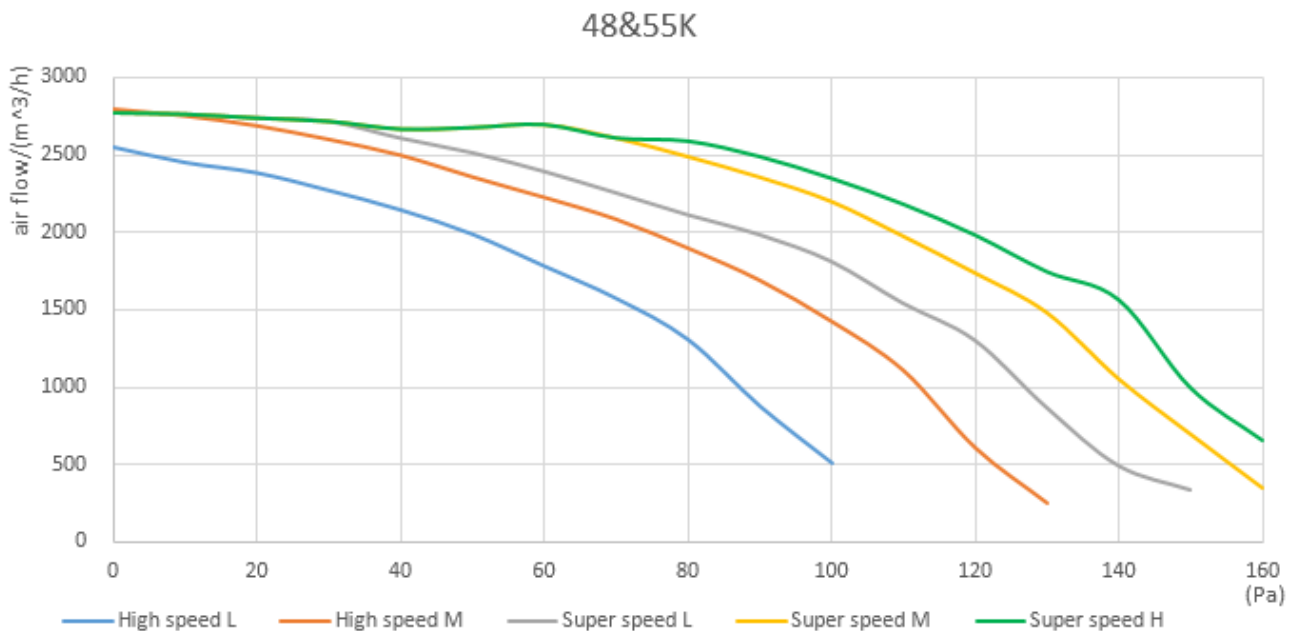
7.2 CTA-24HVR4



7.3 CTB-36HVR4, CTB-36HVR4S



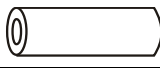





7.4 CTB-48HVR4, CTB-48HVR4S, CTB-55HVR4S



8. Electric Characteristics

Model	Indoor Units				Indoor Fan Motor
	Hz	Voltage	Min.	Max.	kW
CTA-18HVR4	50	220-240V	198V	254V	0.068
CTA-24HVR4	50	220-240V	198V	254V	0.068
CTB-36HVR4	50	220-240V	198V	254V	0.225
CTB-36HVR4S	50	220-240V	198V	254V	0.225
CTB-48HVR4	50	220-240V	198V	254V	0.240
CTB-48HVR4S	50	220-240V	198V	254V	0.240
CTB-55HVR4	50	220-240V	198V	254V	0.240

9. Accessories

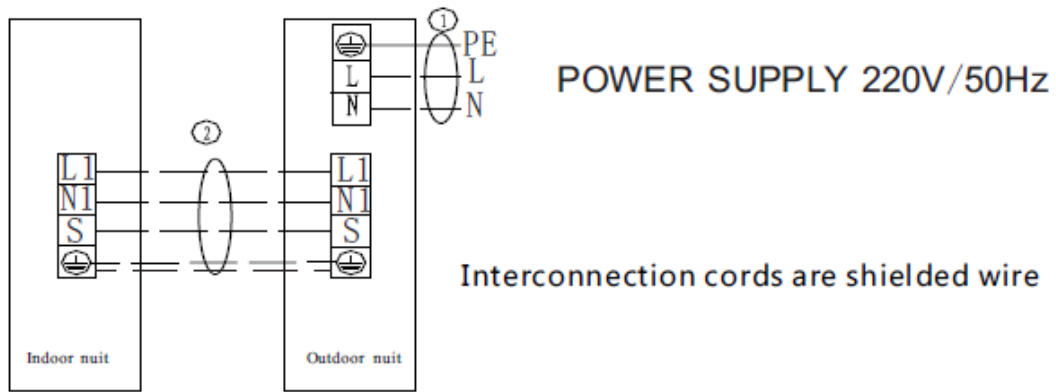
	Name	Shape	Quantity
Tubing & Fittings	Soundproof/insulation sheath		2
	Binding tape		1
	Seal sponge		1
Drainpipe Fittings	Seal ring		1
Controllers	Remote controller		1
others	Operation & installation instruction manual		1

10. The Specification of Wiring

Model		CTA-18HVR4	CTA-24HVR4	CTB-36HVR4	CTB-48HVR4
Indoor power supply	V/Ph/Hz	220~240/1/50			
Outdoor power supply	V/Ph/Hz	220~240/1/50			
Power Supply Method		From outdoor unit			
Outdoor unit Power Supply Wire		3×12AWG	3×12AWG	3×12AWG	3×12AWG
Indoor unit Power Supply Wire		4×14AWG	4×14AWG	4×14AWG	4×14AWG
Signal wiring		4×2.5	4×2.5	3×1.0	3×1.0

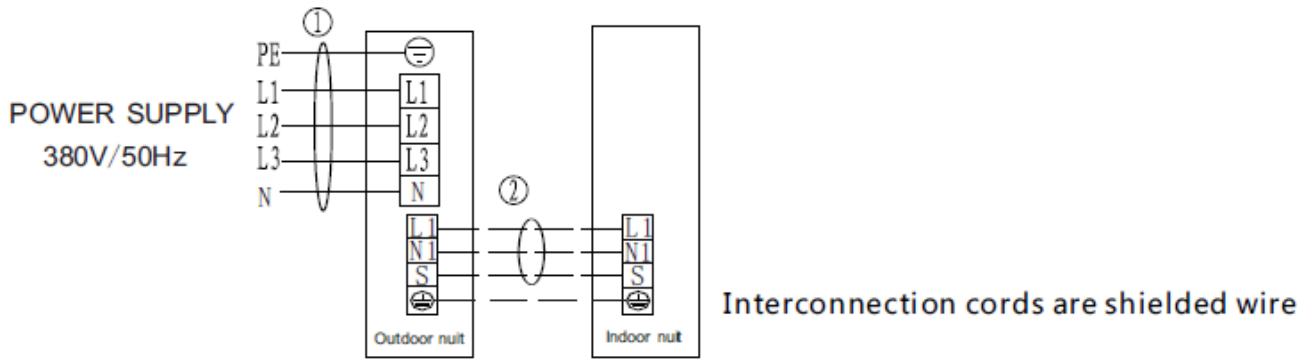
Model		CTB-36HVR4S	CTB-48HVR4S	CTB-55HVR4S
Indoor power supply	V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50
Outdoor power supply	V/Ph/Hz	380~415/3/50	380~415/3/50	380~415/3/50
Power Supply Method		From outdoor unit		
Outdoor unit Power Supply Wire		5×12AWG	5×12AWG	5×12AWG
Indoor unit Power Supply Wire		4×14AWG	4×14AWG	4×14AWG
Signal wiring		4×2.5	4×2.5	3×1.0

11. Field Wiring



Interconnection cords are shielded wire

Applies to (220V/50Hz)3.5kW,5.3kW,7.1kW

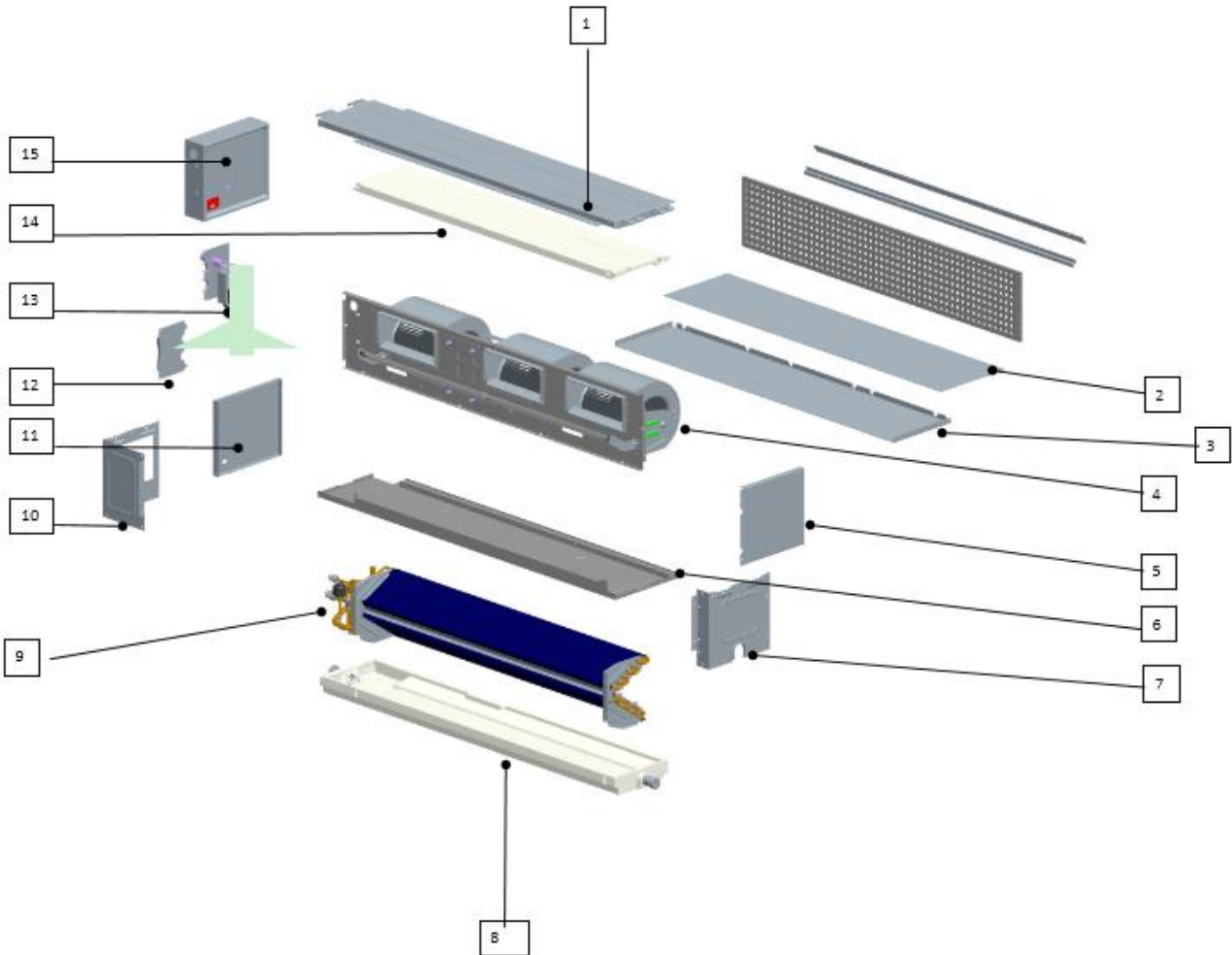


Interconnection cords are shielded wire

Applicable for (380V/50Hz) ≥ 10.5 kW model

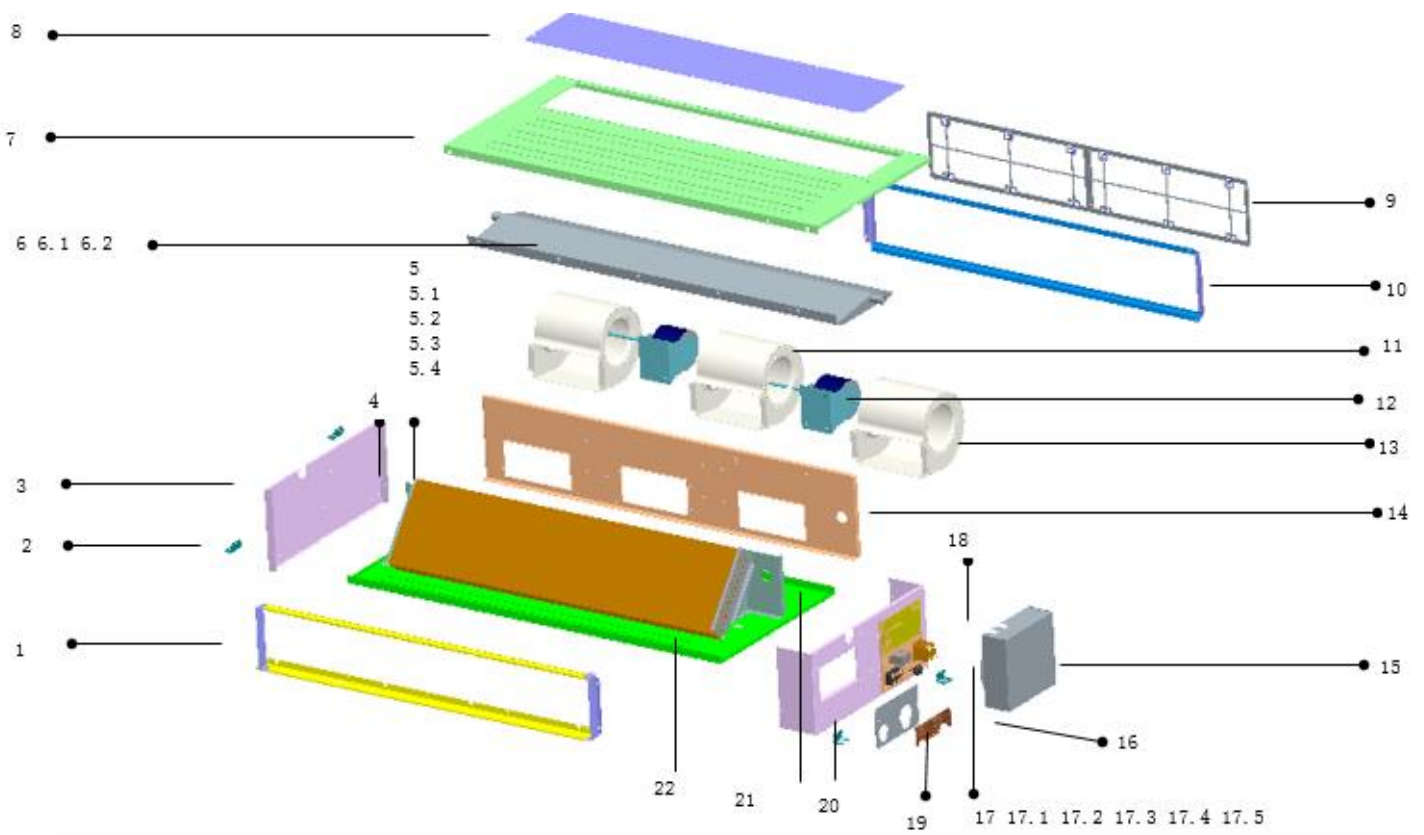
12. Exploded View

12.1 CTA-18HVR4, CTA-24HVR4



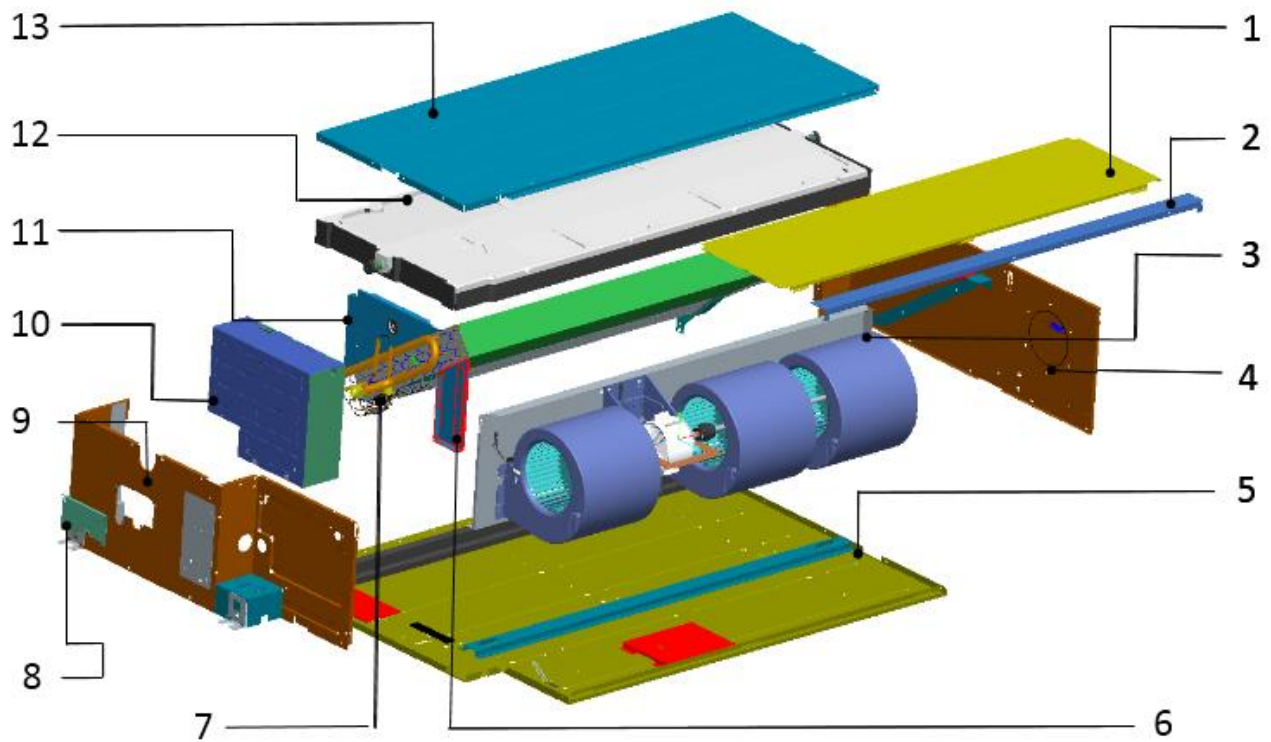
No.	Part Name	No.	Part Name
1	Cover attached cotton assay	9.1.1	Up evaporator
2	panel upper air inlet channel	9.1.2	Down evaporator
3	panel bellow air inlet channel	9.1.3	Collecting pipe assy
4	Motor assy	9.1.4	Shunt assy
4.1	Cotton on fan fixing board assy	9.2	Damped rubber
4.2	Holder for fan motor	9.3	Damped rubber
4.3	Wind turbine volute	9.4	sheath insulation
4.4	Biaxial indoor DC	9.5	sheath insulation
4.5	Motor support joint	10	Left clapboard attached cotton assy
4.6	Right fixing clamp for motor	11	Left inlet clapboard attached cotton assy
4.7	Left fixing clamp for motor	11.1	Left clapboard of air inlet channel
4.8	Axis	11.2	The right plate of air inlet channel
4.9	Bearing holder	12	Cotton posted a pipe cover assy
4.10	The holder of axis assy	12.1	Output pipe of left clapboard
5	The right plate of air inlet channel	12.2	Cotton posted a pipe cover
6	panel bellow attached cotton assy	13	Pump holder attached cotton assy
6.1	Down Panel assy	13.1	Pump holder
6.1.1	Down Panel	13.2	Pump cover sponge
6.1.2	fan fixed plate	14	Up foam
6.2	Down outlet cotton	15	E-parts assy
6.3	Down panel cotton	15.1	Base for electric control
7	Right clapboard cotton assy	15.2	Plastic base for PCB
8	Bubble water pan	15.3	Electronic control board for indoor unit
9	Evaporator	15.4	Terminal
9.1	Evaporator assy		

12.2 CTB-36HVR4, CTB-36HVR4S



No.	Part Name	No.	Part Name
1	Air outlet assy	12	Indoor motor1
2	Hanger	12.1	Indoor motor2
3	Left side board	13	Right scroll case
4	Left connecting panel for evaporator	14	Fixing board assy for fan
5	Evaporator components	15	E- parts box cover
5.1	Transitron	16	Small cover
5.2	Current dividing assy	17	Electronic control components
5.3	Collecting pipe assy	17.1	Electronic control board for indoor unit
5.4	Evaporator assy	17.2	Temp sensor
5.5	Installation tube for probe	17.3	Terminal
6	Water pan assy	17.4	Terminal
6.1	Discharge pipe assy	17.5	Groove clamp 7
6.2	Rubber cover for water outlet joint	18	E- parts box base
7	Lower panel	19	Big cover
8	Air return baffle	20	Right side board
9	Air filter	21	Right connecting panel for evaporator
10	Air return assy	22	Upper panel
11	Left scroll case		

12.3 CTB-48HVR4, CTB-48HVR4S, CTB-55HVR4S



No.	Part Name	No.	Part Name
1	Air return baffle	7	Evaporator components
2	Air return baffle support	7.1	Evaporator assy
3	Fan assy	7.2	Output pipe assy
3.1	Middle beam welding assy	7.3	Input pipe assy
3.2	Motor support	8	Sealing board for outlet pipe
3.3	Left upper cover for motor	9	Left side foam assy
3.4	Left lower cover for motor	9.1	Left side board welding assy
3.5	Right upper cover for motor	9.2	Hanger
3.6	Right lower cover for motor	10	Electronic control components
3.7	Motor support joint board	10.1	Electric part box
3.8	Centrifugal fan wheel and Scroll case assy	10.2	Electric part box cover
3.9	Axis support board	10.3	Main control board assy
3.10	Bearing holder	10.4	Terminal
3.11	Bearing holder	10.5	Temp sensor
3.12	Axis	10.6	Temp sensor
3.13	Coupling	10.7	Resistance
3.14	DC Fan motor	10.8	Capacitor board
4	Right side board foam assy	10.9	Magnet ring
4.1	Right side board welding assy	10.10	Reactance
4.2	Hanger	11	Evaporator support panel 1 assy
5	Cover foam assy	12	Water pan components
5.1	Cover assy	13	Chassis components
6	Evaporator support panel 2		

13. Trouble shooting

13.1 Fault codes table

Table 1: indoor unit digital display and wired controller

Display	Error description	Display	Error description
E0	Phase protection	F0	(reserve)
E1	Communication error between outdoor unit and indoor unit	F1	(reserve)
E2	Indoor room temperature (T1) sensor error	F2	(reserve)
E3	Indoor coil middle temperature (T2) sensor error	F3	Outdoor unit current error cannot recover
E4	Indoor coil outlet temperature (T2B) sensor error	F4	Display P3 error for 3 times within 60 minutes
E5	Outdoor unit error	F5	Outdoor temperature (T4) sensor error
E6	Zero speed protection	F6	(reserve)
E7	EERPOM error	F7	Outdoor unit condenser outlet (T3) sensor error
E8	Indoor fan motor speed lose protection	F8	Secondary side current protection
E9	Wired controller communication error	F9	Heat T2 temp. protection
EE	Water level alarm error	EF	Outdoor unit voltage error
P0	(reserve)	H0	EF(Reserve)
P1	(reserve)	H1	Communication error between outdoor unit mainboard and driver board
P2	(reserve)	H2	(reserve)
P3	Primary/secondary overcurrent protection	H3	(reserve)
P4	Exhaust temperature over-high protection	H4	3 times of P6 error within 30 minutes
P5	Outdoor unit condenser outlet (T3) temperature over-high protection	H5	3 times of P2 error within 30 minutes
P6	Compressor driver error or IPM protection	H6	3 times of P4 error within 100 minutes
P7	(reserve)	H7	(reserve)
P8	(reserve)	H8	(reserve)
P9	Outdoor unit DC fan motor error	H9	2 times of P9 error within 10 minutes

Table 2: LED display

Error description	Display content
Indoor unit waiting for address assignment	LED timer and running flash together
(reserve)	LED timer, running, protection, defrost flash together
Communication error between outdoor unit and indoor unit	LED timer flash quickly
Fan motor stall protection	LED timer flash slowly
Indoor unit temperature sensor error	LED run flash
Water level alarm	LED protection flash
(reserve)	LED defrost flash
Outdoor unit error	LED protection flash slowly
EEPROM error	LED defrost flash slowly

Quickly flash is 2.5Hz, slowly flash is 0.5Hz.

Error type	Running	Defrost	Timer	Protection
Outdoor unit condenser outlet (T3) sensor error	OFF	OFF	ON	ON
Outdoor temperature (T4) sensor error	OFF	OFF	Flashing	ON
AC overvoltage/under voltage protection	OFF	Flashing	OFF	ON
P6 protection	OFF	Flashing	ON	ON
Compressor protection	OFF	ON	OFF	ON
Compressor top temperature (T5) over-high protection	OFF	ON	ON	ON
Outdoor DC fan motor error	OFF	ON	Flashing	ON
Over current protection	ON	ON	OFF	ON

13.2 Spot check

Spot check NO.	Content	Spot check NO.	Content
1	Indoor unit capacity	8	Outdoor unit condenser outlet (T3) temperature
2	Indoor unit capacity demand	9	Outdoor temperature (T4) temperature
3	Indoor demand after T4 amendment	10	Compressor top temperature (T5) temperature (maximum 99°C)
4	Indoor demand after T2 amendment	11	Opening of EXV
5	Indoor room temperature (T1) temperature	12	Running frequency of compressor
6	Indoor coil middle temperature (T2) temperature	13	Primary voltage/4
7	Indoor coil outlet temperature (T2B) temperature		

Floor & Ceiling

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1 Features

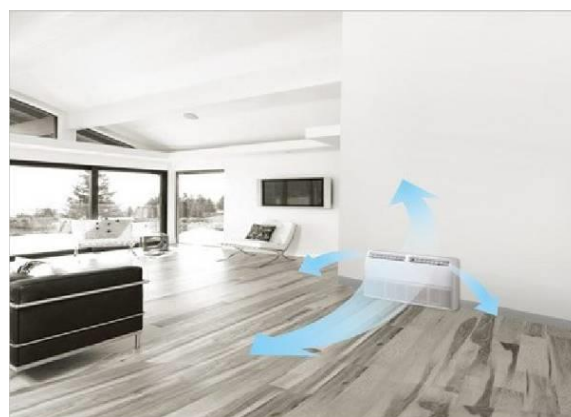
1. Flexible installation, ceiling suspended and floor standing.



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



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



4. Washable air filter



5. LED display optional.



6. High efficiency DC fan motor, low noise and more comfortable.

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



8. Water pump optional, pumping head is up to 1200mm.

9. Adopting waterproof plastic film on water collector, avoiding water leakage.



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



11. Standard for wireless controller; option for wired controller



2 Specifications

Model			CUA-18HVR4	CUA-24HVR4
Indoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50
Cooling	Capacity	KW	2.0-5.3-5.6	3.5-7.0-8.0
	Power input	W	420-1640-2100	600-2200-3000
	Current input	A	2.1-10.1	2.5-9.8-13
	EER	W/W	3.23	3.18
	SEER	W/W	6.1	6.1
Heating	Capacity	KW	2.5-5.9-6.0	4.5-7.7-8.5
	Input	W	500-1530-1940	680-1980-2600
	Rated current	A	2.5-9.2	3.2-11
	COP	W/W	3.87	3.89
	SCOP	W/W	4.0	4.0
Energy rate		Cooling	A++	A++
Energy rate		Heating	A+	A+
Max. power input		W	2400	3200
Max. current input		A	11.4	14
Indoor fan motor	Model		DR-310-120LD-8	DR-310-120LD-8
	Brand		Panasonic	Panasonic
	Power output	W	120	120
	Speed	r/min	1400	1400
	Insulation class		E	E
Indoor coil	Number of rows		2	3
	Tube pitch(a)xrow pitch(b)	mm	21×13.37	21×13.37
	Fin spacing	mm	1.4	1.4
	Fin type		Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7	Φ7
			inner grooved	inner grooved
	Coil length x height x width	mm	1000x252x26.74	1000x252x40.11
Number of circuits		2	4	
Indoor air flow (High speed)		m ³ /h	900/800/650	1150/1000/850
Indoor noise level	power level	dB(A)	46~58	53~60
	pressure level		36/42/47	43/46/49
Indoor unit	Dimension (W*H*D)	Body(mm)	1245×680×240	1245×680×240
	Packing (W*H*D)	Body(mm)	1325×770×325	1325×770×325
	Net/Gross weight		Body(Kg)	34/40
Max pressure		MPa	4.2	4.2
Refrigerant type			R32	R32
Refrigerant piping	Liquid side/Gas side	mm	Φ6.35/Φ12.7	Φ9.52/Φ15.88
Drainage pipe		mm	DN25	DN25
Standard controller			Standard for remote controller(wired controller for optional)	
Operation temp		°C	16~32	16~32
Ambient temp	cooling	°C	-15~50	-15~50
	heating	°C	-15~30	-15~30

Model			CUA-36HVR4	CUA-36HVR4S
Indoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50
Cooling	Capacity	KW	6.6-10.5-12.8	6.6-10.5-12.8
	Power input	W	740-3170-3900	740-3170-3900
	Current input	A	2.8-13.6-20	1.9-8.0-10
	EER	W/W	3.31	3.31
	SEER	W/W	6.1	6.1
Heating	Capacity	KW	7.35-11.5-13.2	7.35-11.5-13.2
	Input	W	1100-3395-4000	1100-3395-4000
	Rated current	A	4.2-14.7-20.4	2.8-7.8-10.2
	COP	W/W	3.39	3.39
	SCOP	W/W	4.0	4.0
Energy rate		Cooling	A++	A++
Energy rate		Heating	A+	A+
Max. power input		W	4800	4800
Max. current input		A	26	10.3
Indoor fan motor	Model		DR-310-120LD-8	DR-310-120LD-8
	Brand		Panasonic	Panasonic
	Power output	W	120	120
	Capacitor	μF	-	-
	Speed	r/min	1400	1400
	Insulation class		E	E
Indoor coil	Number of rows		3	3
	Tube pitch(a)xrow pitch(b)	mm	21×13.37	21×13.37
	Fin spacing	mm	1.4	1.4
	Fin type		Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7 inner grooved	Φ7 inner grooved
	Coil length x height x width	mm	1000x252x40.11	1000x252x40.11
	Number of circuits		4	4
Indoor air flow (High speed)		m ³ /h	1800/1650/1500	1800/1650/1500
Indoor noise level	power level	dB(A)	56~65	56~65
	pressure level		45/48/51	45/48/51
Indoor unit	Dimension (W*H*D)	Body(mm)	1245×680×240	1245×680×240
	Packing (W*H*D)	Body(mm)	1325×770×325	1325×770×325
	Net/Gross weight	Body(Kg)	35/41	35/41
Max pressure		MPa	4.2	4.2
Refrigerant type			R32	R32
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ15.88	Φ9.52/Φ15.88
Drainage pipe		mm	DN25	DN25
Standard controller			Standard for remote controller(wired controller for option)	
Operation temp		°C	16~32	16~32
Ambient temp	cooling	°C	-15~50	-15~50
	heating	°C	-15~30	-15~30

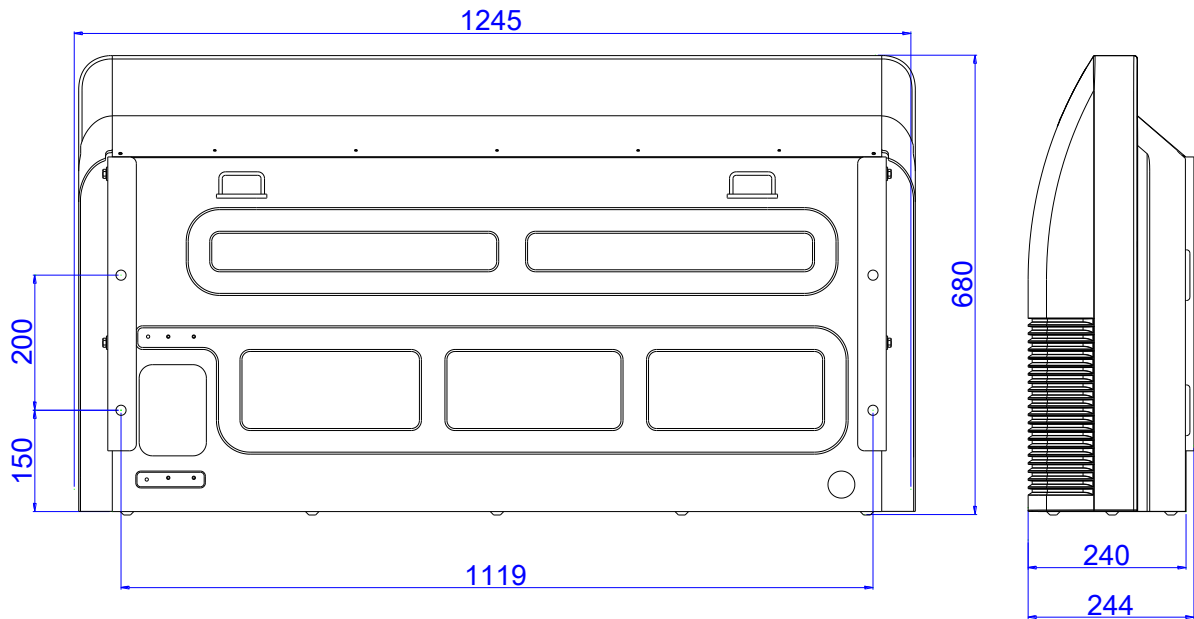
Model			CUA-48HVR4	CUA-48HVR4S	CUA-55HVR4
Indoor power supply		V/Ph/Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz	220~240V/1Ph/50Hz
Cooling	Capacity	KW	7.0-14.0-15.5	7.0-14.0-15.5	7.5-16.0-17.0
	Power input	W	1100-5000-5800	1100-5000-5800	1400-5950-6300
	Current input	A	3-24-28	2.8-14-14.6	3.5-15-15.8
	EER	W/W	2.80	2.80	2.69
Heating	Capacity	KW	8.0-15.2-16.0	8.0-15.2-16.0	8.5-16.8-17.5
	Input	W	1200-4970-6000	1200-4970-6000	1500-5510-6500
	Rated current	A	4-20.5-24	3-12-15	3.7-14-16.3
	COP	W/W	3.06	3.06	2.90
Energy rate		Cooling	A++	A++	A++
Energy rate		Heating	A+	A+	A+
Max. power input		W	6100	6100	6600
Max. current input		A	28.0	15.3	16.5
Indoor fan motor	Model		DR-310-75LD-8	DR-310-75LD-8	DR-310-75LD-8
	Brand		Panasonic	Panasonic	Panasonic
	Power output	W	75*2	75*2	75*2
	Capacitor	μF	-	-	-
	Speed	r/min	1225-1080-930	1225-1080-930	1225-1080-930
	Insulation class		E	E	E
Indoor coil	Number of rows		4	4	4
	Tube pitch(a) x row pitch(b)	mm	22x19.1	22x19.1	22x19.1
	Fin spacing	mm	1.7	1.7	1.7
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7.94	Φ7.94	Φ7.94
			inner grooved	inner grooved	inner grooved
	Coil length x height x width	mm	1382x242x76.2	1382x242x76.2	1382x242x76.2
Number of circuits		8	8	8	
Indoor air flow (High speed)		m ³ /h	2000/1700/1600	2000/1700/1600	2000/1700/1600
Indoor noise level	power level	dB(A)	58-66	58-66	58-66
	pressure level		45-52	45-52	46-52
Indoor unit	Dimension (W*H*D)	Body(mm)	1670x680x245	1670x680x245	1670x680x245
	Packing (W*H*D)	Body(mm)	1750x780x335	1750x780x335	1750x780x335
	Net/Gross weight	Body(Kg)	49/56	49/56	49/56
Max pressure		MPa	4.5	4.5	4.5
Refrigerant type			R32	R32	R32
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88
Drainage pipe		mm	DN25	DN25	DN25
Standard controller			Standard for remote controller(wired controller for optional)		
Operation temp		°C	16~32	16~32	16~32
Ambient temp	cooling	°C	-15~50	-15~50	-15~50
	heating	°C	-15~30	-15~30	-15~30

Notes:

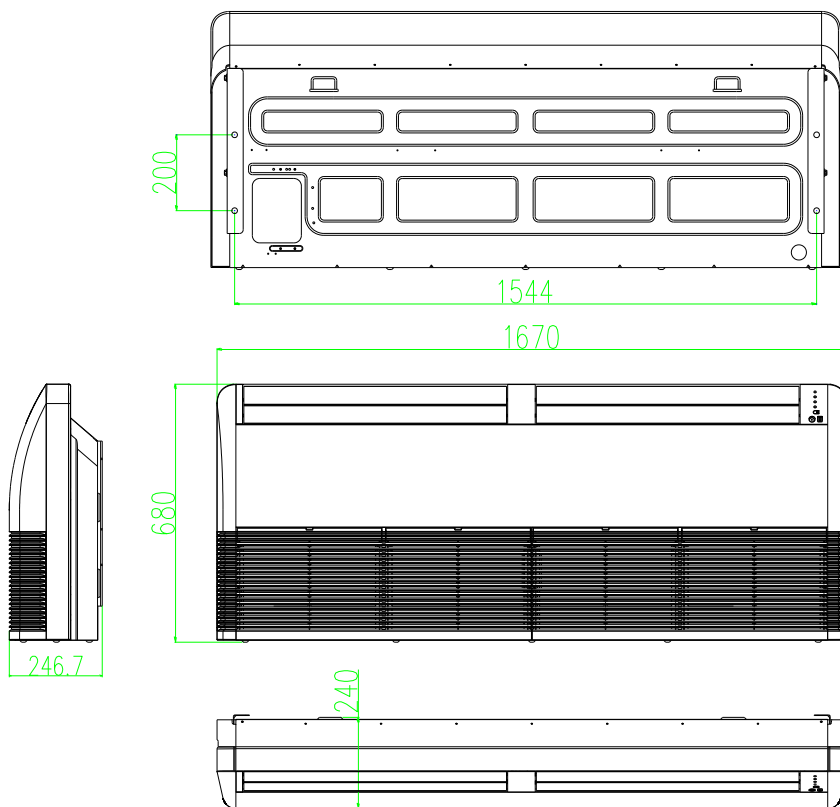
1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. Piping: 5m (horizontal)
2. Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. Piping: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

3 Dimensions

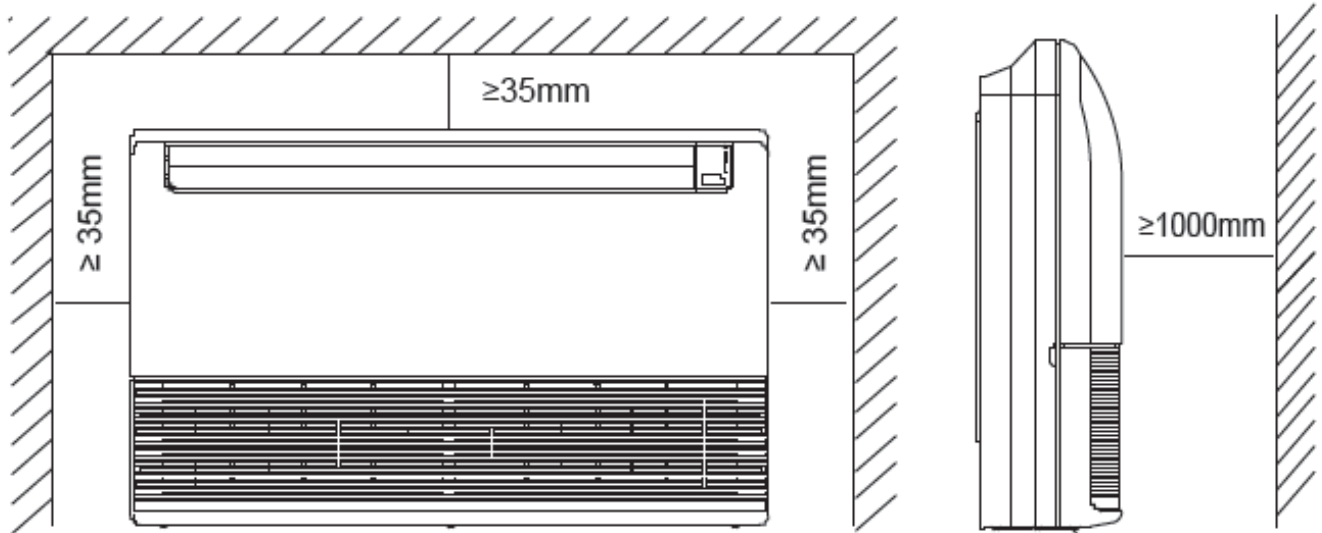
CUA-18HVR4, CUA-24HVR4, CUA-36HVR4, CUA-36HVR4S



CUA-48HVR4, CUA-48HVR4S, CUA-55HVR4S



4 Service Space



5 Wiring Diagrams

5.1 CUA-18HVR4, CUA-24HVR4

NOTE:

<input checked="" type="checkbox"/> ON	That DIP to ON
<input checked="" type="checkbox"/> ON	That DIP to Digital
FACTORY DEFAULT	
<input checked="" type="checkbox"/> ON	
<input type="checkbox"/> OFF	

Indoor models Selectbits	
SW2 NO.12	Indoor models
<input checked="" type="checkbox"/> ON	Floor & Ceiling Unit

FAN SPEED CHOICE	
SW2 NO.3	FAN SPEED
<input type="checkbox"/> ON	Normal speed
<input checked="" type="checkbox"/> OFF	High speed

Receive and display light board	
SW2 NO.4	LED
<input type="checkbox"/> ON	Digital tube
<input checked="" type="checkbox"/> OFF	

SW2 NO.5	power-down memory
<input type="checkbox"/> ON	No power-down memory
<input checked="" type="checkbox"/> OFF	

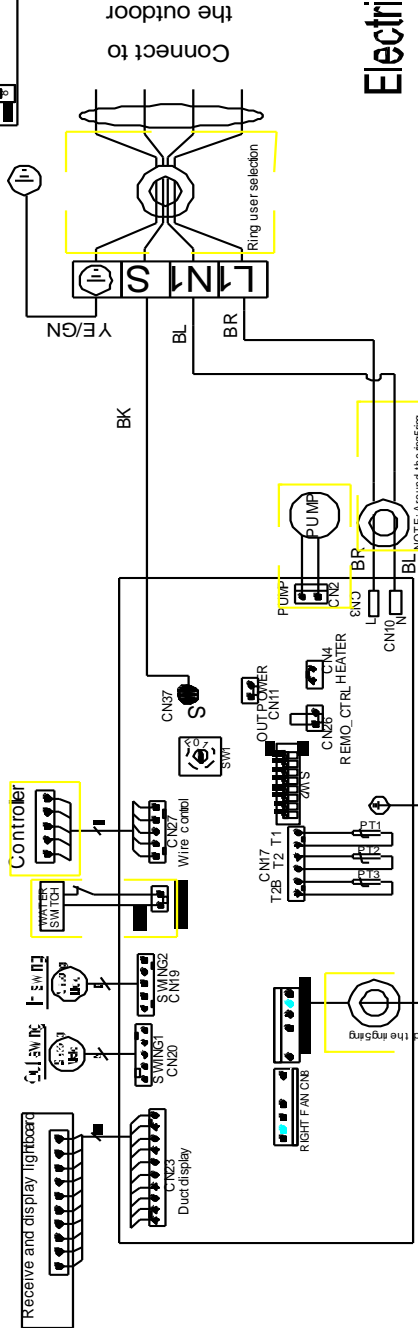
SW2 NO.6	Heating temperature compensation
<input type="checkbox"/> ON	6j æ
<input checked="" type="checkbox"/> OFF	2j æ

SW2 NO.7	Reserved
<input type="checkbox"/> ON	Reserved
<input checked="" type="checkbox"/> OFF	Reserved

SW2 NO.8	3-con'ter'p sensor 1' for Electric control panel
<input type="checkbox"/> ON	Wire controller
<input checked="" type="checkbox"/> OFF	

Note: If there is no water pump, CN18 need to short answer. The power (HP) of indoor units can be set through DIP switch SW1 (16-b1 disc DIP) on the indoor control panel before delivery; the detailed information is as follows:

HP	Reserved	0.8	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Reserved	
MODEL	Reserved	21	26	35	53	70	80	90	105	125	140	150	160	180	Reserved	
POWER	Reserved	7K	9K	12K	18K	24K	27K	30K	36K	42K	48K	52K	55K	60K	Reserved	
SW1	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F



Electrical wiring diagram

80203790072 V.3

5.2CUA-36HVR4, CUA-36HVR4S

NOTE:

	ON	That DIP to ON
	OFF	That DIP to Digital
FACTORY DEFAULT		
SW2		
	ON	1
	OFF	2
	OFF	3
	OFF	4
	OFF	5
	OFF	6
	OFF	7
	OFF	8

Indoor models Select bits	
SW2 NO.1,2	Indoor models
	ON
	OFF
	ON
	OFF
Low static pressure duct unit	
	ON
	OFF
Ceiling cassette unit	
	ON
	OFF
Standard static pressure duct unit	
	ON
	OFF
Floor&Ceiling Unit	
	ON
	OFF

FAN SPEED CHOICE	
SW2 NO.3	FAN SPEED
	ON
	OFF
	ON
	OFF
Normal speed	
	ON
	OFF
HIGH speed	
	ON
	OFF

Receive and display light board	
SW2 NO.4	LED
	ON
	OFF
	ON
	OFF
Digital tube	
	ON
	OFF

SW2 NO.5	power-down memory
	ON
	OFF
SW2 NO.6	No power-down memory
	ON
	OFF

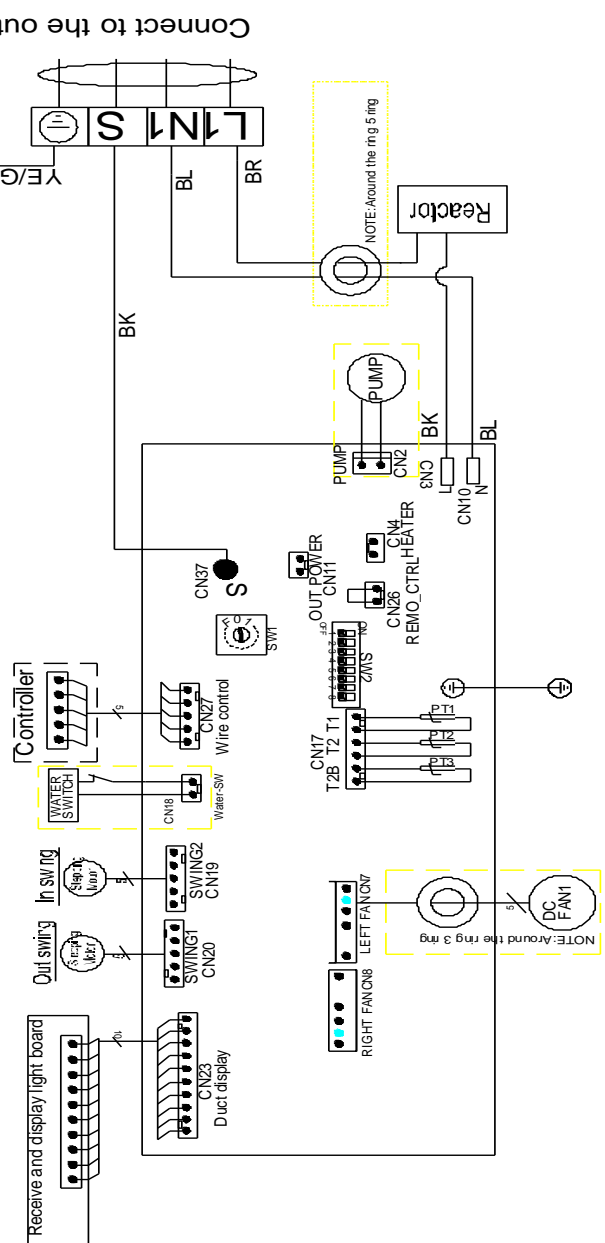
SW2 NO.6	Heating temperature compensation
	ON
	OFF
	ON
	OFF
6j æ	
	ON
	OFF
2j æ	

SW2 NO.7	Reserved
	ON
	OFF
	ON
	OFF
Reserved	
	ON
	OFF
Reserved	

SW2 NO.8	Room temp. sensor T1 for
	ON
	OFF
	ON
	OFF
Electric control panel	
	ON
	OFF
Wire controller	

Note 1: If there is no water pump, CN18 need to short answer.
 The power (PH) of indoor units can be set through DIP switch SW1(16-bit disc DIP) on the indoor control panel before delivery, the detailed information is as follows:

HP	Reserved	0.8	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Reserved	
MODEL	Reserved	21	26	35	53	70	80	90	105	125	140	150	160	180	Reserved	
POWER	Reserved	7K	9K	12K	18K	24K	27K	30K	36K	42K	48K	52K	58K	60K	Reserved	
SW1	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F



Electrical wiring diagram
 802039790078.3

5.3 CUA-48HVR4, CUA-48HVR4S, CUA-55HVR4S

6. Capacity Table

Cooling

6.1 CUA-18HVR4

MODEL		CUA-18HVR4						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	49°C
21°C D	Total capacity Kw	5.09	5.06	5.03	4.99	4.95	4.91	4.88
15°C W	Input kW.	1.55	1.56	1.58	1.60	1.65	1.71	1.76
24°C D	Total capacity kW	5.25	5.22	5.18	5.15	5.10	5.06	5.03
17°C W	Input kW.	1.57	1.58	1.60	1.62	1.68	1.73	1.78
27°C D	Total capacity kW	5.41	5.38	5.34	5.30	5.26	5.22	5.18
19°C W	Input kW.	1.59	1.60	1.62	1.64	1.70	1.76	1.80
29°C D	Total capacity kW	5.48	5.44	5.40	5.36	5.32	5.28	5.24
21°C W	Input kW.	1.61	1.63	1.65	1.67	1.72	1.78	1.83
32°C D	Total capacity kW	5.58	5.55	5.51	5.47	5.42	5.38	5.34
23°C W	Input kW.	1.62	1.63	1.65	1.67	1.73	1.79	1.85

6.2 CUA-24HVR4

MODEL		CUA-24HVR4						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	49°C
21°C DB	Total capacity kW	6.82	6.78	6.73	6.68	6.63	6.58	6.53
15°C WB	Input kW.	2.08	2.10	2.12	2.15	2.22	2.30	2.36
24°C DB	Total capacity kW	7.04	7.00	6.95	6.89	6.84	6.78	6.74
17°C WB	Input kW.	2.10	2.12	2.15	2.17	2.25	2.33	2.39
27°C DB	Total capacity kW	7.25	7.21	7.15	7.00	7.04	6.99	6.94
19°C WB	Input kW.	2.13	2.15	2.17	2.20	2.28	2.36	2.43
29°C D	Total capacity kW	7.34	7.29	7.24	7.19	7.13	7.07	7.03
21°C W	Input kW.	2.16	2.18	2.21	2.24	2.31	2.39	2.47
32°C DB	Total capacity kW	7.48	7.43	7.38	7.32	7.26	7.21	7.16
23°C WB	Input kW.	2.17	2.19	2.22	2.24	2.32	2.40	2.48

6.3 CUA-36HVR4, CUA-36HVR4S

MODEL		CUA-36HVR4, CUA-36HVR4S						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	49°C
21°C DB	Total capacity kW	10.09	10.03	9.96	9.88	9.80	9.73	9.66
15°C WB	Input kW.	2.99	3.02	3.04	3.08	3.20	3.31	3.40
24°C DB	Total capacity kW	10.41	10.35	10.27	10.19	10.11	10.03	9.97
17°C WB	Input kW.	3.03	3.05	3.08	3.12	3.24	3.35	3.45
27°C DB	Total capacity kW	10.72	10.66	10.58	10.50	10.42	10.33	10.27
19°C WB	Input kW.	3.06	3.09	3.13	3.17	3.28	3.39	3.49
29°C D	Total capacity kW	10.85	10.79	10.71	10.63	10.54	10.46	10.39
21°C W	Input kW.	3.11	3.14	3.18	3.22	3.33	3.45	3.55
32°C DB	Total capacity kW	11.06	10.99	10.91	10.83	10.74	10.66	10.59
23°C WB	Input kW.	3.12	3.15	3.19	3.23	3.34	3.47	3.57

6.4 CUA-48HVR4, CUA-48HVR4S

MODEL		CUA-48HVR4, CUA-48HVR4S						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	49°C
21°C D 15°C W	Total capacity Kw	13.45	13.37	13.29	13.18	13.08	12.97	12.89
	Input kW.	4.72	4.75	4.81	4.88	5.03	5.22	5.37
24°C D 17°C W	Total capacity kW	13.87	13.79	13.68	13.60	13.47	13.37	13.29
	Input kW.	4.78	4.81	4.88	4.94	5.12	5.28	5.44
27°C D 19°C W	Total capacity kW	14.29	14.21	14.11	14.00	13.89	13.79	13.68
	Input kW.	4.85	4.88	4.94	5.00	5.19	5.37	5.50
29°C D 21°C W	Total capacity kW	14.48	14.37	14.26	14.16	14.05	13.95	13.84
	Input kW.	4.91	4.97	5.03	5.09	5.25	5.44	5.60
32°C D 23°C W	Total capacity kW	14.74	14.66	14.55	14.45	14.32	14.21	14.11
	Input kW.	4.94	4.97	5.03	5.09	5.28	5.47	5.63

6.5 CUA-55HVR4S

MODEL		CUA-55HVR4S						
COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	49°C
21°C D 15°C W	Total capacity Kw	15.37	15.28	15.18	15.06	14.94	14.82	14.73
	Input kW.	5.61	5.65	5.73	5.80	5.98	6.21	6.40
24°C D 17°C W	Total capacity kW	15.85	15.76	15.64	15.55	15.40	15.28	15.18
	Input kW.	5.69	5.73	5.80	5.87	6.10	6.29	6.48
27°C D 19°C W	Total capacity kW	16.33	16.24	16.12	16.00	15.88	15.76	15.64
	Input kW.	5.76	5.80	5.87	5.95	6.17	6.40	6.54
29°C D 21°C W	Total capacity kW	16.54	16.42	16.30	16.18	16.06	15.94	15.82
	Input kW.	5.84	5.92	5.98	6.06	6.25	6.48	6.65
32°C D 23°C W	Total capacity kW	16.85	16.75	16.63	16.51	16.36	16.24	16.12
	Input kW.	5.87	5.92	5.98	6.06	6.29	6.51	6.70

Heating

6.6 CUA-18HVR4

MODEL		CUA-18HVR4						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C D 2°C W	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	6.05	6.00	5.98	5.81	5.55	5.47	4.86
	Input kW.	1.66	1.51	1.47	1.45	1.42	1.41	1.34
18°C	Capacity kW	5.99	5.96	5.94	5.77	5.52	5.43	4.90
	Input kW.	1.70	1.54	1.50	1.47	1.44	1.43	1.36
20°C	Capacity kW	5.96	5.92	5.90	5.73	5.48	5.40	4.86
	Input kW.	1.72	1.56	1.53	1.51	1.47	1.46	1.40
22°C	Capacity kW	5.93	5.88	5.86	5.69	5.44	5.36	4.83
	Input kW.	1.75	1.60	1.55	1.53	1.50	1.49	1.42
27°C	Capacity kW	5.80	5.84	5.82	5.65	5.40	5.32	4.79
	Input kW.	1.78	1.62	1.57	1.55	1.53	1.52	1.44

6.7 CUA-24HVR4

MODEL		CUA-24HVR4						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C D 2°C W	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	7.95	7.83	7.81	7.58	7.25	7.14	6.43
	Input kW.	2.08	1.97	1.92	1.89	1.85	1.84	1.75
18°C	Capacity kW	7.90	7.78	7.75	7.53	7.20	7.09	6.39
	Input kW.	2.11	2.01	1.95	1.92	1.88	1.87	1.78
20°C	Capacity kW	7.86	7.73	7.70	7.47	7.15	7.04	6.35
	Input kW.	2.17	2.04	1.98	1.96	1.92	1.90	1.81
22°C	Capacity kW	7.82	7.67	7.65	7.42	7.10	6.99	6.30
	Input kW.	2.21	2.08	2.02	1.99	1.95	1.94	1.84
27°C	Capacity kW	7.73	7.62	7.59	7.37	7.05	6.94	6.26
	Input kW.	2.26	2.12	2.06	2.03	1.99	1.97	1.88

6.8 CUA-36HVR4, CUA-36HVR4S

MODEL		CUA-36HVR4, CUA-36HVR4S						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C D 2°C W	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	12.11	11.70	11.66	11.32	10.83	10.67	9.61
	Input kW.	3.61	3.38	3.28	3.24	3.17	3.15	3.01
18°C	Capacity kW	12.08	11.62	11.58	11.24	10.75	10.59	9.54
	Input kW.	3.65	3.44	3.35	3.31	3.23	3.21	3.06
20°C	Capacity kW	12.04	11.54	11.50	11.16	10.68	10.52	9.48
	Input kW.	3.71	3.51	3.40	3.36	3.29	3.27	3.12
22°C	Capacity kW	12.00	11.46	11.42	11.09	10.60	10.44	9.41
	Input kW.	3.77	3.56	3.46	3.42	3.35	3.33	3.16
27°C	Capacity kW	11.73	11.38	11.34	11.01	10.53	10.37	9.35
	Input kW.	3.87	3.63	3.53	3.48	3.41	3.38	3.23

6.9 CUA-48HVR4, CUA-48HVR4S

MODEL		CUA-48HVR4, CUA-48HVR4S						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C D 2°C W	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	15.59	15.46	15.41	14.97	14.30	14.09	12.52
	Input kW.	5.40	4.90	4.79	4.72	4.61	4.58	4.36
18°C	Capacity kW	15.43	15.35	15.30	14.87	14.22	13.99	12.62
	Input kW.	5.51	5.00	4.87	4.79	4.68	4.65	4.43
20°C	Capacity kW	15.35	15.25	15.20	14.76	14.12	13.91	12.52
	Input kW.	5.58	5.07	4.97	4.90	4.79	4.75	4.54
22°C	Capacity kW	15.28	15.15	15.10	14.66	14.01	13.81	12.44
	Input kW.	5.68	5.19	5.04	4.97	4.87	4.83	4.61
27°C	Capacity kW	14.94	15.05	14.99	14.56	13.91	13.71	12.34
	Input kW.	5.79	5.26	5.11	5.04	4.97	4.94	4.68

6.10 CUA-55HVR4S

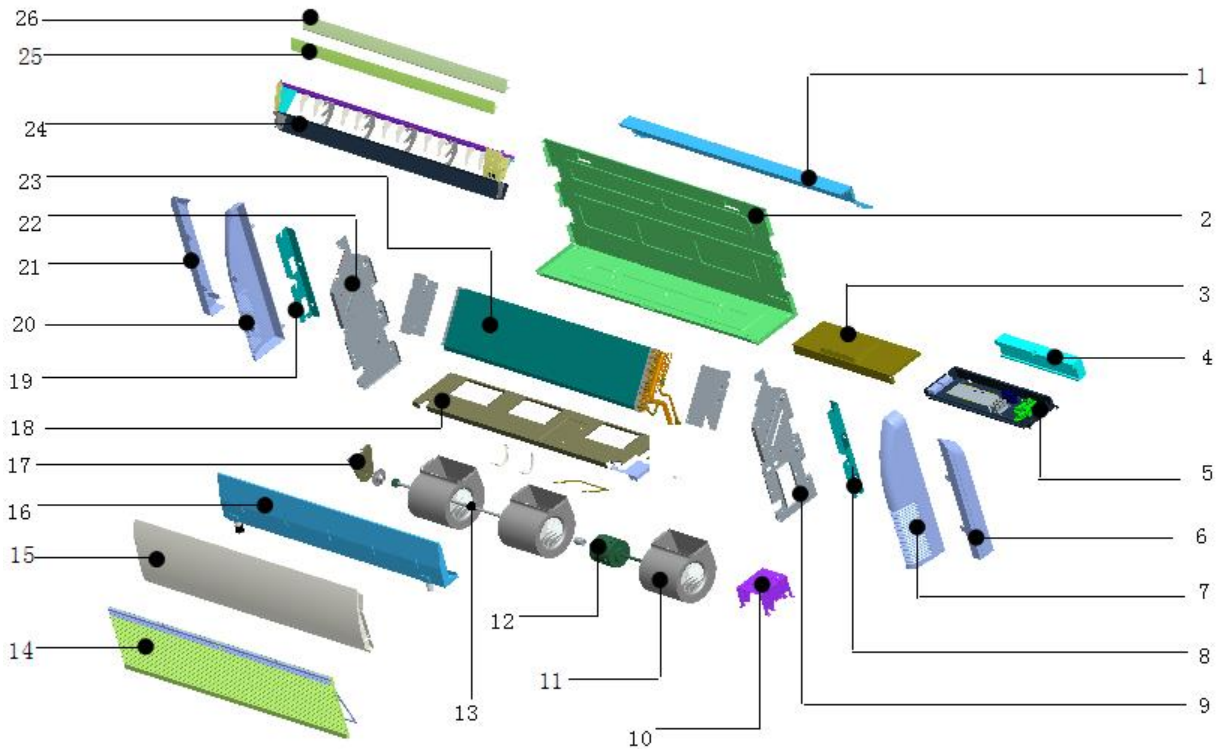
MODEL		CUA-55HVR4S						
HEATING		OUTDOOR CONDITIONS						
Indoor Conditions		24°C D 18°C W	15°C D 14°C W	7°C D 6°C W	3°C D 2°C W	-5°C D -6°C W	-7°C D -8°C W	-14°C D -15°C W
15°C	Capacity kW	17.23	17.09	17.03	16.54	15.81	15.58	13.84
	Input kW.	5.99	5.43	5.31	5.24	5.12	5.07	4.83
18°C	Capacity kW	17.06	16.97	16.91	16.43	15.72	15.46	13.96
	Input kW.	6.11	5.55	5.39	5.31	5.19	5.15	4.91
20°C	Capacity kW	16.97	16.86	16.80	16.31	15.61	15.38	13.84
	Input kW.	6.19	5.63	5.51	5.43	5.31	5.27	5.03
22°C	Capacity kW	16.89	16.74	16.69	16.20	15.49	15.26	13.76
	Input kW.	6.30	5.75	5.59	5.51	5.39	5.35	5.12
27°C	Capacity kW	16.51	16.63	16.57	16.08	15.38	15.15	13.64
	Input kW.	6.42	5.83	5.67	5.59	5.51	5.47	5.19

7 Electric Characteristics

Model	Indoor Units				Indoor Fan Motor
	Hz	Voltage	Min.	Max.	kW
CUA-18HVR4	50	220-240V	198	254	0.12
CUA-24HVR4	50	220-240V	198	254	0.12
CUA-36HVR4	50	220-240V	198	254	0.12
CUA-36HVR4S	50	220-240V	198	254	0.12
CUA-48HVR4	50	220-240V	198	254	0.075*2
CUA-48HVR4S	50	220-240V	198	254	0.075*2
CUA-55HVR4S	50	220-240V	198	254	0.075*2

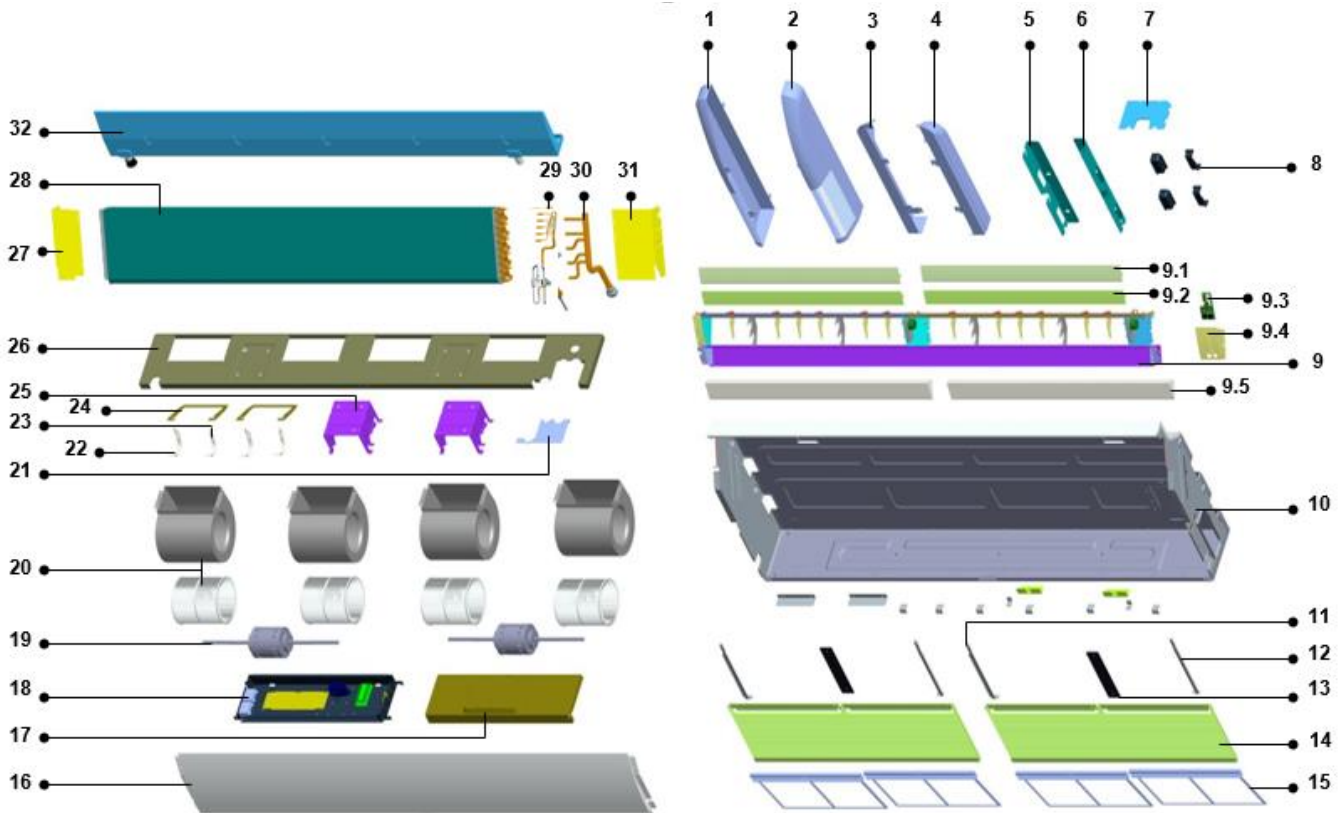
8. Exploded View

8.1 CUA-18HVR4, CUA-24HVR4, CUA-36HVR4, CUA-36HVR4S







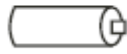

No.	Part Name	No.	Part Name
1	Rear cover with cotton	17	Supporting board for motor
2	Chassis assembly	18	Weld assembly for intermediate transverse girder
3	Electric box cover	19	Right mounting plate of evaporator
4	E-part box mat	20	Right cover
5	Indoor PCB assembly	21	Right seal plate
5.1	E-part box	22	Right separating board
5.2	Indoor PCB	23	Evaporator component
5.3	Relay	23.1	Left mounting plate of evaporator
5.4	plastic base of Electric control board	23.2	Shunt capillary assembly
5.5	Terminal	23.3	Air inlet header pipe assembly of evaporator
6	Left seal plate	23.4	Evaporator assembly
7	Left cover	24	Air-out frame component
8	Left hoisting pate	24.1	Fixing board assembly for air-out frame
9	Left separating board I	24.2	Display film
10	Motor holder	24.3	Display lamp panel
11	Wheel volute	24.4	Vertical step motor
12	Indoor fan motor	24.5	Horizontal step motor
13	Connecting shaft	24.6	End bearing of louver
14	Air inlet grille	24.7	Intermediate bearing of louver
15	Top Cover assembly	24.8	Guard vane
16	Weld assembly of Water drain pan	25	Upper horizontal louver
16.1	Water outlet rubber cover	26	Down horizontal louver

8.2 CUA-48HVR4, CUA-55HVR4



No.	Part Name	No.	Part Name
1	Right cover	18	E-parts assy
2	Left cover	18.1	Electric box
3	Right seal plate	18.2	Indoor PCB
4	Left seal plate	18.3	Fan capacitor
5	Right hoisting plate	18.4	Terminal
6	Left hoisting pate	19	Indoor fan motor
7	Rat guard	20	Wheel volute
8	Handle	21	Pipe clamp
9	Air out frame assy	22	Left gland for motor shaft sleeve
9.1	Upper horizontal louver	23	Right gland for motor shaft sleeve
9.2	Down horizontal louver	24	Motor separating board
9.3	Display lamp panel	25	Holder for fan motor
9.4	Installing box for display panel	26	Weld assembly for intermediate transverse girder
9.5	Foam for air outlet frame	27	Right mounting plate of evaporator
10	Chassis	28	Evaporator assembly
11	Left retaining plate	29	Shunt capillary assembly
12	Right retaining plate	30	Air inlet header pipe assembly of evaporator
13	Filter snap-gauge	31	Left mounting plate of evaporator
14	Air inlet grille	32	Weld assembly of water drain pan
15	Filter	32.1	Water outlet rubber cover
16	Top Cover assembly		
17	Electric box cover		

9 Accessories

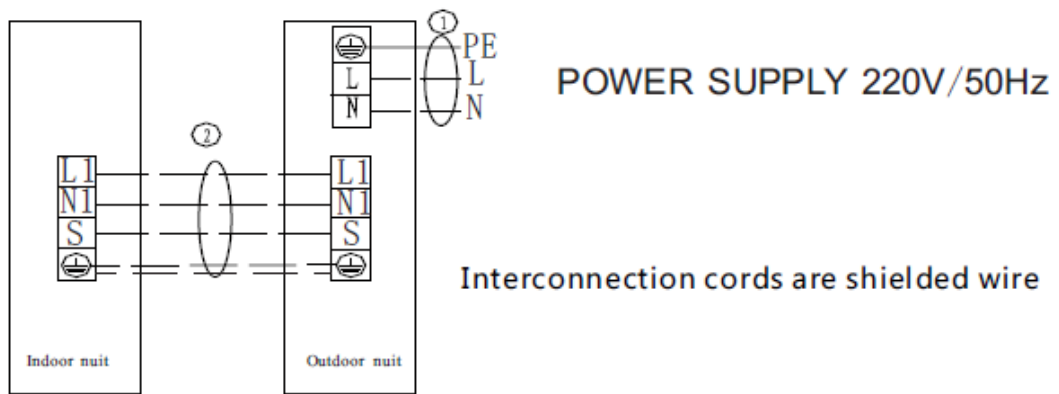
	Name	Shape	Quantity
Installation fittings	1.Hanging arm		2
	2. Remote controller		1
Controller	3. Remote controller holder (optional)		1
	5. Mounting screw (ST2.9×10-C-H)		2
	6. Alkaline dry batteries (AM4)		2
Others	7. Installation & operation instruction manual		1

10 The Specification of Power

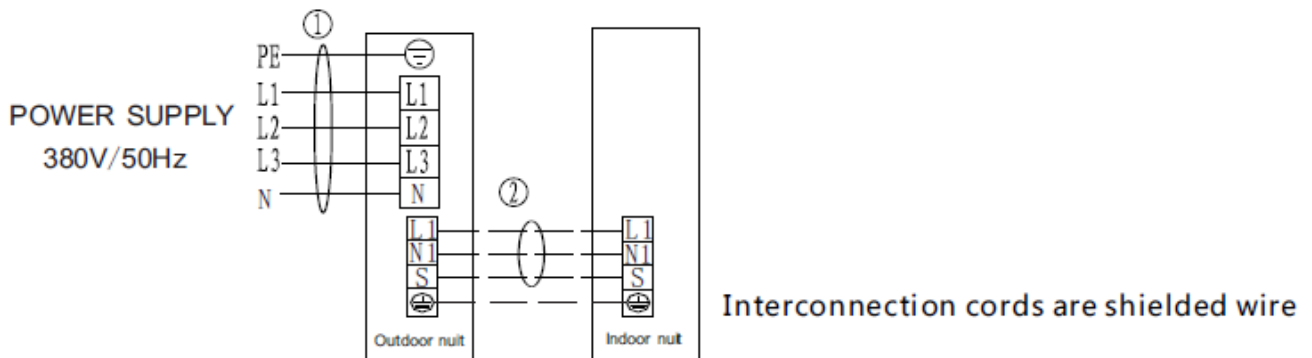
Model		CUA-18HVR4	CUA-24HVR4	CUA-36HVR4	CUA-48HVR4
Indoor power supply	V/Ph/Hz	220~240/1/50			
Outdoor power supply	V/Ph/Hz	220~240/1/50			
Power Supply Method		From outdoor unit			
Outdoor unit Power Supply Wire		3×12AWG	3×12AWG	3×12AWG	3×12AWG
Indoor unit Power Supply Wire		4×14AWG	4×14AWG	4×14AWG	4×14AWG
Signal wiring		4×2.5	4×2.5	3×1.0	3×1.0

Model		CUA-36HVR4S	CUA-48HVR4S	CUA-55HVR4S
Indoor power supply	V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50
Outdoor power supply	V/Ph/Hz	380~415/3/50	380~415/3/50	380~415/3/50
Power Supply Method		From outdoor unit		
Outdoor unit Power Supply Wire		5×12AWG	5×12AWG	5×12AWG
Indoor unit Power Supply Wire		4×14AWG	4×14AWG	4×14AWG
Signal wiring		4×2.5	4×2.5	3×1.0

11 Field Wiring



Applies to (220V/50Hz)3.5kW,5.3kW,7.1kW



Applicable for (380V/50Hz) ≥ 10.5 kW model

12 Troubleshooting

12.1 Fault codes table

Table 1: indoor unit digital display and wired controller

Display	Error description	Display	Error description
E0	Phase protection	F0	(reserve)
E1	Communication error between outdoor unit and indoor unit	F1	(reserve)
E2	Indoor room temperature (T1) sensor error	F2	(reserve)
E3	Indoor coil middle temperature (T2) sensor error	F3	Outdoor unit current error cannot recover
E4	Indoor coil outlet temperature (T2B) sensor error	F4	Display P3 error for 3 times within 60 minutes
E5	Outdoor unit error	F5	Outdoor temperature (T4) sensor error
E6	Zero speed protection	F6	(reserve)
E7	EERPOM error	F7	Outdoor unit condenser outlet (T3) sensor error
E8	Indoor fan motor speed lose protection	F8	Secondary side current protection
E9	Wired controller communication error	F9	Heat T2 temp. protection
EE	Water level alarm error	EF	Outdoor unit voltage error
P0	(reserve)	H0	EF(Reserve)
P1	(reserve)	H1	Communication error between outdoor unit mainboard and driver board
P2	(reserve)	H2	(reserve)
P3	Primary/secondary overcurrent protection	H3	(reserve)
P4	Exhaust temperature over-high protection	H4	3 times of P6 error within 30 minutes
P5	Outdoor unit condenser outlet (T3) temperature over-high protection	H5	3 times of P2 error within 30 minutes
P6	Compressor driver error or IPM protection	H6	3 times of P4 error within 100 minutes
P7	(reserve)	H7	(reserve)
P8	(reserve)	H8	(reserve)
P9	Outdoor unit DC fan motor error	H9	2 times of P9 error within 10 minutes

Table 2: LED display

Error description	Display content
Indoor unit waiting for address assignment	LED timer and running flash together
(reserve)	LED timer, running, protection, defrost flash together
Communication error between outdoor unit and indoor unit	LED timer flash quickly
Fan motor stall protection	LED timer flash slowly
Indoor unit temperature sensor error	LED run flash
Water level alarm	LED protection flash
(reserve)	LED defrost flash
Outdoor unit error	LED protection flash slowly
EEPROM error	LED defrost flash slowly

Quickly flash is 2.5Hz, slowly flash is 0.5Hz.

Error type	Running	Defrost	Timer	Protection
Outdoor unit condenser outlet (T3) sensor error	OFF	OFF	ON	ON
Outdoor temperature (T4) sensor error	OFF	OFF	Flashing	ON
AC overvoltage/under voltage protection	OFF	Flashing	OFF	ON
P6 protection	OFF	Flashing	ON	ON
Compressor protection	OFF	ON	OFF	ON
Compressor top temperature (T5) over-high protection	OFF	ON	ON	ON
Outdoor DC fan motor error	OFF	ON	Flashing	ON
Over current protection	ON	ON	OFF	ON

12.2 Spot check

Spot check NO.	Content	Spot check NO.	Content
1	Indoor unit capacity	8	Outdoor unit condenser outlet (T3) temperature
2	Indoor unit capacity demand	9	Outdoor temperature (T4) temperature
3	Indoor demand after T4 amendment	10	Compressor top temperature (T5) temperature (maximum 99°C)
4	Indoor demand after T2 amendment	11	Opening of EXV
5	Indoor room temperature (T1) temperature	12	Running frequency of compressor
6	Indoor coil middle temperature (T2) temperature	13	Primary voltage/4
7	Indoor coil outlet temperature (T2B) temperature		

Part 3 Outdoor Units

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1 Specification

Model			COU-12HDR4	COU-18HDR4	COU-24HDR4
Outdoor power supply		V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50
Cooling	Capacity	KW	1.4-3.5-3.8	2.0-5.3-5.6	3.5-7.0-8.0
	Power input	W	240-1020-1240	340-1520-2020	540-2080-2940
	Current input	A	1.2-6.3	1.7-9.7	2.2-12.7
Heating	Capacity	KW	1.6-4.0-4.1	3.0-5.9-6.0	4.5-7.7-8.5
	Power input	W	290-1070-1140	420-1410-1860	560-1860-2540
	Current input	A	1.4-5.9	2.1-8.8	5.2-10.7
Compressor	Model		SVB140	SVB140	SVB200
	Type		DC/Twin-rotary	DC/Twin-rotary	DC/Twin-rotary
	Brand		Mitsubishi	Mitsubishi	Mitsubishi
	Frequency range	Hz	12-120	12-120	12-120
	Capacity	W	4360	4360	6940
	Input	W	1300	1300	2150
	Current(RLA)	A	4.4	4.4	8.7
Refrigerant oil	ml	350	350	520	
Outdoor fan motor	Model		DR-310-72-8	DR-310-72-8	DR-310-72-8
	Brand		Panasonic	Panasonic	Panasonic
	Power output	W	72	72	72
	Speed	r/min	800	800	800
	Insulation class		E	E	E
Outdoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	mm	22×19.05	22×19.05	25×21.65
	Fin spacing	mm	1.6	1.6	1.8
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	7.94	7.94	9.52
			inner grooved	inner grooved	inner grooved
	Coil length x height x width	mm	754x660x38.1	754x660x38.1	850×800×43.3
Number of circuits		5	5	4	
Outdoor air flow(High speed)		m ³ /h	3000	3000	3500
Outdoor noise level	dB(A)	Power Level	63	63	67
		Pressure Level	52	52	54
Outdoor unit	Dimension(W*H*D)	mm	925×700×366	925×700×366	958×843×392
	Packing(W*H*D)	mm	990×770×410	990×770×410	1025×880×430
	Net/Gross weight	kg	42/45	42/45	52/62
Refrigerant type/quantity		g	R32/1300	R32/1300	R32/1700
Throttle part			EXV	EXV	EXV
Design pressure		MPa	4.5/1.6	4.5/1.6	4.5/1.6
Max pressure		MPa	4.5	4.5	4.5
Connection wire	Power wiring	mm ²	3×2.5	3×2.5	3×2.5
	Signal wiring	mm ²	4×2.5	4×2.5	4×2.5
Refrigerant piping	Liquid side/Gas side	mm	φ6.35/φ12.7	φ6.35/φ12.7	φ9.52/φ15.88
	Max. pipe length	m	15	15	20
	Max. high drop	m	8	8	10
Ambient temp	cooling	°C	-15~50	-15~50	-15~50
	heating	°C	-15~30	-15~30	-15~30

Model	COU-36HDR4	COU-36HZDR4
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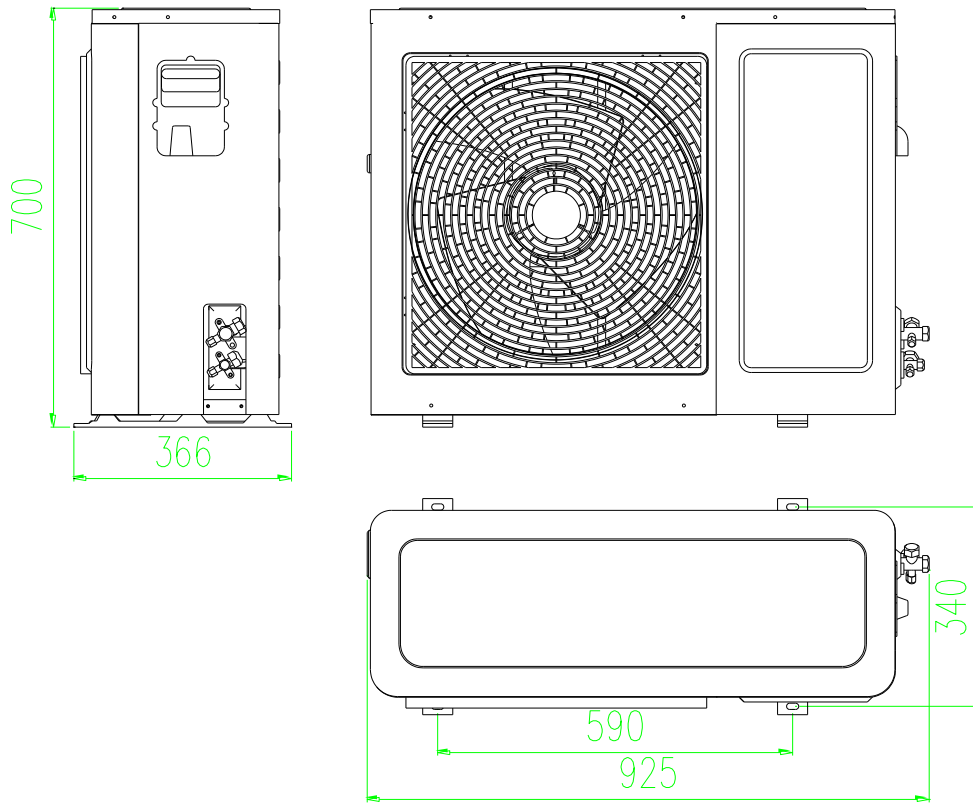
R3250Hz Universal Series Technical Manual

Outdoor power supply		V/Ph/Hz	220~240/1/50	380~415/3/50
Cooling	Capacity	KW	6.6-10.5-12.8	6.6-10.5-12.8
	Power input	W	600-3050-3800	600-3050-3800
	Current input	A	2.5-19.4	1.5-10
Heating	Capacity	KW	7.35-11.5-13.2	7.35-11.5-13.2
	Power input	W	690-3275-4000	690-3275-4000
	Current input	A	3-20.4	1.8-10.5
Compressor	Model		KTF310	KTF310
	Type		DC/Twin-rotary	DC/Twin-rotary
	Brand		GMCC	GMCC
	Frequency range	Hz	12-120	12-120
	Capacity	W	9435	9435
	Input	W	2575	2575
	Current(RLA)	A	5.05	5.05
	Refrigerant oil	ml	1000	1000
Outdoor fan motor	Model		DR-310-120-8	DR-310-120-8
	Power output	W	120	120
	Speed	r/min	800	850
	Insulation class		E	E
Outdoor coil	Number of rows		2	2
	Tube pitch(a) x row pitch(b)	mm	21×13.4	21×13.4
	Fin spacing	mm	1.6	1.6
	Fin type		Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ9.52	Φ9.52
			inner grooved	inner grooved
	Coil length x height x width	mm	1035×750×43.3	1035×750×43.3
	Number of circuits		4	4
Outdoor air flow(High speed)		m ³ /h	4200	4200
Outdoor noise level	power level	dB(A)	68	68
	pressure level		55	55
Outdoor unit	Dimension(W*H*D)	mm	1030×788×432	1030×788×432
	Packing(W*H*D)	mm	1120×900×485	1120×900×485
	Net/Gross weight	kg	68/74	75/81
Refrigerant type/quantity		g	R32/2150	R32/2150
Throttle part			EXV	EXV
Design pressure		MPa	4.5/1.6	4.5/1.6
Max pressure		MPa	4.5	4.5
Connection wire	Power wiring	mm ²	3×4.0	5×2.5
	Signal wiring	mm ²	4×2.5	4×2.5
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ15.88	Φ9.52/Φ15.88
	Max. pipe length	m	65	65
	Max. high drop	m	30	30
Ambient temp	cooling	°C	-15~50	-15~50
	heating	°C	-15~30	-15~30

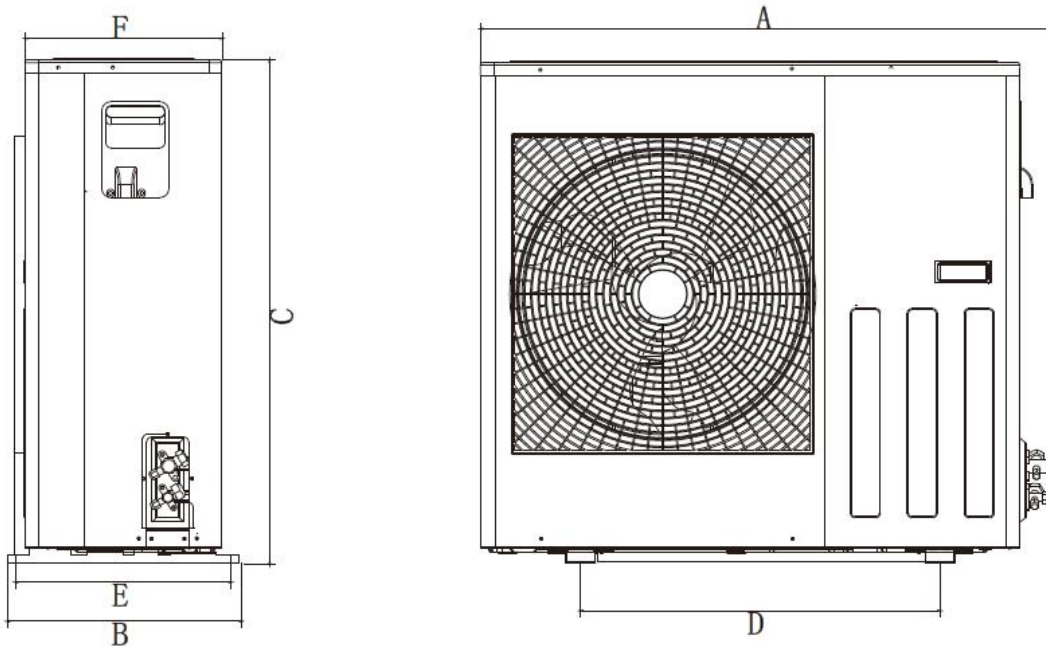
Model			COU-48HZDR4	COU-55HZDR4
Outdoor power supply		V/Ph/Hz	380~415/3/50	380~415/3/50
Cooling	Capacity	KW	7.0-14.0-15.5	7.5-16.0-17.0
	Power input	W	1000-4850-5700	1300-5800-6200
	Current input	A	2.5-13.7-14.3	3.4-14.8-15.6
Heating	Capacity	KW	8.0-15.2-16.0	8.5-16.8-17.5
	Power input	W	1100-4820-5900	1400-5360-6400
	Current input	A	2.8-13.9-14.8	3.6-15.0-16
Compressor	Model		MVB40F	KTQ42D1UMU
	Type		DC/Twin-rotary	DC/Twin-rotary
	Brand		Mitsubishi	GMCC
	Frequency range	Hz	12-120	12-120
	Capacity	W	13250	13700
	Input	W	4150	3700
	Current(RLA)	A	14.6	7.02
	Refrigerant oil	ml	1250	1400
Outdoor fan motor	Model		DR-380-100-8	DR-380-100-8
	Power output	W	77	77
	Speed	r/min	780/630	780/630
	Insulation class		B	B
Outdoor coil	Number of rows		2	2
	Tube pitch(a) x row pitch(b)	mm	25×21.65	25×21.65
	Fin spacing	mm	1.6	1.6
	Fin type		Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	9.52	9.52
			inner grooved	inner grooved
	Coil length x height x width	mm	995×1350×43.3	995×1350×43.3
Number of circuits		7	7	
Outdoor air flow(High speed)		m3/h	6100	6100
Outdoor noise level	power level	dB(A)	70	70
	pressure level		58	58
Outdoor unit	Dimension(W*H*D)	mm	1014×1430×450	1014×1430×450
	Packing(W*H*D)	mm	1095×1545×485	1095×1545×485
	Net/Gross weight	kg	109/123.6	112/126.6
Refrigerant type/quantity		g	R32/3800	R32/3800
Throttle part			EXV	EXV
Design pressure		MPa	4.5/1.6	4.5/1.6
Max pressure		MPa	4.5	4.5
Connection wire	Power wiring	mm2	5×2.5	5×2.5
	Signal wiring	mm2	4×2.5	4×2.5
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ15.88	Φ9.52/Φ15.88
	Max. pipe length	m	65	65
	Max. high drop	m	30	30
Ambient temp	cooling	°C	-15~50	-15~50
	heating	°C	-15~30	-15~30

2 Dimensions

2.1 COU-12HDR4, COU-18HDR4

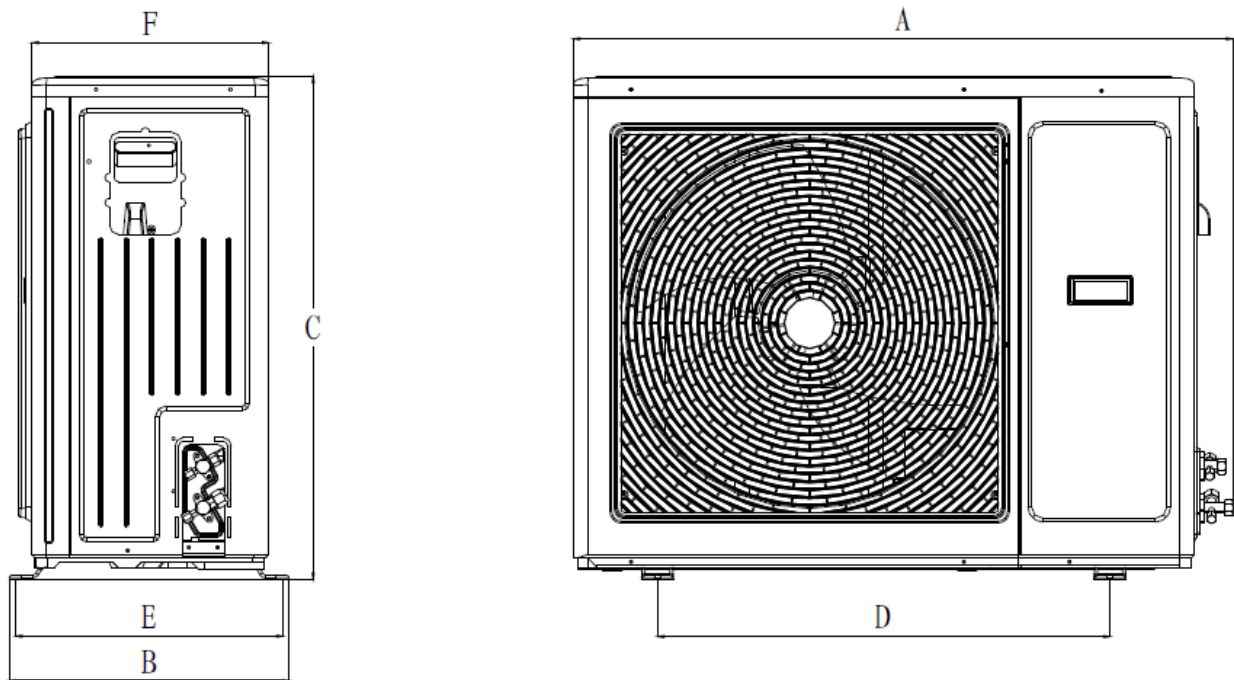


2.2 COU-24HDR4



	A	B	C	D	E	F
7.0KW	958	392	843	600	360	330

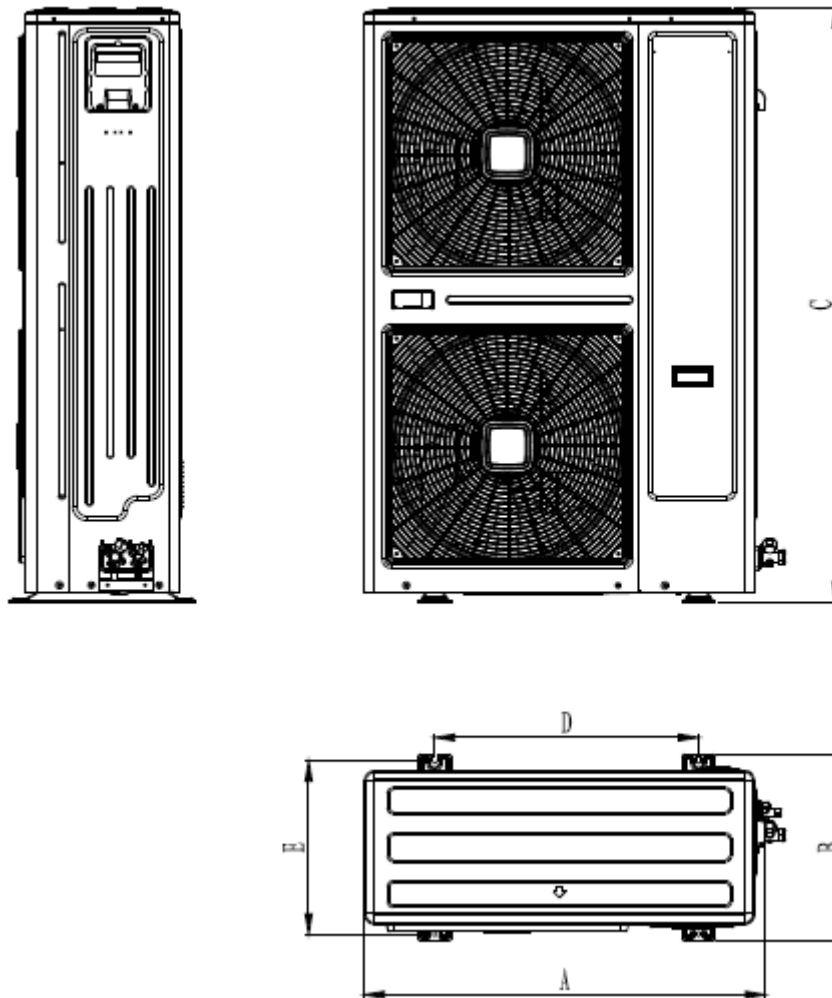
2.3 COU-36HDR4, COU-36HZDR4



Unit: mm

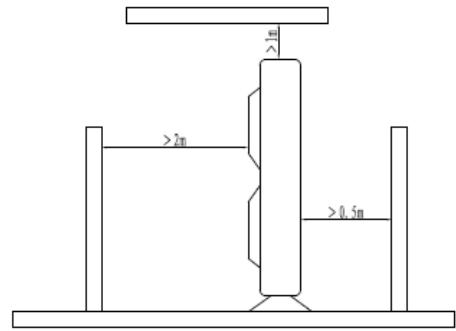
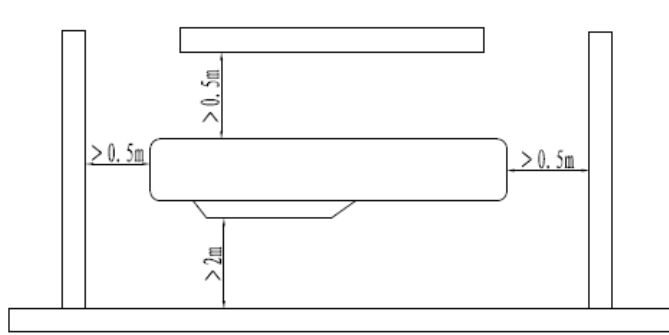
Project	A	B	C	D	E	F
Machine capacity						
10.5KW	1030	432	788	707	389	370

2.4 COU-48HZDR4, COU-60HZVR



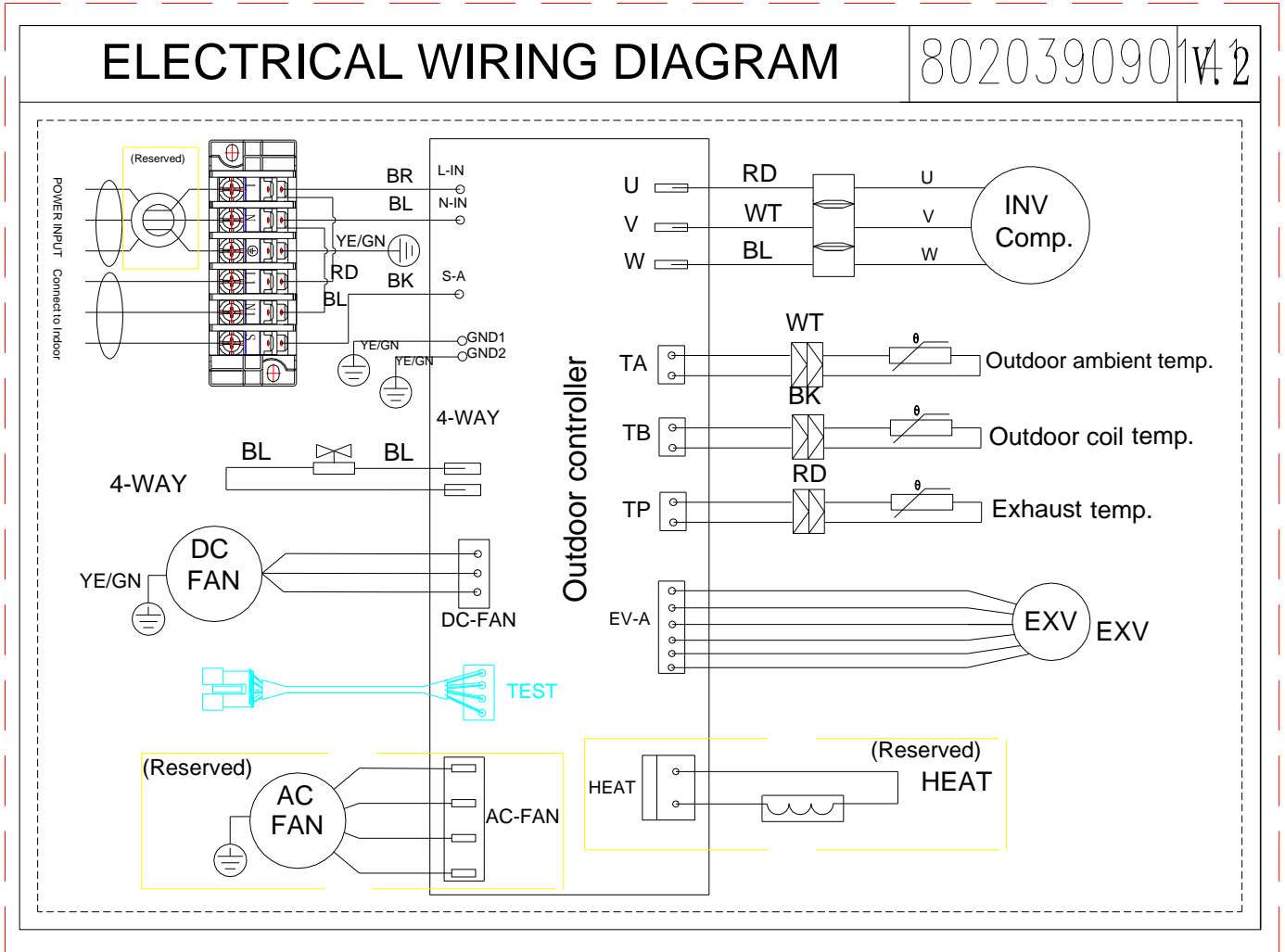
Project / Machine capacity	A	B	C	D	E
14KW16KW	966	450	1430	636	416

3 Service Space

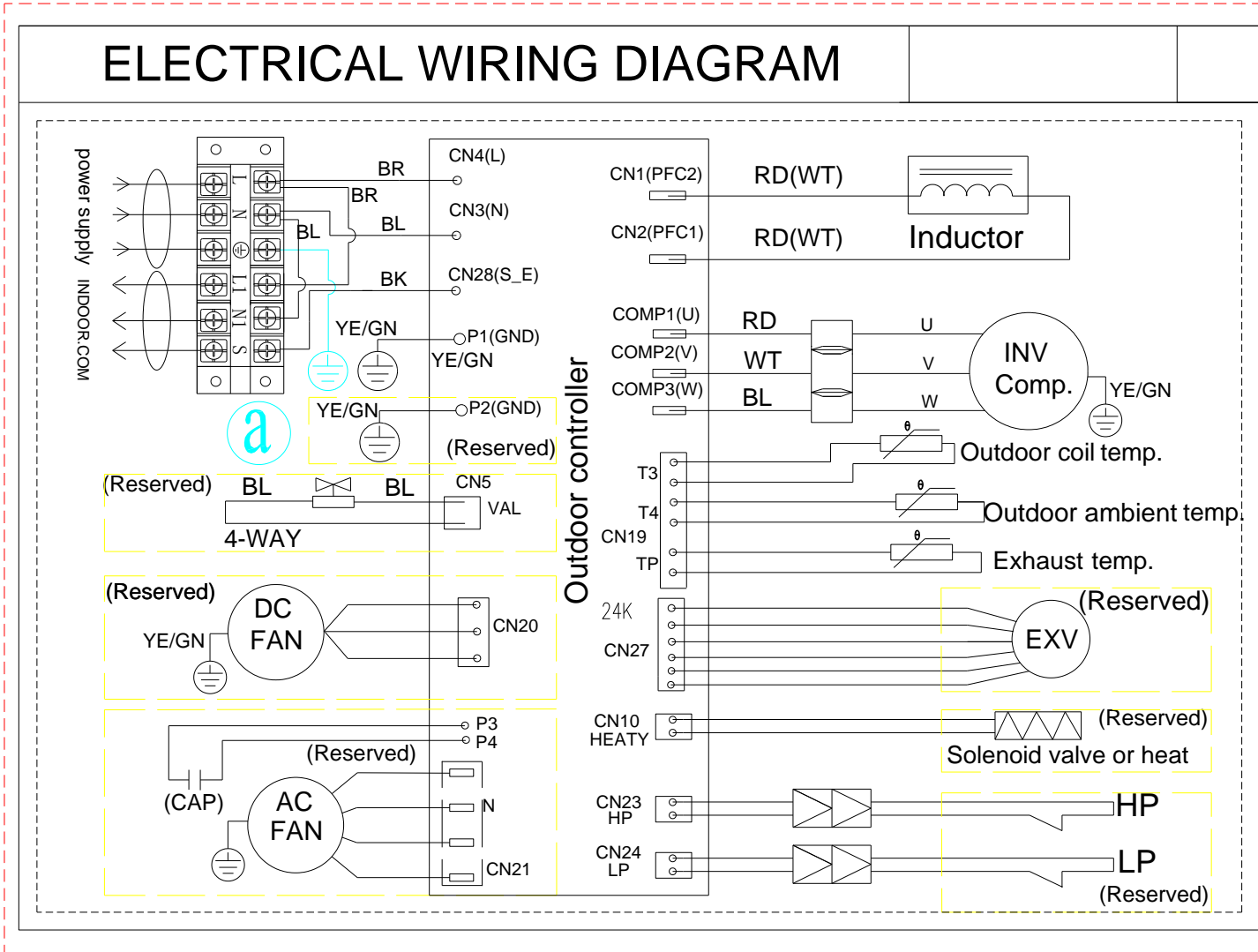


4 Wiring Diagrams

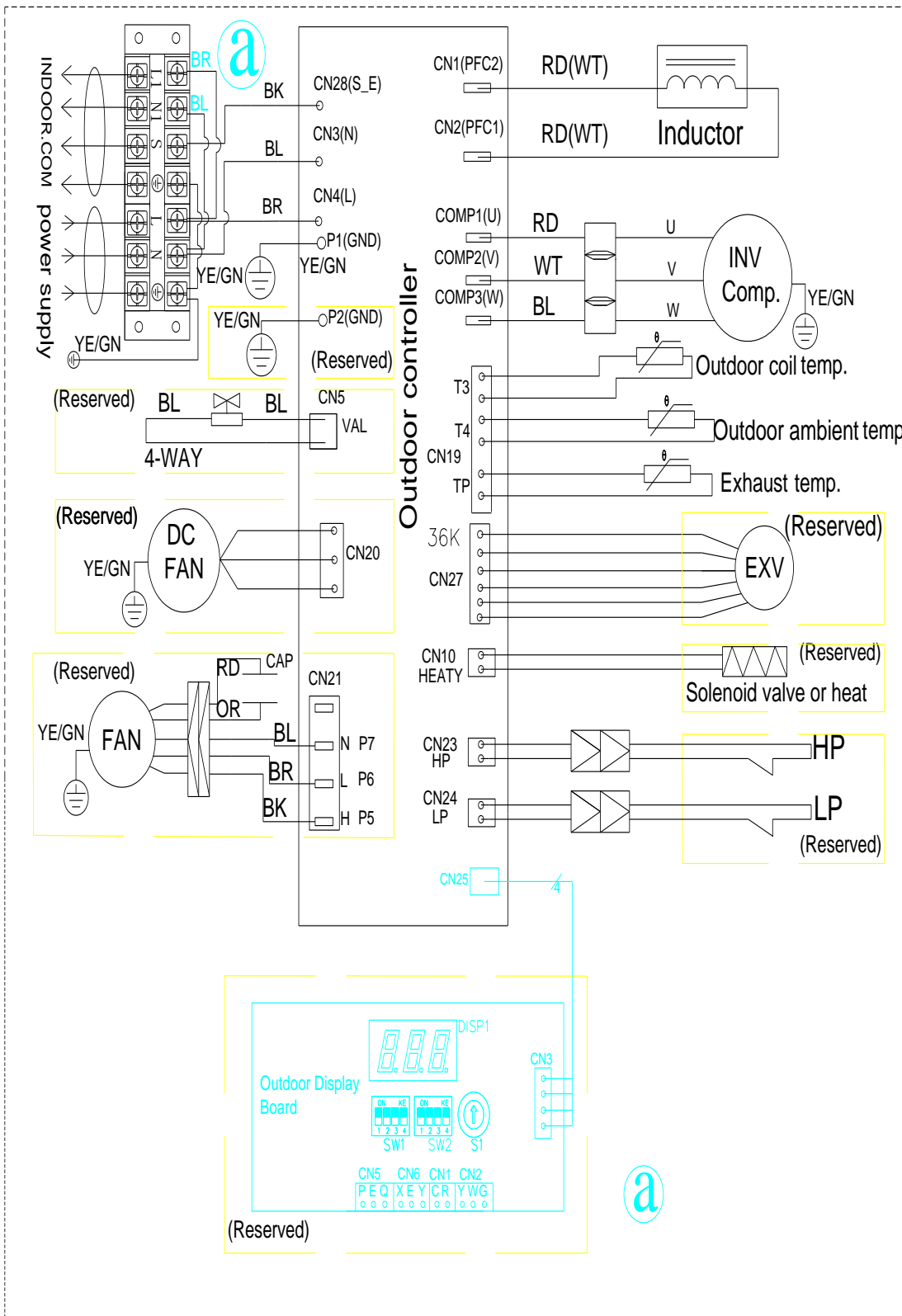
4.1 COU-12HDR4, COU-18HDR4



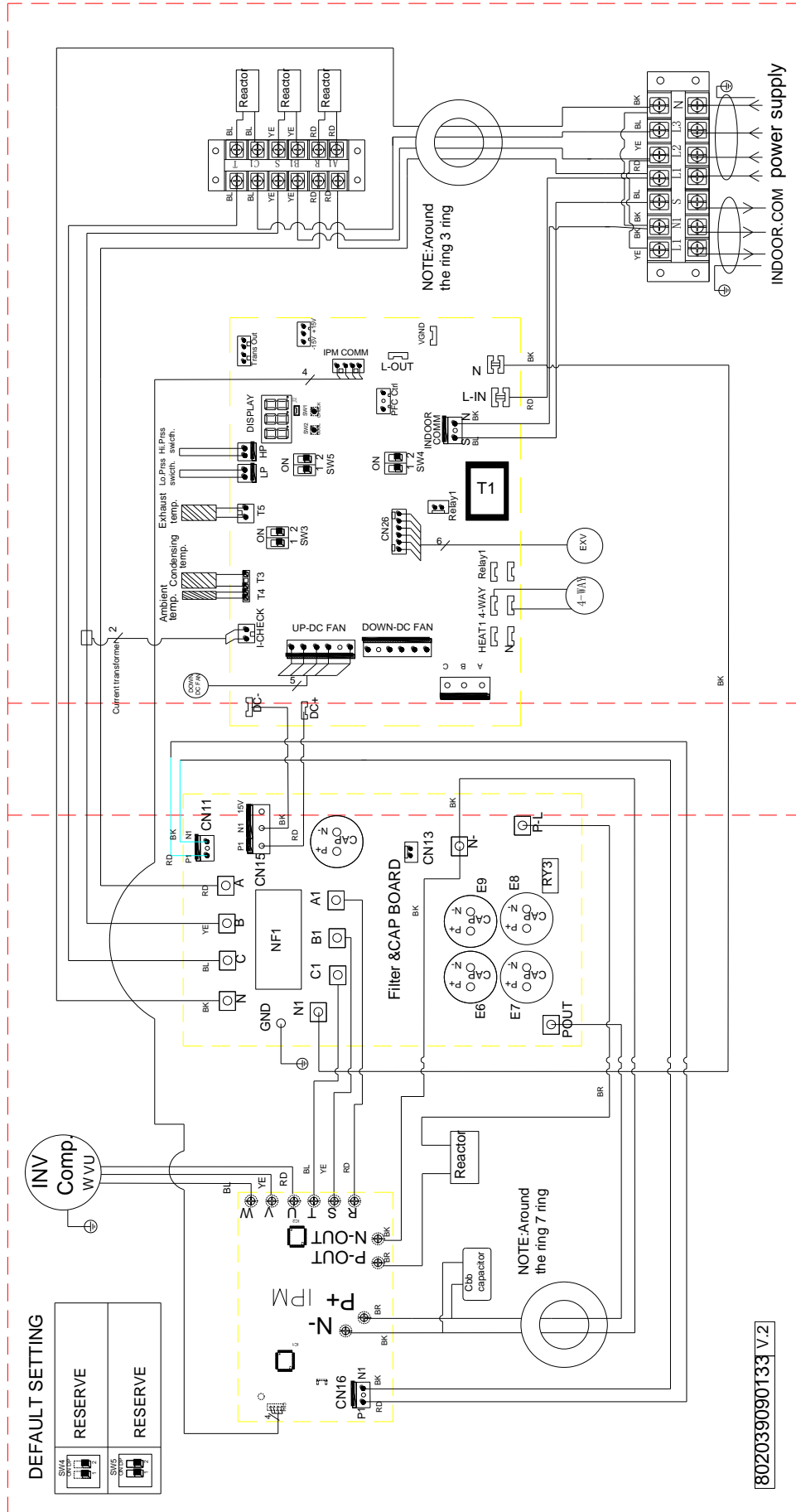
4.2 COU-24HDR4 (Power supply from indoor unit)



4.3 COU-36HDR4-A (Power supply independently)



4.4 COU-36HZDR4, COU-48HZDR4, COU-55HZDR4



5 Electric Characteristics

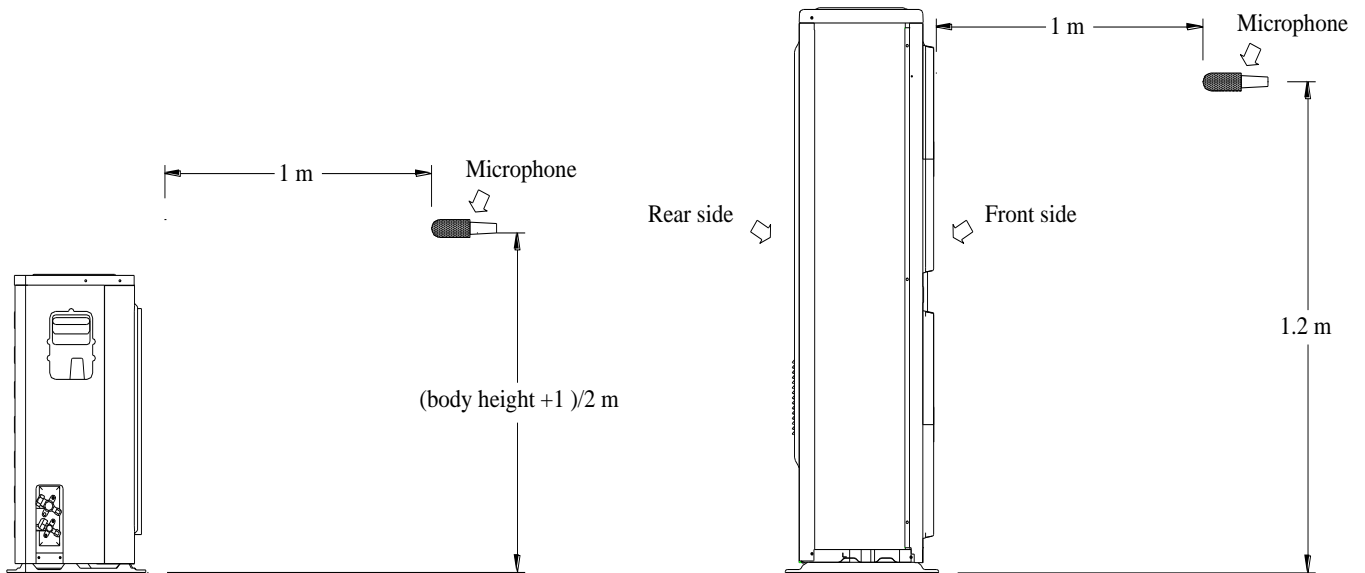
Model	Outdoor Unit				
	Hz	Voltage	Min.	Max.	Outdoor motor (kw)
COU-12HDR4	50	220~240V	198	254	0.072
COU-18HDR4	50	220~240V	198	254	0.072
COU-24HDR4	50	220~240V	198	254	0.072
COU-36HDR4	50	220~240V	198	254	0.12
COU-36HZDR4	50	380~415V	342	437	0.12
COU-48HZDR4	50	380~415V	342	437	0.1*2
COU-55HZDR4	50	380~415V	342	437	0.1*2

6 Operation Limits

Operation mode	Outdoor temperature(°C)	Room temperature(°C)
Cooling operation	-15~50	16~32
Heating operation	-15~30	16~32

7.Sound Levels

18kBtu/h-60kBtu/h

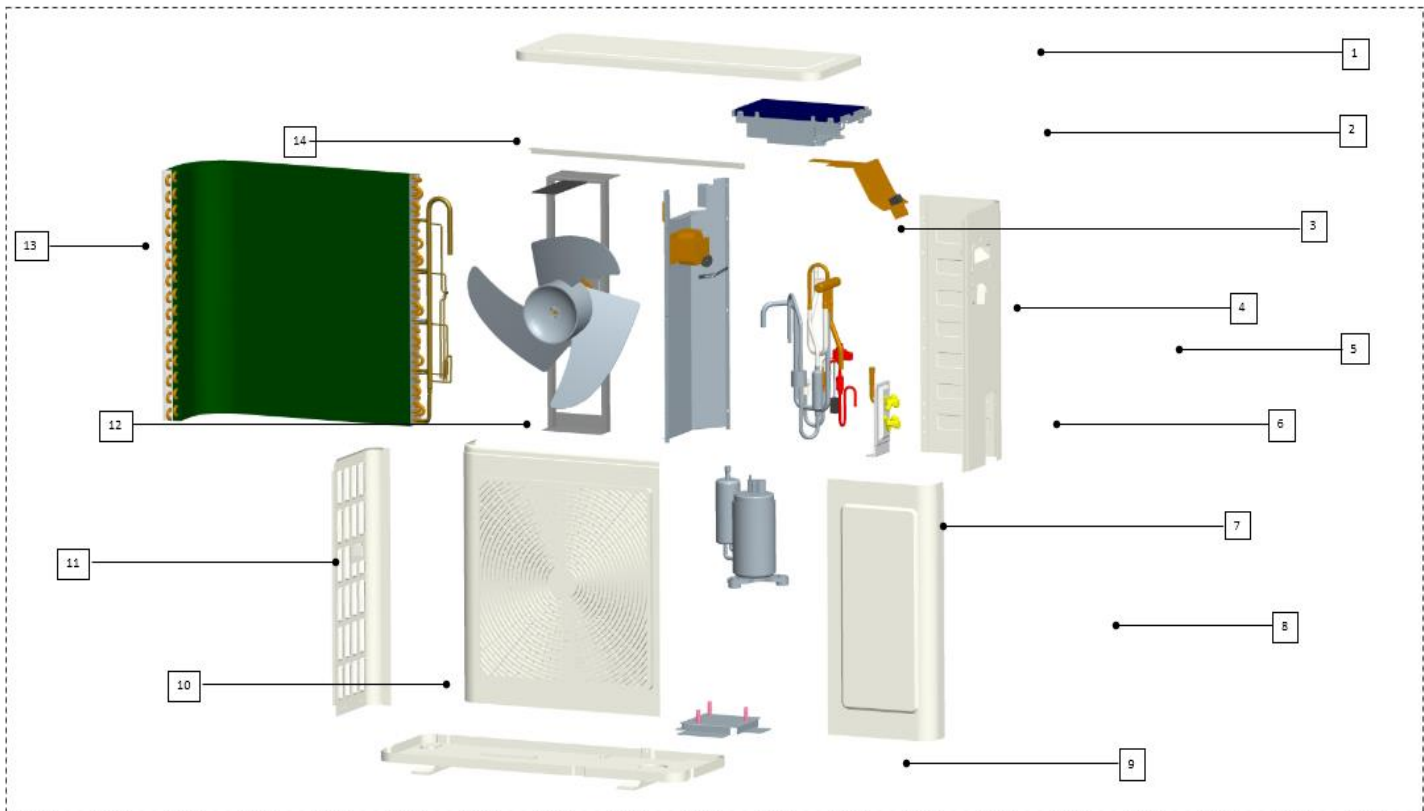


Model	Power level dB(A)	Pressure level
COU-18HDR4	63	52
COU-18HDR4	63	52
COU-24HDR4	67	54
COU-36HDR4-A	68	55
COU-36HZDR4	68	55
COU-48HZDR4	70	58
COU-55HZDR4	70	58

Note: Sound level is measured at a point 1 m in front of the unit, at a height of $(\text{Unit body height} + 1) / 2$ m.

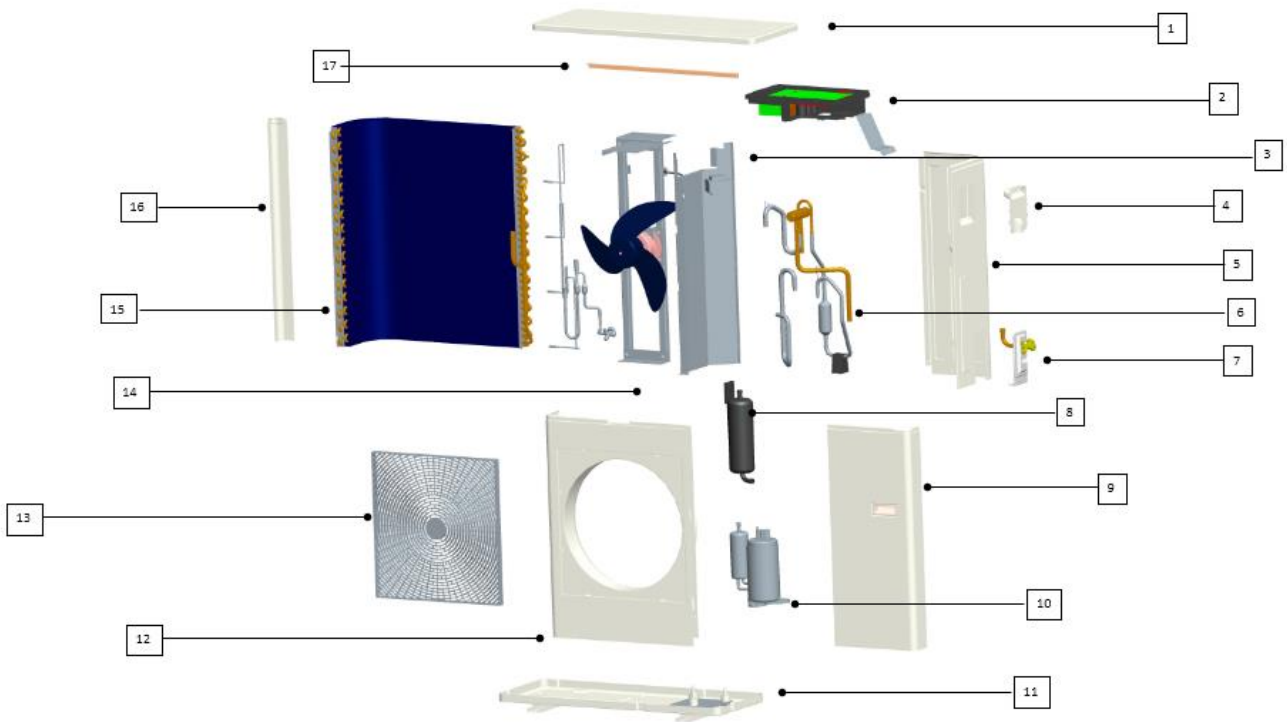
8. Exploded View

8.1 COU-12HDR4, COU-18HDR4



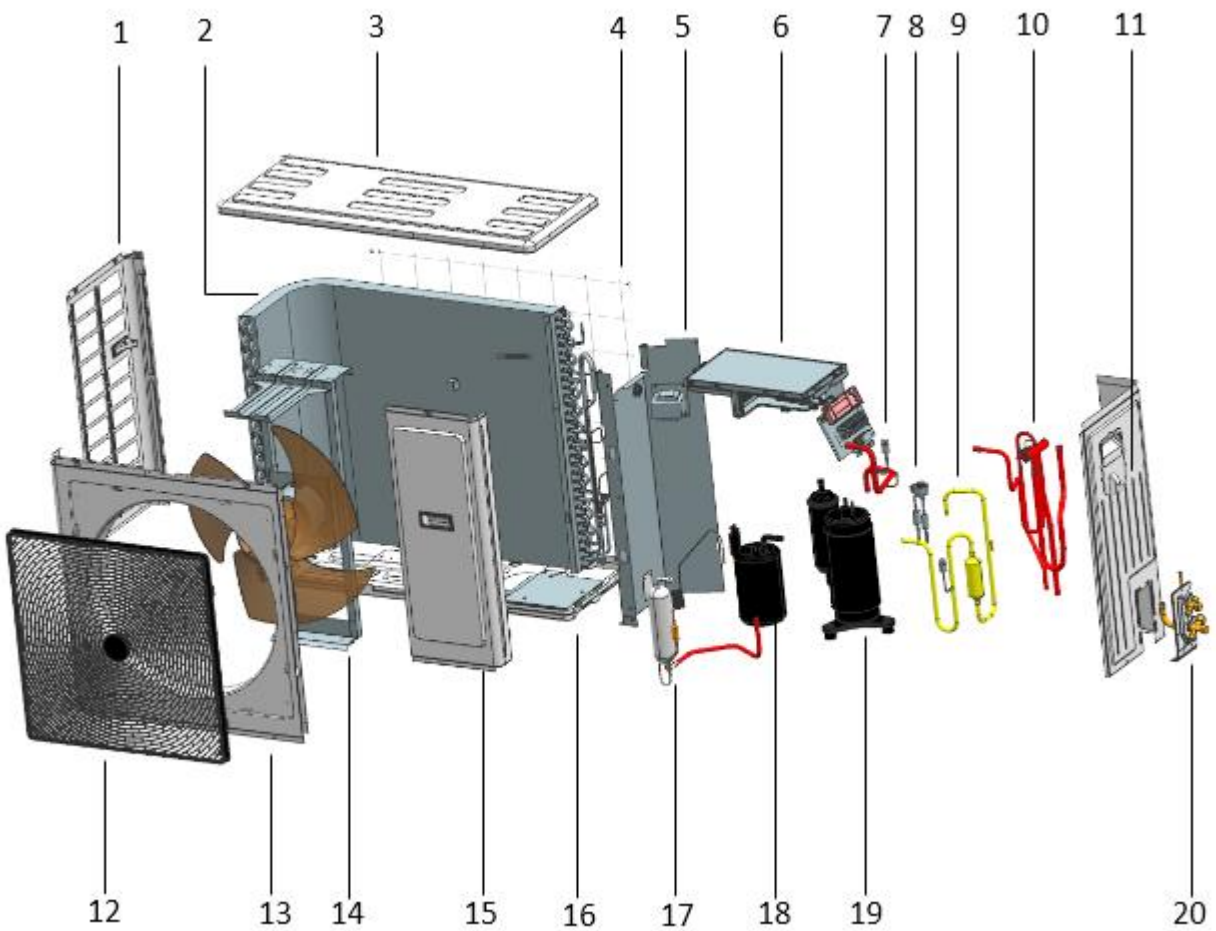
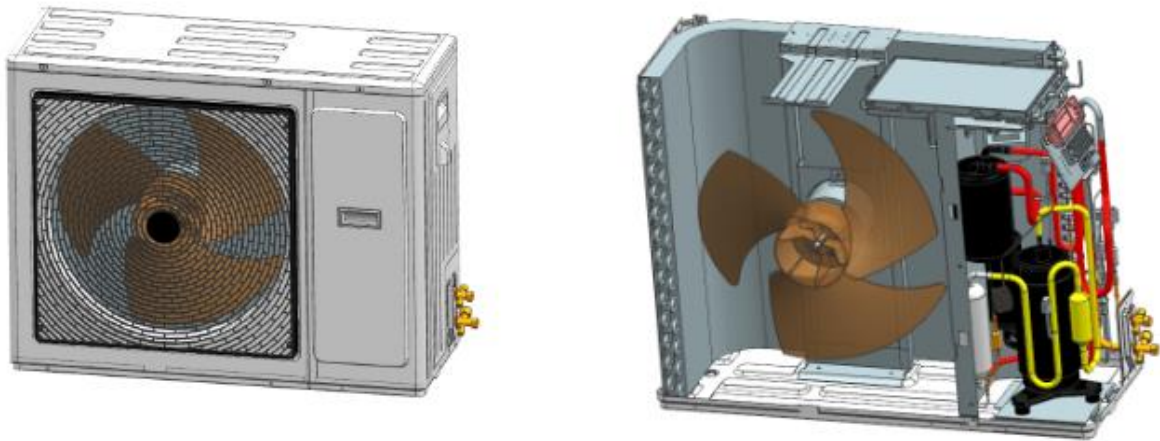
No	Part Name	No.	Part Name
1	Top cover plate parts	8	Repair board (with convex cover) with cotton patch assembly
2	Electronic components	9	Chassis components
2.1	Outdoor inverter module integrated board	10	Front panel (with plastic mesh)
2.2	Terminal bedplate	11	Left side panel
2.3	Terminal	11.1	left side plate
2.4	Line pressing buttons	11.2	Small handle
3	median septum	12	The fan parts
4	Piping components	12.1	Motor support assembly
4.1	4-way valve assembly	12.2	Single shaft outdoor DC motor
4.2	throttling parts	12.3	Axial-flow fan
4.3	Electronic expansion valve coil	12.4	The fan pressing plate
5	Right side panel	13	Condenser unit
5.1	Right board pasted cotton component	13.1	Condenser assembly
5.2	Large hand-drawn cotton patch assembly	13.2	Manifold assembly
6	The seat plate	13.3	Shunt capillary assembly
7	inverter compressor	14	Back mesh connection Angle

8.2 COU-24HDR4



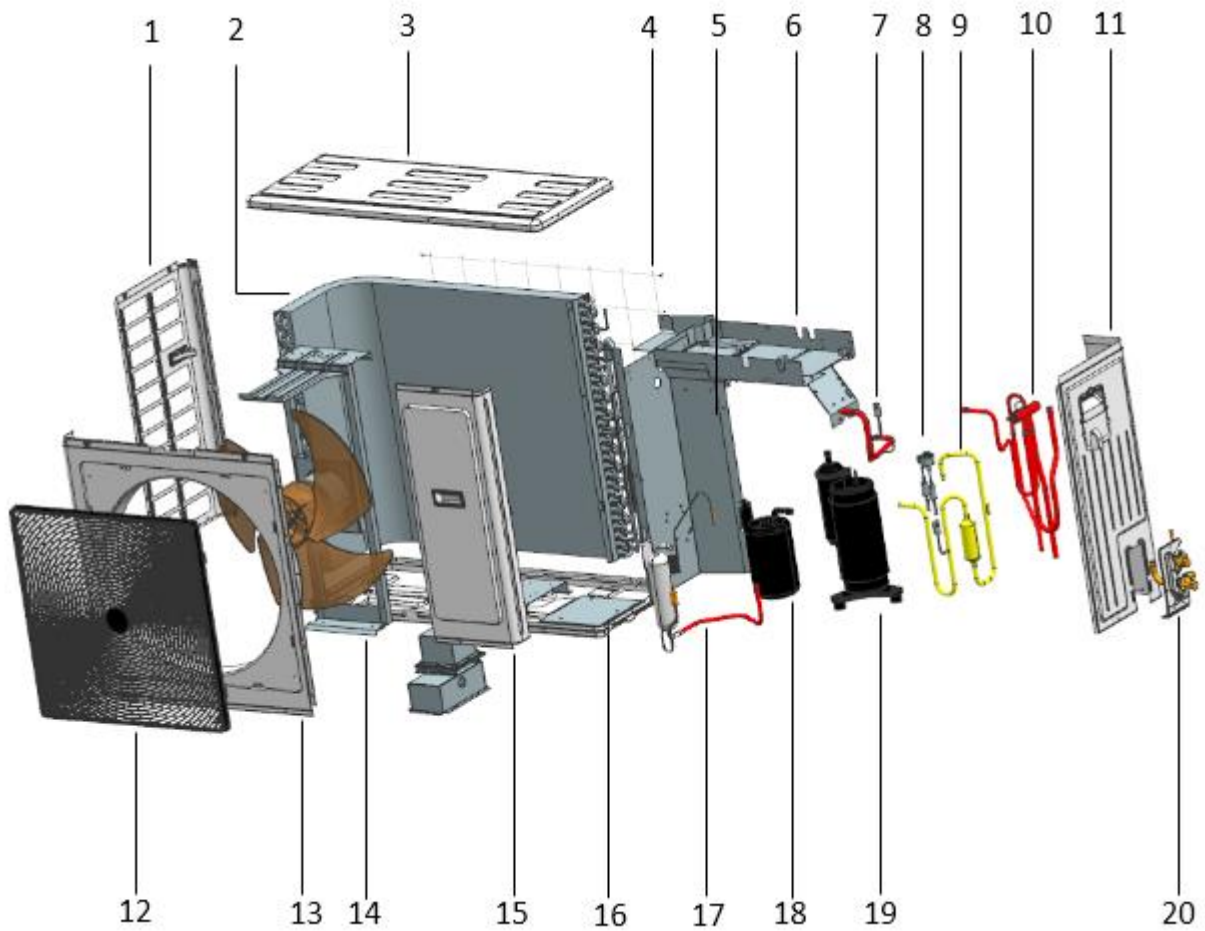
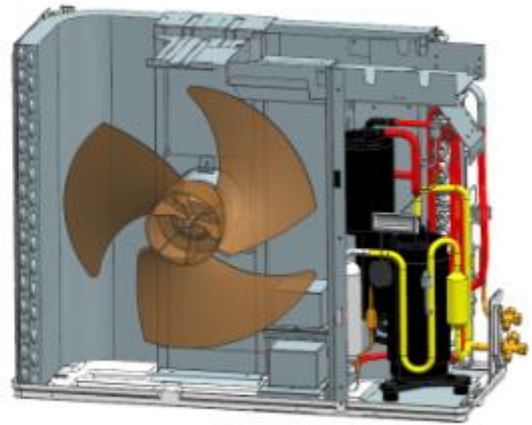
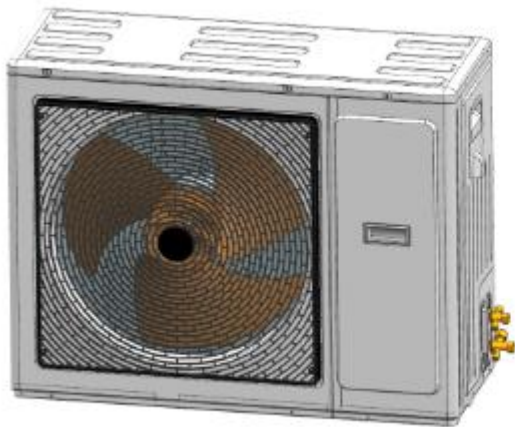
No.	Part Name	No.	Part Name
1	Top cover pasted with cotton components	7.1	Seat plate
2	Electronic components	7.2	stop valve
2.1	Integrated panel of outdoor inverter module (explosion proof)	7.3	stop valve
2.2	Terminal bedplate	8	liquid accumulator
2.3	Terminal	9	maintenance panel
2.4	Line pressing buttons	10	inverter compressor
3	Middle partition unit	11	Chassis components
3.1	medium septum	12	Front panel (with plastic mesh)
3.2	reactor	13	Plastic front cover
4	Large handle cotton patch assembly	14	Motor support part
5	right side cover	15	Condenser welded components
6	Piping components	15.1	Condenser
6.1	4-way valve assembly	15.2	Manifold welding assembly
6.2	Exhaust pipe assembly	15.3	Shunt components
6.3	Return pipe assembly	16	left side plate
7	Seat plate assembly	17	Back border

8.3 COU-36HDR4



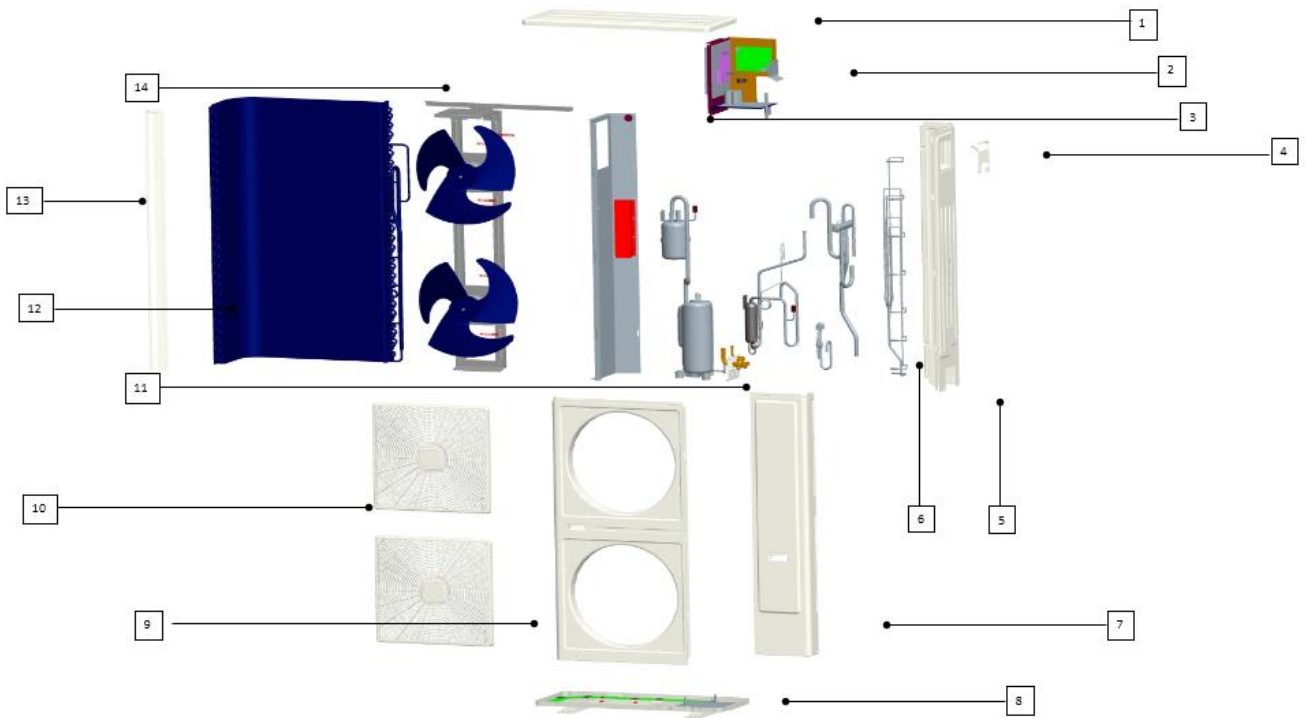
No.	Part Name	No.	Part Name
1	Left side panel	10	4-way valve assembly
1.1	left side plate	11	Right side panel
1.2	small handle	11.1	Large hand-drawn cotton patch assembly
2	Condenser unit	11.2	right side plate
2.1	Condenser assembly	12	Plastic front cover
2.2	Manifold assembly	13	panel
2.3	Shunt capillary assembly	14	Motor support part
2.4	connecting pipe	14.1	Axial-flow fan
3	The top cover part	14.2	Motor support assembly
4	back mesh	14.3	Single shaft outdoor motor
5	Middle partition unit	15	Maintenance panel component
5.1	reactor	15.1	Handle
5.2	Line of synthetic	15.2	maintenance panel
5.3	Middle partition welded components	16	Chassis components
6	Electronic components	16.1	The chassis body
6.1	Outdoor inverter module integrated board (explosion proof)	16.2	footing
6.2	Line pressing buttons	16.3	Compressor gasket assembly
6.3	termianl	17	Oil components
6.4	Terminal bedplate	18	gas-liquid separator
7	Return pipe assembly	19	Inverter Compressor
8	Electronic expansion valve assembly	20	Seat plate assembly
9	Exhaust pipe assembly		

8.4 COU-36HZDR4



No.	Part Name	No.	Part Name
1	Left side panel	10	4-way valve assembly
1.1	left side plate	11	Right side panel
1.2	small handle	11.1	Large hand-drawn cotton patch assembly
2	Condenser unit	11.2	right side plate
2.1	Condenser assembly	12	Plastic front cover
2.2	Manifold assembly	13	panel
2.3	Shunt capillary assembly	14	Motor support part
2.4	connecting pipe	14.1	Axial-flow fan
3	The top cover part	14.2	Motor support assembly
4	back mesh	14.3	Single shaft outdoor motor
5	Middle partition unit	15	Maintenance panel component
5.1	reactor	15.1	Handle
5.2	Line of synthetic	15.2	maintenance panel
5.3	Middle partition welded components	16	Chassis components
6	Electronic components	16.1	The chassis body
6.1	Electric cabinet welding components	16.2	footing
6.2	Line pressing buttons	16.3	Compressor gasket assembly
6.3	termian!	16.4	Reactor mounting plate
6.4	Terminal bedplate	17	Oil components
7	Return pipe assembly	18	gas-liquid separator
8	Electronic expansion valve assembly	19	Inverter Compressor
9	Exhaust pipe assembly	20	Seat plate assembly

8.5 COU-48HZDR4, COU-55HZDR4



No.	Part Name	No.	Part Name
1	Top cover pasted with cotton components	11	Inverter compressor
2	Electronic components	12	Condenser parts
3	Middle partition assembly	12.1	Upper condenser parts
3.1	Middle partition	12.2	Manifold assembly
3.2	Line of synthetic	12.3	Condenser shunt assembly
3.3	Winding card	12.4	Sub-cooling outlet pipe
4	Large handle cotton patch assembly	12.5	Condenser connection strip
5	Right board pasted cotton component	12.6	Condenser left connection plate
6	Piping components	12.7	Condenser right connection plate
6.1	Electronic expansion valve assembly	12.8	Lower condenser assembly
6.2	Exhaust pipe assembly	13	Stand column
6.3	4-way valve assembly	14	Motor support parts
6.4	Return pipe assembly	14.1	Motor support assembly
7	Maintenance panel	14.2	Solder assembly of motor bracket connection plate
8	Chassis welding assembly	14.3	Axial-flow fan
9	Front panel	14.4	Single shaft outdoor DC motor
10	Mesh enclosure	11	

9 Troubleshooting

9.1 Single phase unit

Error code display

Error code	Description	Error code	Description
E01	Communication fault between IDU and ODU	P0C	Current protection
E02	Zero cross detection fault of IDU	P1x	Bus voltage protection
E03	stall fault of indoor fan	P21	Low temperature dehumidification fault
E04	T2B (indoor coil outlet temp.) sensor fault	P22	High and low temp. protection of evaporator
E08	Mode conflict	P23	High temp. protection of condenser
E09	ODU EEPROM error	P24	High and low temp. protection of environment
E0E	IDU EEPROM error	P25	High discharge temperature of compressor
E11	IDU T1 (room temperature) sensor fault	P28	Abnormal discharge in commodity inspection mode (compressor reversal)
E12	IDU T2 (indoor coil middle temp.) sensor fault	P29	T3 abnormal in commodity inspection heating mode (System exception, 4-way valve disconnected)
E13	ODU T3 (outdoor coil outlet temp.) sensor fault	P30	High pressure protection
E14	ODU T4 (ambient temp.) sensor fault	P31	Low pressure protection
E15	ODU discharge temp. sensor fault	H1x	Compressor fault
E16	Module temp. sensor fault	H3x	PFC fault
E17	Suction temp. sensor fault	L01	Lower frequency because of voltage limit
E18	TZA sensor fault	L02	Lower frequency because of high or low temp. limit of evaporator
E19	TZB sensor fault	L03	Lower frequency because of high temp. limit of condenser
E2x	Fan motor fault	L05	Lower frequency because of high discharge temp. of compressor
		L06	Lower frequency because of module temperature limit
		L0C	Lower frequency because of current limit

Spot check table

Fr	Running frequency
FT	Target frequency
T1	Unit A T1
T2	Unit A T2
Sr	IDU A fan speed
Tb	IDU A T2B
AL	IDU A EXV opening degree
An	Capacity demand of IDU A
Hn	Amended total capacity demand
b1	Unit B T1
b2	Unit B T2
bb	Unit B T2B
bS	Unit B fan speed
bL	Unit B EXV opening degree
bn	Capacity demand of IDU B
TH	Suction temperature
T3	Outdoor unit pipe temperature
T4	Ambient temperature
TP	Discharge temperature
T6	IPM board temperature
od	Mode
dT	Outdoor load target state
CC	Quantity of IDU
Ud	DC voltage
dL	Current
Pr	Outdoor unit fan speed
Lr	Master EXV opening degree

Notice:

For single phase units, an additional maintenance controller is needed to show error codes and do spot check.

9.2 Three-phase unit

Error code display

Display	Definition of fault or protection	Remark
E1	Three-phase power phase sequence fault	
E2	Communication fault between the outdoor unit and themast	Communication is interrupted for more than 2 minutes 20minutes after the initial power-on or within 20 minutes
E4	Temperature sensor fault	
E6	Condenser pipe temperature sensor fault	
E9	AC over-voltage / under-voltage protection	
E10	EEPROM fault	
H0	Master chip and DSP communication fault	
H4	Display P6 protection for 3 times within 30 minutes	Unable to restore unless a second power-on
H5	Display P2 protection for 3 times within 30 minutes	Unable to restore unless a second power-on
H6	Display P4 protection for 3 times within 100 minutes	Unable to restore unless a second power-on
H9	Display P9 protection for 2 times within 10 minutes	Unable to restore unless a second power-on
H10	3 times of P3 protection occurs within 60 minutes	Unable to restore unless a second power-on
P1	High pressure protection	
P2	Low pressure protection	Display H5 after 3 times of P2 protection within 30 minutes
P3	Primary / secondary over current protection	
P4	Exhaust overheating protection	3 time of P4 protection appears within 100 minutes and then H6 occurs
P5	High pipe temperature protection	
P6	Module protection	3 times of P6 protection appears within 30 minutes and then H4 occurs
P9	DC fan fault	Display H9 after 2 times of P9 protection within 10 minutes
P10	Anti-typhoon protection	
P11	Refrigeration T2 overheating protection	
L0	DC compressor module fault	
L1	DC bus low voltage protection	
L2	DC bus high voltage protection	
L4	MCE fault / sync / closed loop	
L5	Zero speed protection	
L7	Phase sequence error protection	
L8	15Hz protection	
L9	Hz Protection	

Spot check table

No.		Display content	Remark
0	Normal display	Current frequency / indoor unit amount	Display the starting amount when standby
1	1-	Outdoor unit local capacity	
2	2-	Total capacity demands of indoor unit	
3	3-	Total capacity demands after outdoor Unit	
4	4-	Operation mode	0: Power OFF / air supply;2: Cooling;3: Heating;4: Forced cooling
5	5-	Actual running ability of outdoor unit	
6	6-	Fan status	0-7
7	7-	T2/T2B on average	
8	8-	T3 pipe temperature	
9	9-	T4 environmental temperature	
10	10-	T5 exhaust temperature	
11	11-	Opening of the electronic expansion valve	Actual value = spot inspection display value x 8
12	12-	Primary side current	
13	13-	Secondary circuit current	
14	14-	Primary side voltage	
15	15-	Secondary side voltage	Actual value = spot inspection display value x 4
16	16-	Sets of indoor units	
17	17-	Number of working indoor units	
18	18-	Last fault or protection code	No protection or fault display
19	19-	Control parameter	---
20	20-	Control parameter	---
21	21-	---	Spot check over

Part 4 Installation

1. Precaution on Installation	141
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1. Precaution on Installation

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

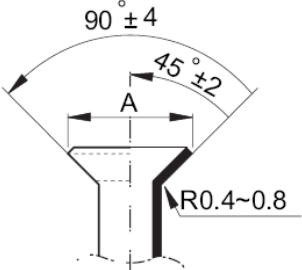
- a. Connect the indoor unit at first, then the outdoor unit.

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		Flare shape
		Min (mm)	Max	
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.

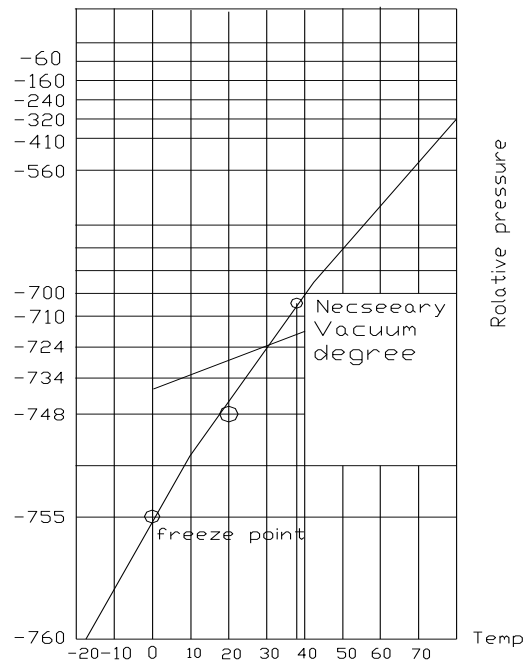
1.4. Then, open the stem of stop values of the outdoor unit to make the refrigerant pipe connecting the indoor unit with the outdoor unit in fluent flow.

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°C. 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.

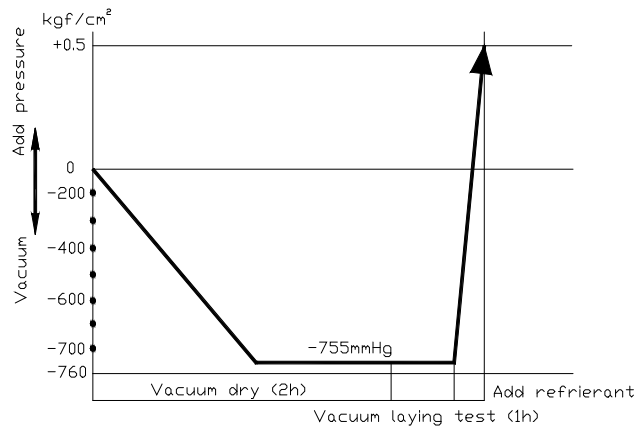


2.2 Vacuum dry procedure

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.

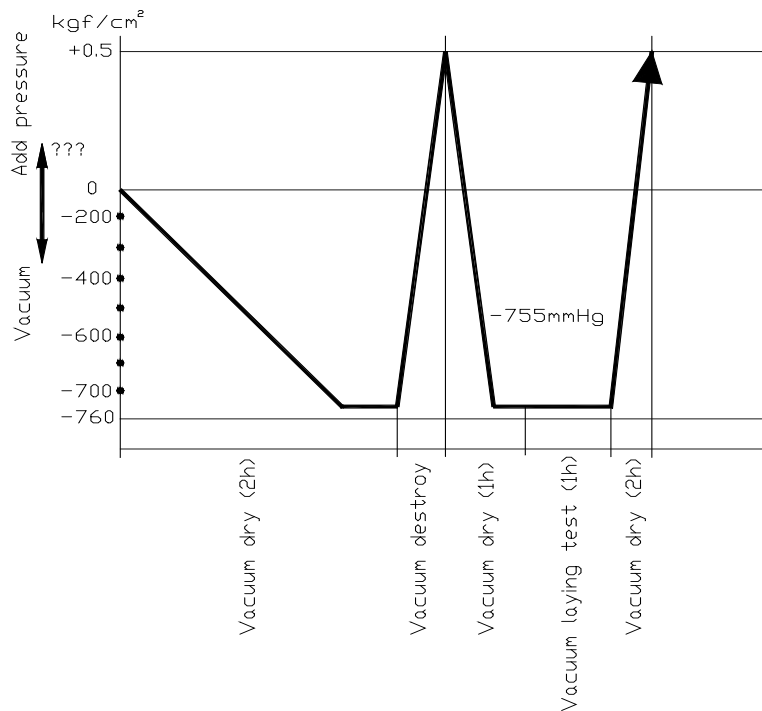
④. Vacuum dry for the second time 1h pumping

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
Less than 5m (One-way)	—	—
Added Refrigerant When Over 5m (One-way)	12g/m×(L-5)	24g/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

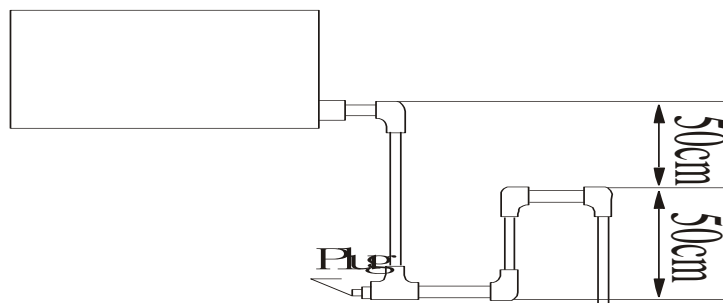
- ① The diameter of drainpipe should meet the drainage requirement at least.
- ② The drainpipe should be heat-insulated to prevent atomization.
- ③ Drainpipe should be installed before installing indoor unit. After powering on, there is some water in water-receiver plate. Please check if the drain pump 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.

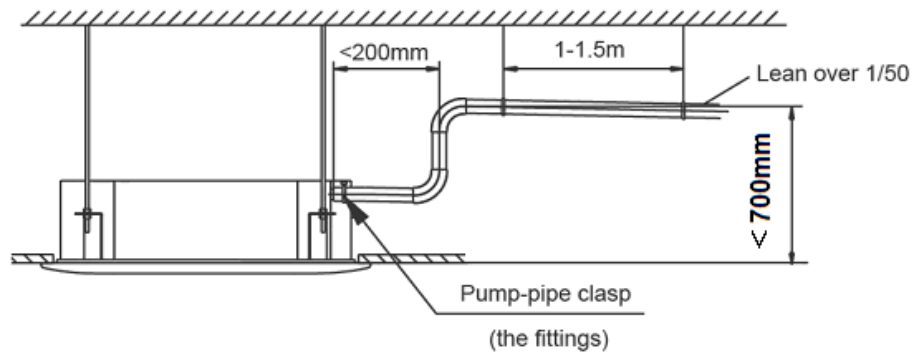
4.2.2. Every indoor unit needs one drainpipe trap.

4.2.3. A plug should be designed to do cleaning.

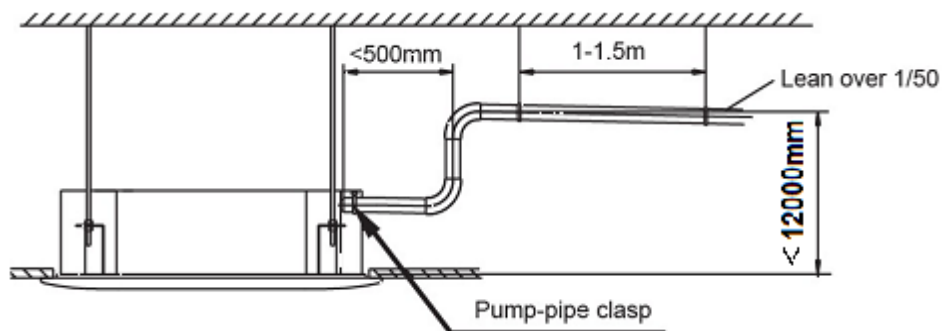


4.3 Upwards drainage (drain pump)

For Four-way cassette (compact)



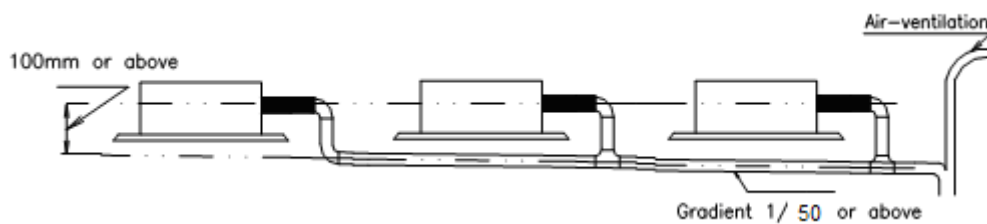
For Round-way cassette



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	$\phi 25$	3.0
Hard PVC	$14 < \leq 88$	$\phi 30$	3.5
Hard PVC	$88 < \leq 334$	$\phi 40$	4.0
Hard PVC	$175 < \leq 334$	$\phi 50$	4.5
Hard PVC	$334 < \leq$	$\phi 80$	6.0

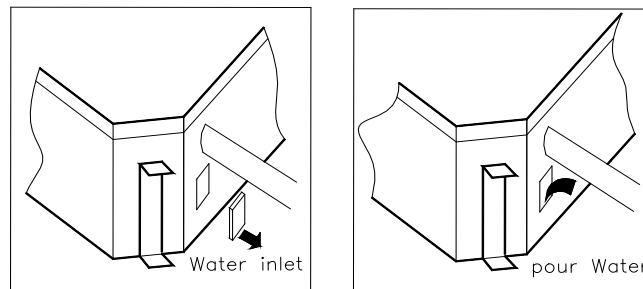
4.5 Drainage test

4.5.1 Drainage 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 abnormality. 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°C in the high-pressure side, no less than 120°C 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°C)

Cooling only type----Polyethylene foam (withstand above 100°C)

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

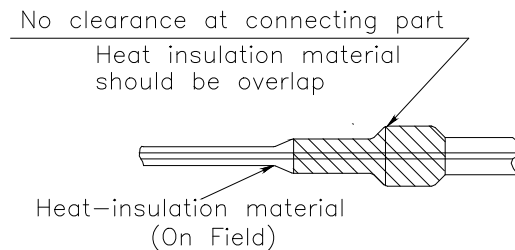
5.2.2. Insulation for non-jointing parts and non-connection parts

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 dealt 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 valves 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 Controller

1.Wireless Remote Controller	152
2.Wired Controller	152

1 Wireless Remote Controller

1.1 Instructions of remote controller

“HVAC No.2” remote controller (compatibility with wire controller or lamp board): extension code, applicable to most VRV models.

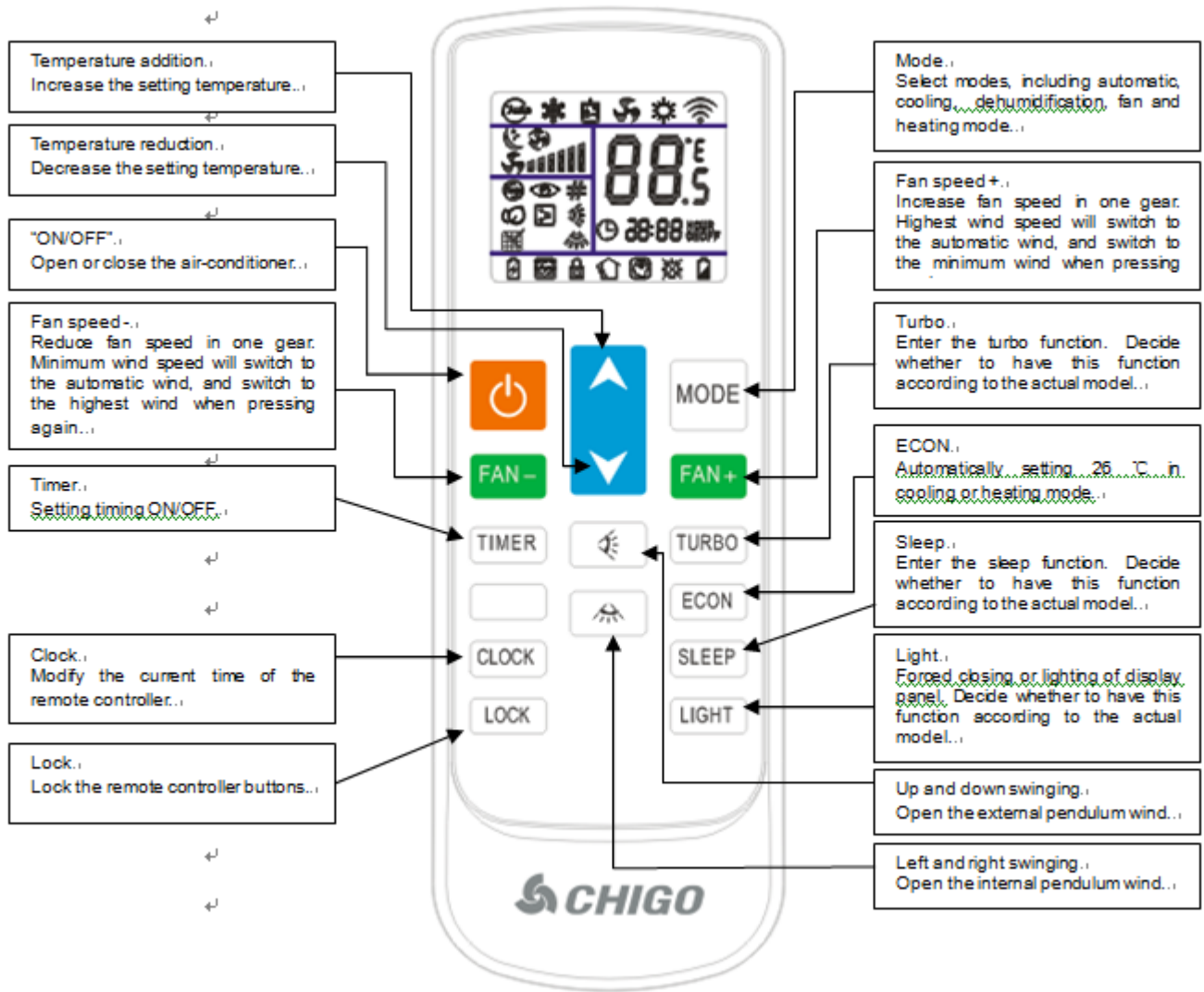
“HVAC No.3” remote controller (compatibility with wire controller or lamp board): general code, applicable to all models (except of Window machine).

Warning

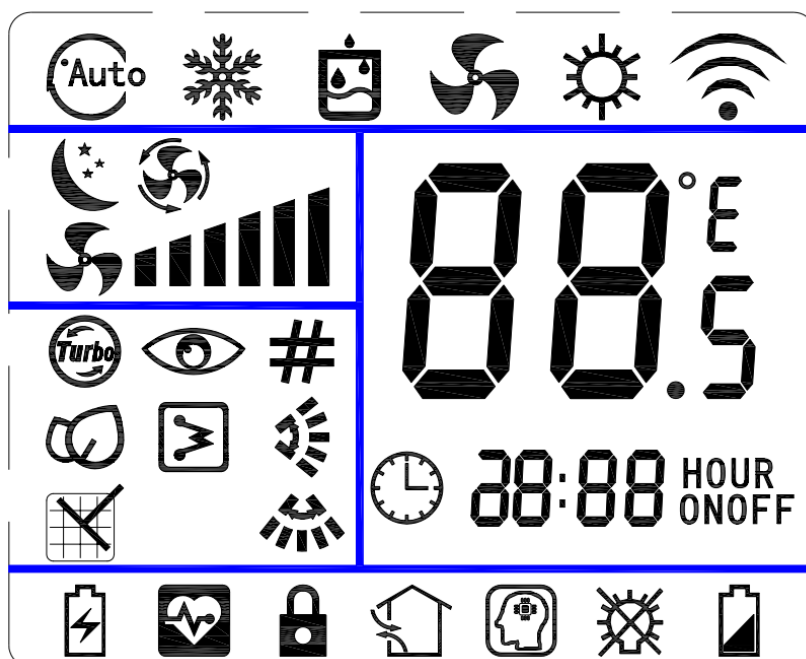
- Do not place remote controller near heat sources such as electric blankets or heating furnaces.
- Do not place remote controller in direct sunlight.
- Be careful not to drop, otherwise it may cause damage.
- No obstacle between the signal receiver and the remote controller, so as not to affect the transmission and reception of the signal.
- Do not splash water or other liquids onto the remote controller.

Warning




























- Point the remote controller to the air conditioner, press the button on the remote controller, and send the command signal to the air conditioner.
- If the signal is received correctly, the air conditioner will issue a "beep" prompt.
- If the remote controller is not available, please replace the new battery and try again. But if the problem persists, please contact the seller or our authorized service center.



1.2 The icon meaning of remote controller



- 1) The remote controller is equipped with 15 buttons, and the LCD is newly made. All the icons are kept in touch with the touch-screen remote controller.
- 2) At the first power on, the LCD of the remote controller displays all the icons first and then enters the standby state, displaying only the clock 12:00 and the light icon.
- 3) Introduction of LCD screen icon:

- Mode display: automatic 、cooling 、dehumidification 、fan  and heating .
- Temperature display:  displays temperature, which range between 16 ~ 32°C or 61 ~ 90°F.
- Wind speed display:  means wind speed.  means automatic wind speed.
- Swinging display:  means external pendulum wind.  means internal pendulum wind.
- Timer display:  means TIME ON.  means TIME OFF.
- Other display:  means clock.  means sleep.  means TURBO.  means ECON.  means cleaning.  means electric heating.  means address.  means lock.  means lack of electricity.
- Reservation function:  means Auto Config.  means power saving.  means healthy.  means new wind.  means intelligence.  means lamp light.

1.3 Button function of remote controller

(1) ON/OFF

- ① When pressing this key, the remote controller switches by "on, off, on" circularly.
- ② When the first power on, the working state is set by default: setting temperature 25°C (77°F), automatic mode, automatic fan speed, internal and external pendulum wind, no TURBO, no sleep, no timer, no lock).
- ③ When the power on is not the first time, the state before shutdown is recovered. After shutdown, the sleep, TURBO, ECON and timer functions will be canceled.

(2) Mode

- ① When pressing this key, the remote controller switches by "automatic, cooling, dehumidification, fan, heating, automatic" circularly.
- ② The dehumidification mode is locked at 25°C and the temperature can not be adjusted. The

internal pendulum wind stays unchanged according to the state before switching, but the external pendulum wind is forced to close.

(3) **Temperature reduction ▼**

- ① Temperature setting: when pressing this key, the setting temperature will be reduced by 1. The temperature of centigrade model will be reduced progressively by "32°C, 31°C, ……., 17°C, 16°C". The temperature of fahrenheit model will be reduced progressively by "90°F, 89°F, ……., 62°F, 61°F". When pressing this key in dehumidification and fan mode, the temperature will not change.
- ② In the clock setting state (the clock icon will flicker to show the prompt), this key is used to set the clock time.
- ③ Keep pressing will continuously change the temperature.

(4) **Temperature addition ▲**

- ① Temperature setting: when pressing this key, the setting temperature will be added by 1. The temperature of centigrade model will be added progressively by "16°C, 17°C, ……., 31°C, 32°C". The temperature of fahrenheit model will be added progressively by "61°F, 62°F, ……., 89°F, 90°F". When pressing this key in dehumidification and fan mode, the temperature will not change.
- ② In the clock setting state (the clock icon will flicker to show the prompt), this key is used to set the clock time.
- ③ Keep pressing will continuously change the temperature.

(5) **Up and down swinging (External pendulum wind)**

- ① Pressing this key in the dehumidification mode, the external pendulum wind is forced to close.
- ② Pressing this key in the other modes, the external pendulum switches by "swing, fixed wind, swing" circularly.

(6) **Left and right swinging (Internal pendulum wind)**

- ① Pressing this key in the dehumidification mode, the internal pendulum wind stays unchanged according to the state before switching.
- ② Pressing this key in the other modes, the internal pendulum switches by "swing, stop, swing" circularly.

(7) **"FAN -"**

- ① When the first power on, the remote controller is set to the automatic wind speed by default. In dehumidification mode, the wind speed is fixed to low wind and is not adjustable. By pressing the wind speed key, there is no response to the remote controller.

- ② Pressing this key in the other modes, the wind speed switches by "automatic wind speed, high speed, middle speed, low speed, automatic wind speed " circularly.

(8) “FAN +”

- ① When the first power on, the remote controller is set to the automatic wind speed by default. In dehumidification mode, the wind speed is fixed to low wind and is not adjustable. By pressing the wind speed key, there is no response to the remote controller.
- ② Pressing this key in the other modes, the wind speed switches by "automatic wind speed, low speed, middle speed, high speed, automatic wind speed " circularly.

(9) Timer

- ① Under the shutdown state, press this key to set the opening time, range from 1 hour to 24 hour.
- ② Under the boot state, press this key to set the shutdown time, range from 1 hour to 24 hour.
- ③ The timing time is according to the cycle of "1h, 2h, ……., 23h, 24h, cancel, 1h".
- ④ Exit timing adjustment after 3 seconds without key pressing.

(10) TURBO

- ① Extension code remote controller has the effect. The remote controller is no TURBO by default, and the TURBO key will not work in automatic mode, dehumidification mode and fan mode.
- ② Pressing this key in the cooling or heating mode, the TURBO mode switches between opening and closing. When in the TURBO mode, it does not display the wind speed. Switching mode or entering sleep function will close TURBO mode.
- ③ If the air conditioner has four gear wind speeds, the TURBO icon will light up and the fan will run in the fourth gear wind speed by pressing this key.

(11) ECON

- ① The remote controller is no ECON by default, and the ECON key will not work in automatic mode, dehumidification mode and fan mode.
- ② Pressing this key in the cooling or heating mode, the ECON mode switches between opening and closing. When in the ECON mode, the setting temperature is set to 26°C (77°F) and other settings are unchanged. If closing ECON mode, the remote controller will recover to the setting before opening ECON mode. Switching mode will close ECON mode.

(12) Sleep

- ① Pressing this key in the modes except of the fan mode, the sleep function switches between opening and closing. Switching mode will cancel sleep function.

- ② When pressing this key, the wind speed is automatically switched to low wind. However, the wind speed can be adjusted according to the wind speed key (except of the dehumidification mode).

(13) Light

- ① When the first power on, there is lamplight by default. Pressing this key force to turn off or turn on the lamplight. Decide whether to have this function according to the actual model.

(14) Clock

- ① This key is used to set the clock. Pressing enters the hour adjustment state, and the hour digital tube on the LCD is flickering at the same time. The hour can be set by temperature addition or reduction keys, and it ranges from 0 to 23.
- ② When the hour is set, press this key again to enter the minute adjustment state, and the minute digital tube on the LCD is flickering at the same time. The minute can be set by temperature addition or reduction keys, and it ranges from 00 to 59.
- ③ After adjusting, press the clock key again to confirm the setting and the adjustment state exits. If do not press the clock key again to confirm, the time adjustment state will exit after 3 seconds, and recover the clock before the adjustment.

(15) Lock

- ① There is no lock by default. Pressing this key, the lock function switches between opening and closing.
- ② When it is locked, the remote controller does not work except the lock key.

(16) Combinatorial key: “FAN -” + “FAN +”

- ① Extension code remote controller has the effect. Switch 3 gear wind and 6 gear wind. There is 6 gear wind on the LCD. If the 3 gear wind is switched, the first and second gear wind will be "low wind"; the third and fourth gear wind will be "middle wind"; the fifth and sixth gear wind will be "high wind".

(17) Combinatorial key: “Mode” + “Lock”

① Enter address setting

- 1) On the shutdown interface, press the combinatorial key on the remote controller for 5 seconds to enter the address setting interface.
- 2) The last address (when the first power on, 00 is displayed) and the "#" icon are displayed and flickering.

② The step instructions of setting address

- 1) At the address setting interface, press the temperature addition or reduction to adjust the setting address, and it ranges from 00 to 63.
- 2) When the first time entering the interface or pressing the temperature addition or reduction key, the address display flickers for 3 seconds and then does not flicker.
- 3) Press the ON / OFF key to enter the sending state and send the address setting code.

③ **The step instructions of inquiring address**

- 1) At the address setting interface, press the mode key to send the query code.
- 2) At this time, the "#" icon flickers. 3 seconds later, it normally displays the last setting addresses and the "#" icon does not flicker.

④ **Exit setting**

- 1) Pressing the mode key and lock key at the same time can exit the address setting interface.
- 2) If there is no key pressing associated with address setting for more than 30 minutes, the remote controller will exit the address setting interface.

1.4 Battery replacement

- 1) If the air conditioner is unable to receive the signal from the wire controller, or the LCD of wire controller is blurred, it means that the battery is depleted and needs to be replaced.
- 2) Take off the back cover and remove the old batteries. When replacing batteries, please pay attention to the "+" and "-" marking on the battery.
- 3) Install the back cover and set the current time.

Warning

- Do not mix old and new batteries together.
- When the wire controller is idle for a long time, the battery should be removed.
- In general, the service life of a dry battery that meets the JIS or IEC standards can be up to 6-12 months, but if it exceeds the use time or not in conformity with above specifications, the dry battery may leak and may even cause the wire controller operation to be invalid.

2 Wired Controller

ZKX-C/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

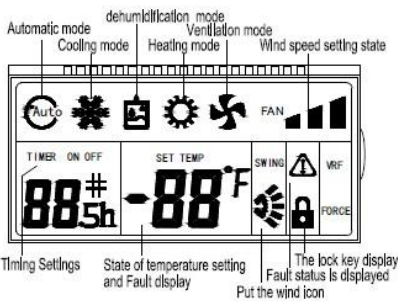


Fig2 LCD display content of Wire Controller

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 °C ~ 32 °C ;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°C/CHECK Button Function :

- 1) Short press this button , Enter a state of energy saving of 26 °C, namely the setting temperature is 26 °C. 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°C	-2°C
3 OFF	2°C	0°C
	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°C when the second and third bits are ON, and the

compensation value is 0°C when the second and third bits are OFF. The compensation value is 2°C when the second bit is ON and the third bit is OFF, and the compensation value is -2°C 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 the improper operation.
Note:	Indicate it may cause the death or serious injury for the improper 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

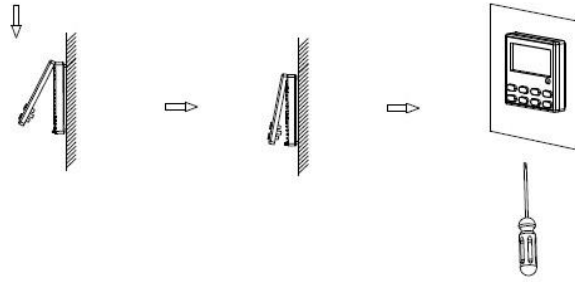
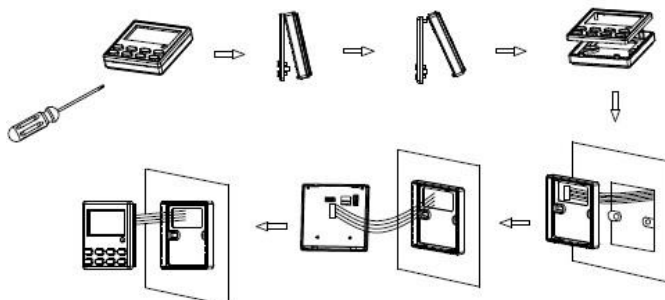
- 1) Please do not install the wire controller in damp or direct sunlight places.
- 2) Please do not install the wire controller in the places, where is near the high temperature or easy to splash water.
- 3) To avoid the interference of the neighbors' remote controller which has the same model , then 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

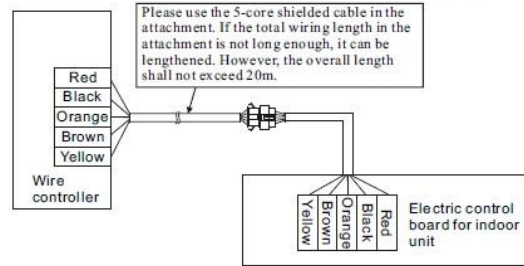
First of all, the wire controller signal line connection mode is as follows :

- 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:



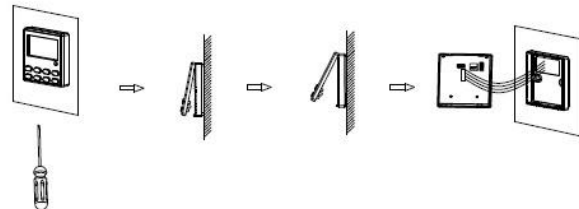
Connect the wire controller in the way as shown in the figure below



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 abnormality 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.