Light Commercial Air Conditioner

R410A ON/OFF

Service Manual

Part 1
General Information

1. Model Names of Indoor/Outdoor Units

1.1 Indoor Units

R410A (capacity multiplied by 1000Btu/h)

Type	Function	18	24	36	48	60
Four-way cassette (compact)	Cooling and heating	√				
Four-way cassette	Cooling and heating	√	√	√	√	√
Ceiling & floor	Cooling and heating	√	√	√	√	√
MSP Duct	Cooling and heating	√	√	√	√	√

1.2 Outdoor Units

Model of outdoor unit and corresponding indoor unit

Universal Outdoor unit Model	Compressor type	Compressor Brand	Matched indoor units
Heat Pump			
TCC-18HA/UO	Rotary	GMCC	TCC-18CHRA/UI(Q4) TCC-18CHRA/UI TCC-18D2HRA/UI TCC-18ZHRA/UI
TCC-24HA/UO	Rotary	GMCC	TCC-24CHRA/UI TCC-24D2HRA/UI TCC-24ZHRA/UI
TCC-36HA/U3O	Rotary	Highly	TCC-36CHRA/UI TCC-36D2HRA/UI TCC-36ZHRA/UI
TCC-48HA/U3O	Rotary	Highly	TCC-48CHRA/UI TCC-48D2HRA/UI TCC-48ZHRA/UI
TCC-60HA/U3O	Rotary	Highly	TCC-60CHRA/UI TCC-60D2HRA/UI TCC-60ZHRA/UI

2. External Appearance

2.1 Indoor Units

Four-way Cassette (Compact) 	Eight-way Cassette 
Medium ESP Duct 	Ceiling Floor 

2. External Appearance

2.2 Outdoor Units

18K

24K

36K

48K / 60K

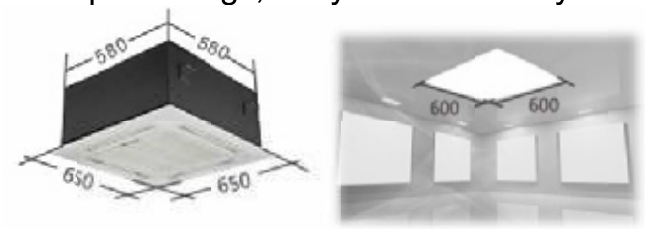
Part 2
Indoor Units

Cassette Type

1. Features

(1) Compact design

"Adopts compact design, easy installation by taking off ceiling panel of 600×600 size".

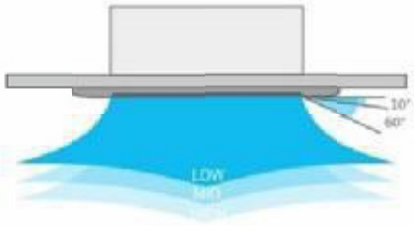


(2) New model design

The newly designed cassette type, featured with 8-way air-out directions , deliver youmore comfortable feeling ofair.

(3) Different swing angel design

Differential swing angels for cooling mode, heating modeand auto swing mode, to ensure comfortable feeling in any time and anywhere.



(4) Push-open grill & easy cleaning of filter

The air intake grill can be easily disassembled by just push-open action, and can be still attached tobe the unit by 90 degree rotate angle,designed for easy maintenance and filter cleaning.

(5) Quiet operation

Adopting ofadvanced 3D centrifugal fan,the unitscan run more quietly.

(6) Branch outlet

Reserved branch outlet solution, which can distribute air to small space like study room.

(7) Detachable corner panel

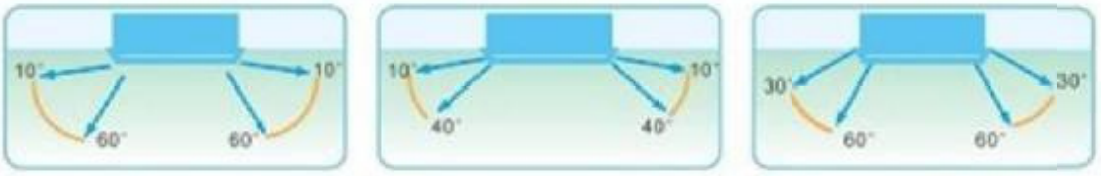
Four detachable grille corners enable easy adjustment of hanger positions after installation.

(8) Euilt-in head drain pump

Standard built-in drain pumps with head height up to 750mm, creating an ideal solution for water drainage.

(9) Anti-cold blowing function

When cooling in winter time, the indoor blower only starts when the indoor coil reaching a coil reaching a certain temp. In order to make sure the blowing air is warm.



2. Specification

Model name	Q8 Cassette Indoor		TCC-18CHRA/UI(Q4)	TCC-18CHRA/UI
Power supply		V//Hz/Ph	220-240V~/50Hz/1P	220-240V~/50Hz/1P
Cooling	Capacity	Btu/h	18000	18000
	Capacity	W	5.175	5300
	Input	W	1683	1732
	Rated current	A	7.65	7.87
	EER	W/W	3.07	3.06
Heating	Capacity	Btu/h	19000	20000
	Capacity	W	5600	5900
	Input	W	1761	1671
	Rated current	A	8.00	8.60
	COP	W/W	3.18	3.53
Indoor coil	Number of row		2	2
	Fin spacing	mm	1.6	1.3
	Fin material		Hydrophilic & Louver Fin	Hydrophilic & Louver Fin
	Tube outside diameter	mm	φ7	φ7
	Tube material		Innergroover tube type	Innergroover tube type
	Coil length x height x width	mm	1370×210×25.4	1899×168×25.4
	Number of circuit		5	6
Indoor fan motor	Brand		Lifeng	Lifeng
	Model		YSK30-6E1	YDK54-6-1
	Input	W	36/30/25	84/62/38
	Running current	A	0.19/0.15/0.12	0.38/0.29/0.18
	Capacitor	mF	2.0	2..5
	Speed (Hi/Me/Lo)	rpm	810/740/655	500/420/315
Indoor air flow (Hi/Me/Lo)		m^3/h	800/750/600	1100/950/880
Indoor noise level (Hi/Me/Lo)		dB(A)	41/38/34	42/39/35
Indoor dimension	Unit (WxHxD)	mm	575×260×575	830x230x830
	Packing (WxHxD)	mm	725×300×725	925x290x925
Indoor weight	Net	kg	19	23
	Gross	kg	22	28
Panel	Unit (WxHxD)	mm	650×30×650	950x45x950
	Packing (WxHxD)	mm	690×65×690	1035×80×1035
	Net/Gross	kg	2.5/4.5	6/9
Refrigerant	Type		R410A	R410A
Refrigerant pipe	Liquid side	mm	6.35	6.35
	Gas side	mm	12.70	12.70
Drainage water pipe diameter		mm	OD32	OD32
Ambient temperature range	Cooling	℃	-15~43	-15~43
	Heating	℃	-7 ~ 24	-7 ~ 24
Operation Control			Remote control	Remote control

Notes:
1.Nominal cooling capacities are based on the following conditions: Indoor temp: 27℃DB,19℃WB; Outdoor temp: 35℃ DB;
2.Nominal heating capacities are based on the following conditions: Indoor temp: 20℃DB; Outdoor temp: 7℃DB,6℃DB;
3.Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.
Remark: The above design and specification are subject to change without prior notice for product improvement.

2. Specification

Model name	Q8 Cassette Indoor		TCC-24CHRA/UI(SX)	TCC-36CHRA/UI(03)
Power supply		V//Hz/Ph	220-240V~/50Hz/1P	220-240V~/50Hz/3P
Cooling	Capacity	Btu/h	24000	36000
	Capacity	W	7200	10500
	Input	W	2432	3723
	Rated current	A	11.05	7.80
	EER	W/W	2.96	2.82
Heating	Capacity	Btu/h	26500	40000
	Capacity	W	7900	12000
	Input	W	2192	3409
	Rated current	A	11.0	7.20
	COP	W/W	3.60	3.52
Indoor coil	Number of row		2	2
	Fin spacing	mm	1.4	1.3
	Fin material		Hydrophilic & Louver Fin	Hydrophilic & Louver Fin
	Tube outside diameter	mm	φ7	φ7
	Tube material		Innergroover tube type	Innergroover tube type
	Coil length x height x width	mm	1899×168×25.4	1899×252×25.4
	Number of circuit		8	12
Indoor fan motor	Brand		Lifeng	Lifeng
	Model		YDK55-6-3	YDK56-6-4
	Input	W	130/108/43	148/123/54
	Running current	A	0.60/0.49/0.21	0.68/0.58/0.28
	Capacitor	mF	2.5	3.5
	Speed (Hi/Me/Lo)	rpm	700/615/330	700/600/340
Indoor air flow (Hi/Me/Lo)		m^3/h	1400/1200/950	1700/1500/1400
Indoor noise level (Hi/Me/Lo)		dB(A)	43/41/37	45/43/41
Indoor dimension	Unit (WxHxD)	mm	830x230x830	830x290x830
	Packing (WxHxD)	mm	925x290x925	925x360x925
Indoor weight	Net	kg	23	28
	Gross	kg	28	33
Panel	Unit (WxHxD)	mm	950x45x950	950x45x950
	Packing (WxHxD)	mm	1035×80×1035	1035×80×1035
	Net/Gross	kg	6/9	6/9
Refrigerant	Type		R410A	R410A
Refrigerant pipe	Liquid side	mm	9.52	9.52
	Gas side	mm	15.88	19.05
Drainage water pipe diameter		mm	OD32	OD32
Ambient temperature range	Cooling	℃	-15~43	-15~43
	Heating	℃	-7 ~ 24	-7 ~ 24
Operation Control			Remote control	Remote control

Notes:
1.Nominal cooling capacities are based on the following conditions: Indoor temp: 27℃DB,19℃WB; Outdoor temp: 35℃ DB;
2.Nominal heating capacities are based on the following conditions: Indoor temp: 20℃DB; Outdoor temp: 7℃DB,6℃DB;
3.Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.
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2. Specification

Model name	Q8 Cassette Indoor		TCC-48CHRA/U3I(03)	TCC-60CHRA/U3I(03)
Power supply		V//Hz/Ph	220-240V~/50Hz/3P	220-240V~/50Hz/3P
Cooling	Capacity	Btu/h	48000	55000
	Capacity	W	14000	16119
	Input	W	4636	5694
	Rated current	A	9.30	11.00
	EER	W/W	3.02	2.83
Heating	Capacity	Btu/h	50000	60500
	Capacity	W	14650	17731
	Input	W	5079	5700
	Rated current	A	9.50	11.30
	COP	W/W	2.88	3.11
Indoor coil	Number of row		2	2
	Fin spacing	mm	1.5	1.3
	Fin material		Hydrophilic & Louver Fin	Hydrophilic & Louver Fin
	Tube outside diameter	mm	φ7	φ7
	Tube material		Innergroover tube type	Innergroover tube type
	Coil length x height x width	mm	1899×252×25.4	1899×252×25.4
	Number of circuit		12	12
Indoor fan motor	Brand		Lifeng	Lifeng
	Model		YDK56-6-4	YDK-75N-6
	Input	W	148/123/54	180/150/129
	Running current	A	0.68/0.58/0.28	0.844/0.684/0.586
	Capacitor	mF	3.5	3.5
	Speed (Hi/Me/Lo)	rpm	700/600/340	760/660/560
Indoor air flow (Hi/Me/Lo)		m^3/h	1700/1500/1400	1900/1700/1500
Indoor noise level (Hi/Me/Lo)		dB(A)	45/43/41	47/44/43
Indoor dimension	Unit (WxHxD)	mm	830x290x830	830x290x830
	Packing (WxHxD)	mm	925x360x925	925x360x925
Indoor weight	Net	kg	30	30
	Gross	kg	35	35
Panel	Unit (WxHxD)	mm	950x45x950	950x45x950
	Packing (WxHxD)	mm	1035×80×1035	1035×80×1035
	Net/Gross	kg	6/9	6/9
Refrigerant	Type		R410A	R410A
Refrigerant pipe	Liquid side	mm	9.52	9.52
	Gas side	mm	19.05	19.05
Drainage water pipe diameter		mm	OD32	OD32
Ambient temperature range	Cooling	℃	-15~43	-15~43
	Heating	℃	-7 ~ 24	-7 ~ 24
Operation Control			Remote control	Remote control

Notes:
1.Nominal cooling capacities are based on the following conditions: Indoor temp: 27℃DB,19℃WB; Outdoor temp: 35℃ DB;
2.Nominal heating capacities are based on the following conditions: Indoor temp: 20℃DB; Outdoor temp: 7℃DB,6℃DB;
3.Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.
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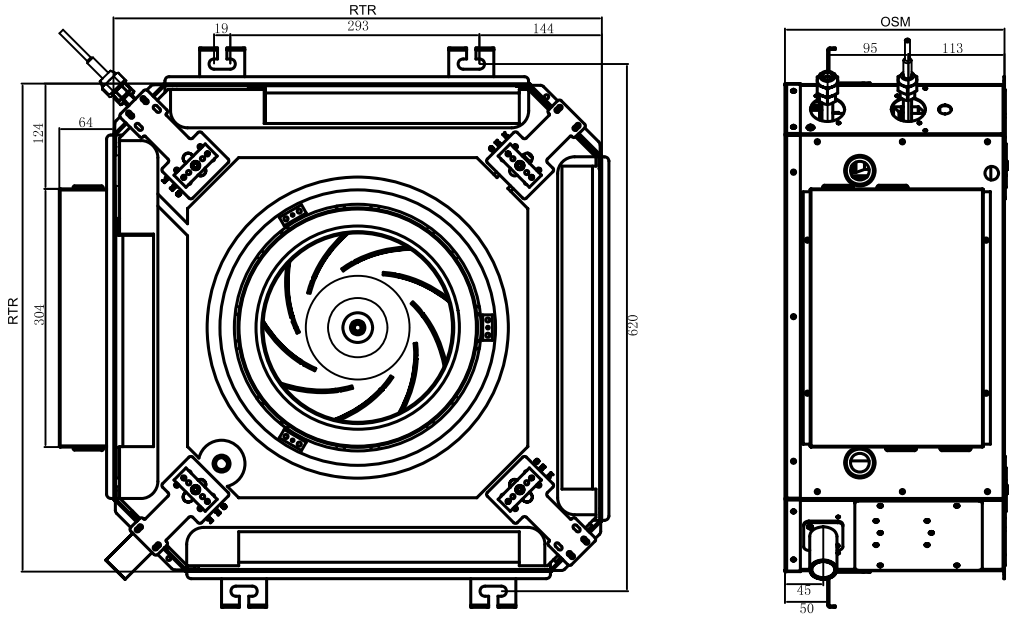
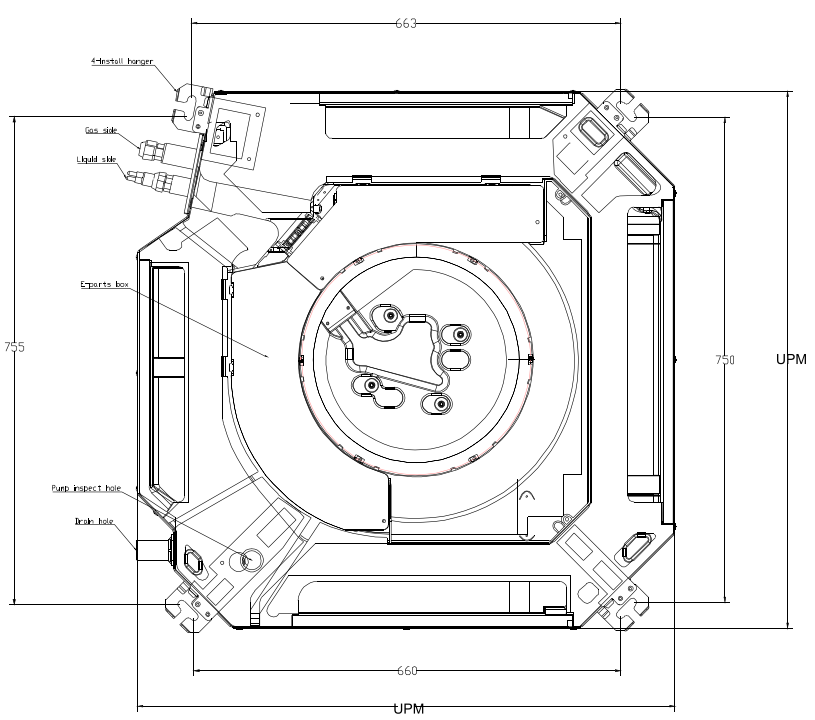
3. Dimensions

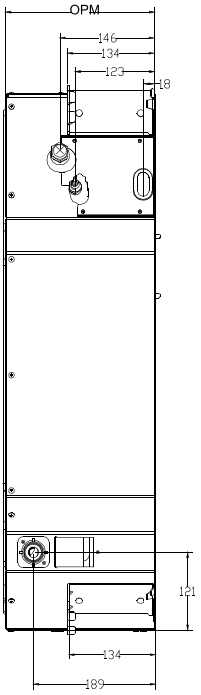
TCC-18CHRA/UI (Q4)



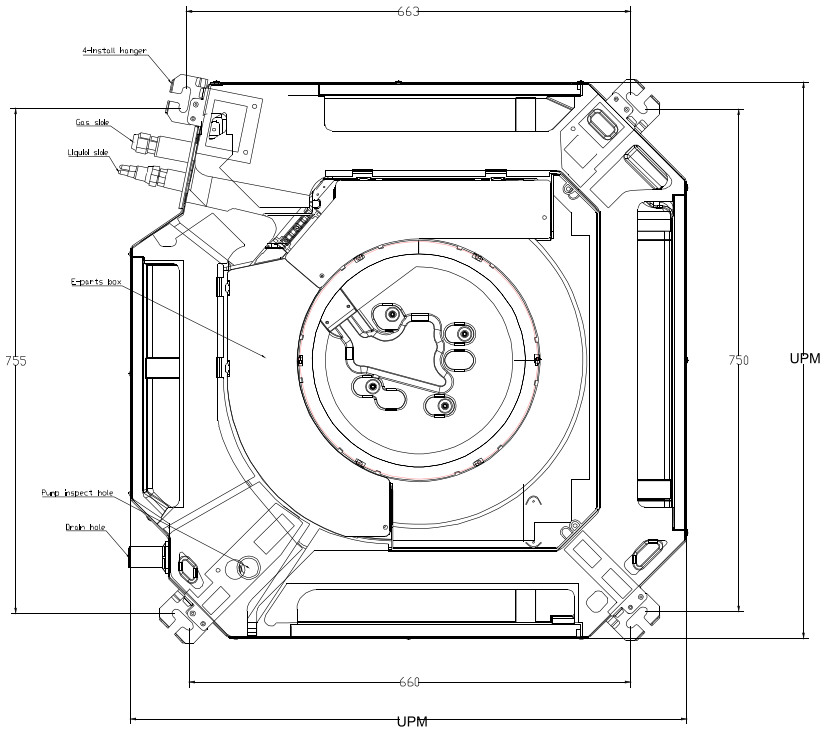
3. Dimensions

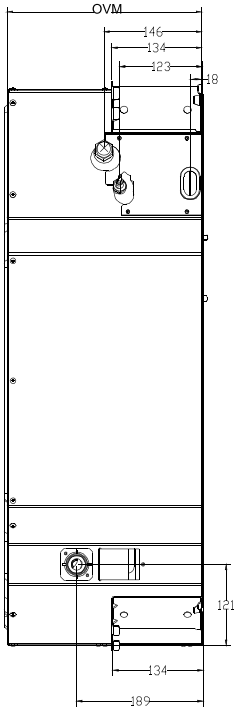
TCC-18CHRA/UI & TCC-24CHRA/UI





TCC-36CHRA/UI & TCC-48CHRA/UI & TCC-60CHRA/UI

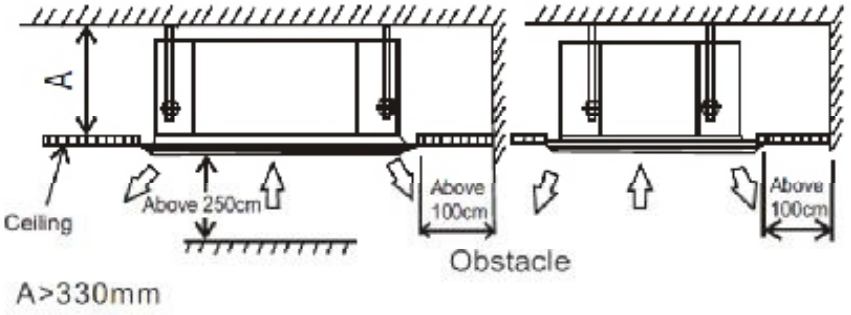


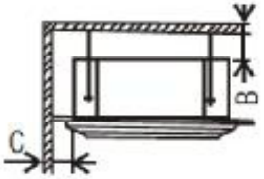


4. Service space

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

- There is enough room for installation and maintenance.
- The ceiling is horizontal, and its structure can endure the weight of the indoor unit.
- The outlet and the inlet are not impeded, and the influence of external air is the least.
- The air flow can reach throughout the room.
- The connecting pipe and drainpipe could be extracted out easily.
- There is no direct radiation from heaters.

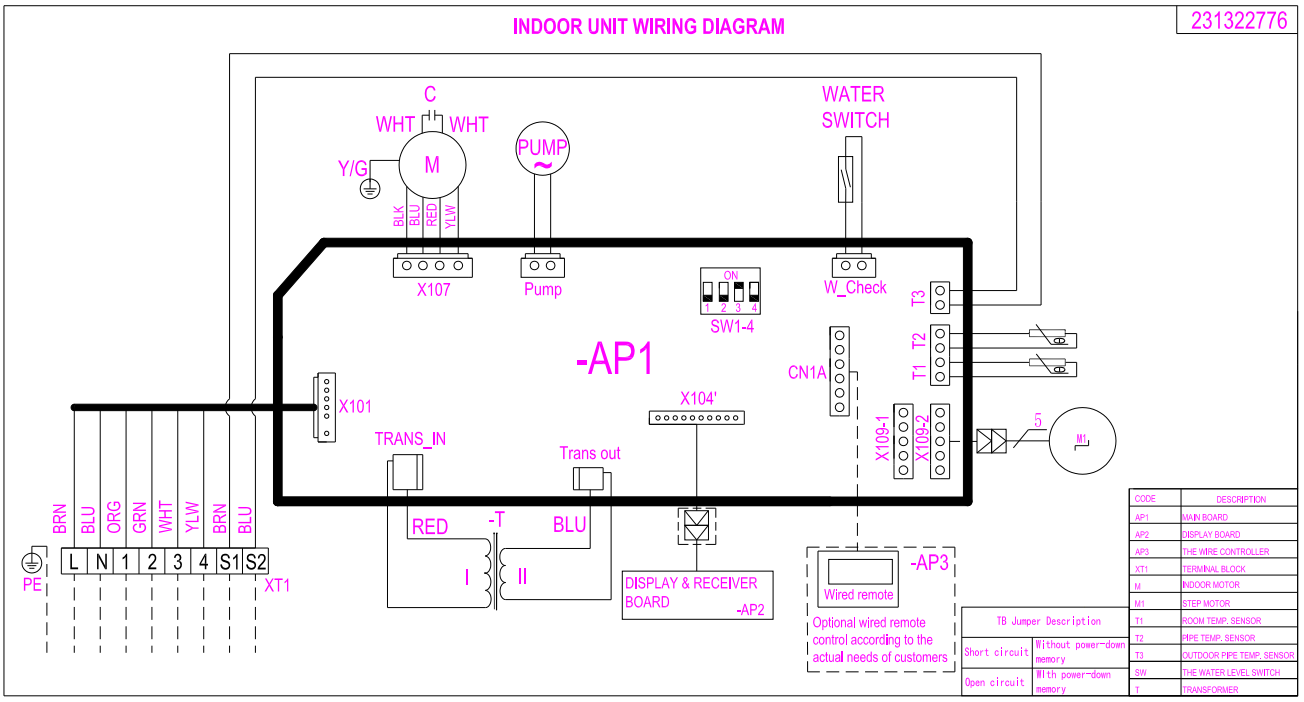




Wall material	Flammable material	Fire-proof material or other nonflammable materials other than metal	Fire-proof structure
Up(B)	Above 5cm	Above 5cm	Above 5cm
Sides(C)	Above 100cm	Above 100cm	———

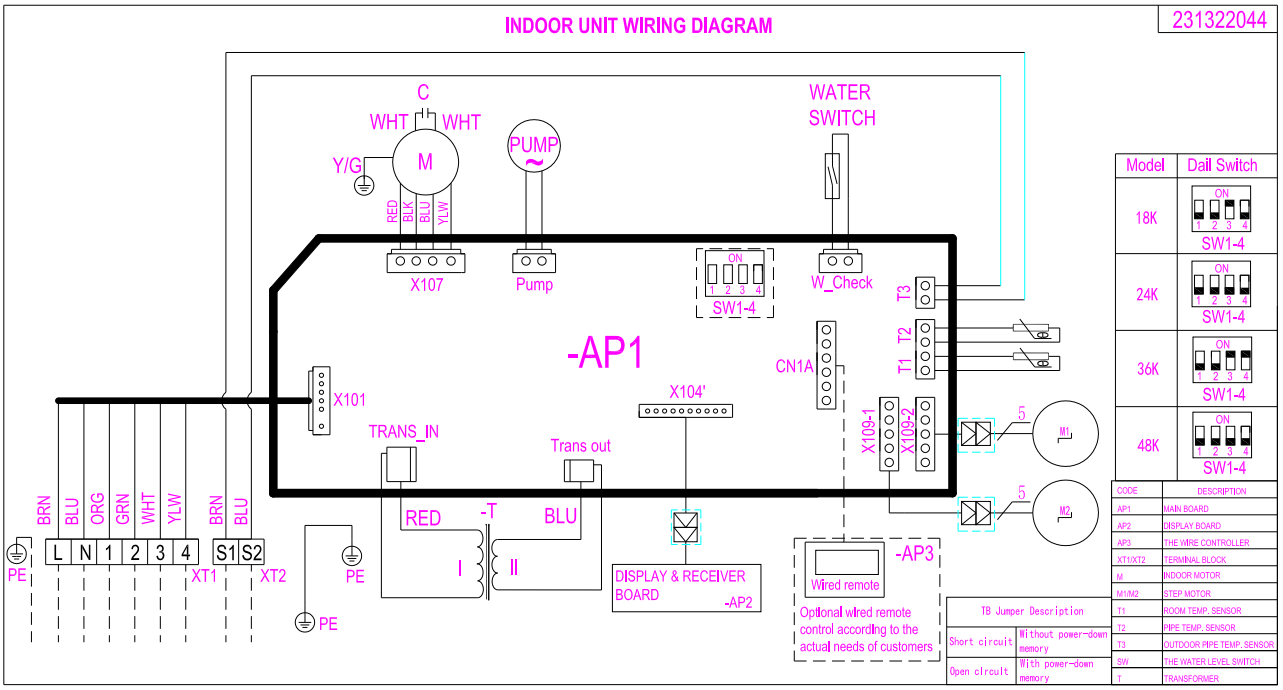
5. Wiring Diagrams

TCC-18CHRA/U(Q4)



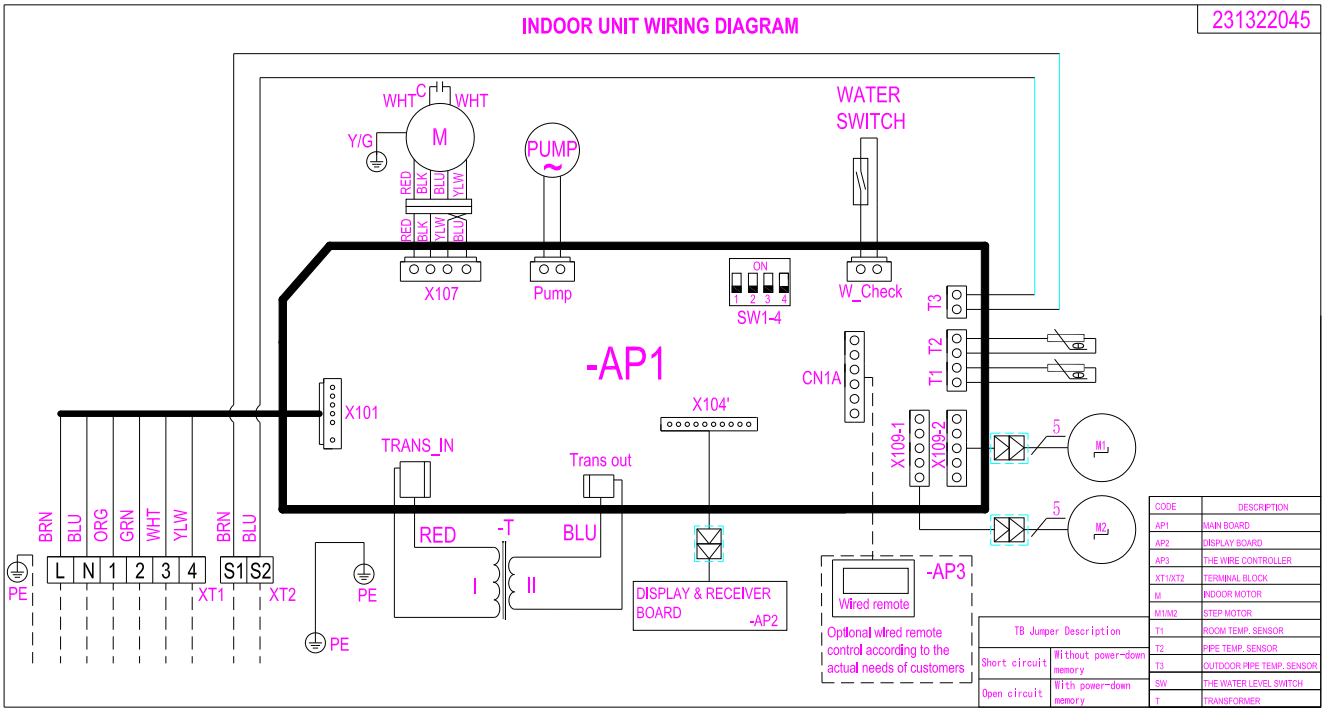
5. Wiring Diagrams

TCC-18CHRA/UI TCC-24CHRA/UI TCC-36CHRA/UI TCC-48CHRA/UI



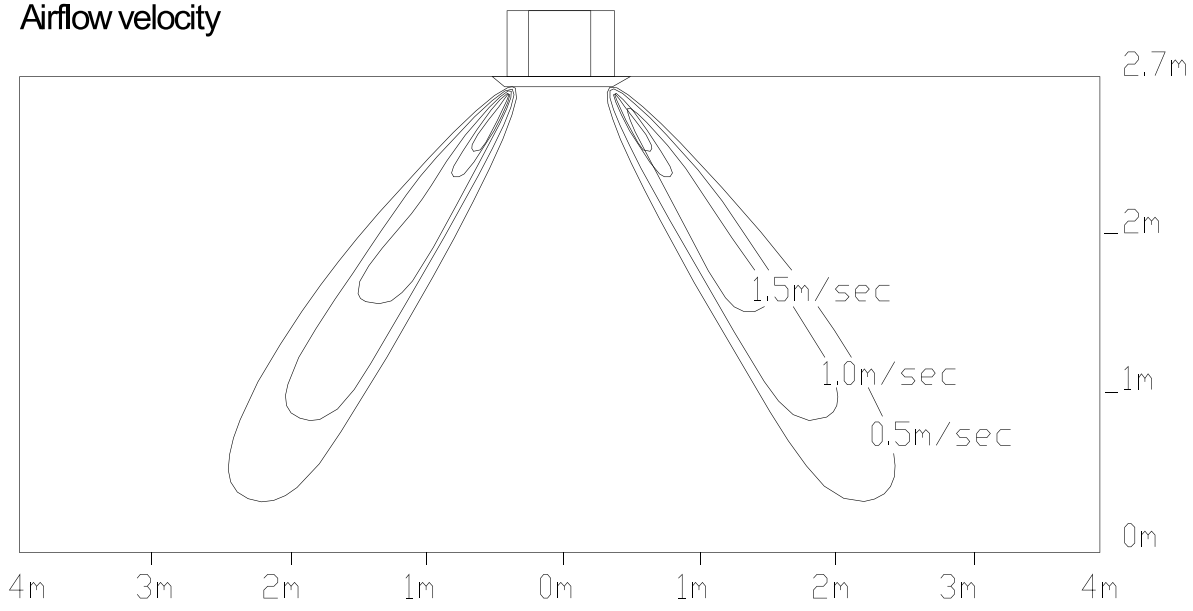
5. Wiring Diagrams

TCC-60CHRA/UI

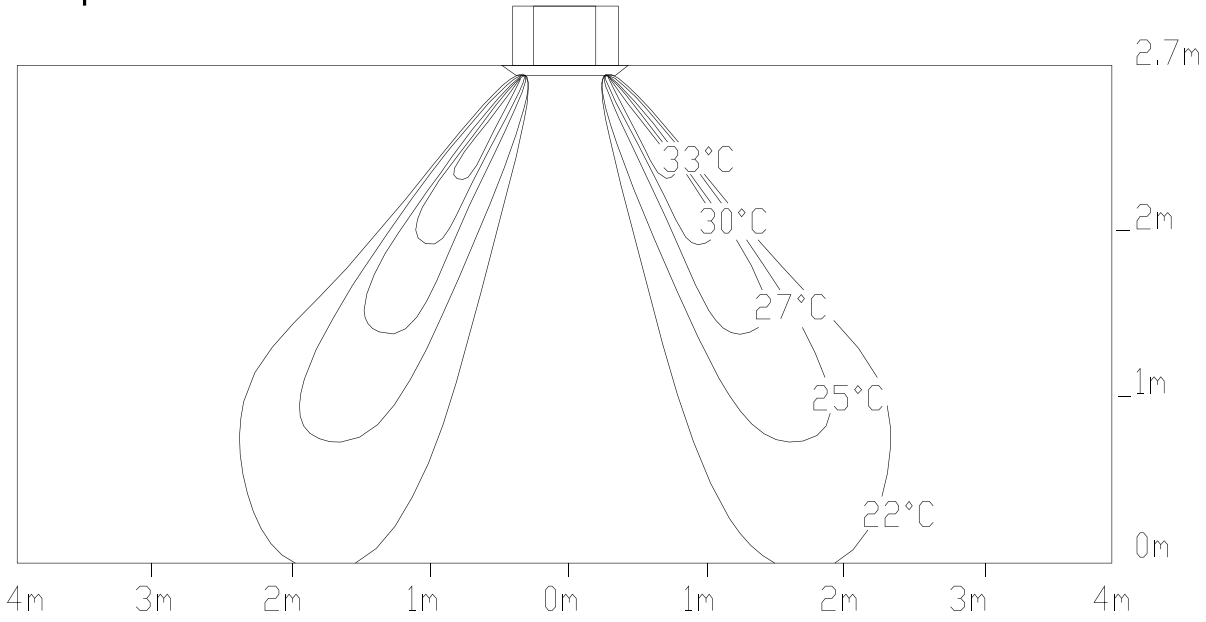


6. Air Velocity and Temperature Distributions

Airflow velocity



Temperature



7. Electric Characteristics

model	Indoor unit				Power supply
	Hz	Voltage（V）	Min（V）	Max（V）	MFA（A）
TCC-12CHRA/U(Q4)	50	220-240V	198	254	25
TCC-18CHRA/U(Q4)	50	220-240V	198	254	25
TCC-18CHRA/U	50	220-240V	198	254	40
TCC-24CHRA/U	50	220-240V	198	254	45
TCC-36CHRA/U	50	380V	342	418	12.5
TCC-48CHRA/U	50	380V	342	418	14.1
TCC-60CHRA/U	50	380V	342	418	25.1

Remark:

MFA: Max. Fuse Amps. (A)

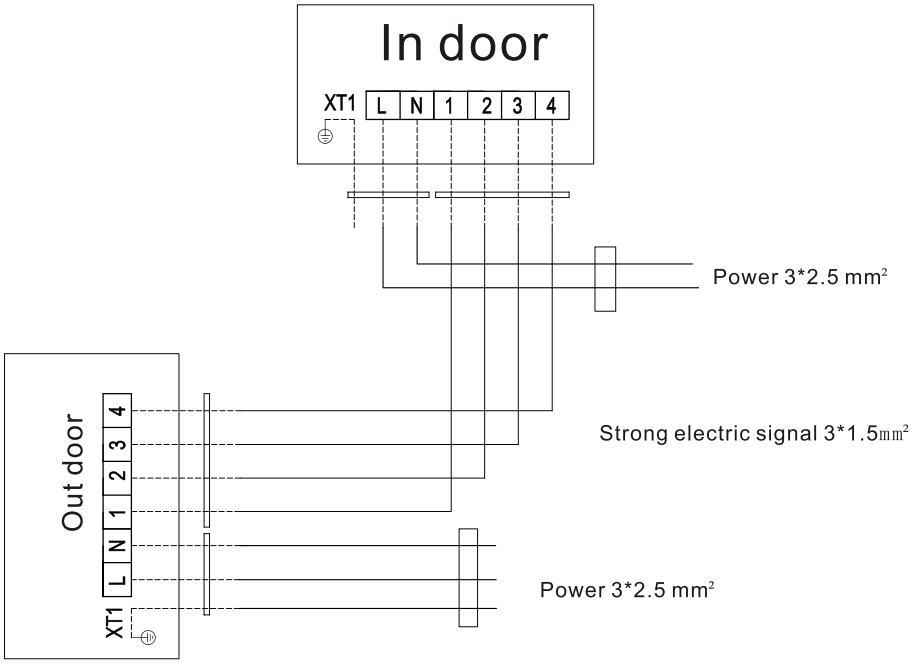
8. The specification of power

Cooling and heating

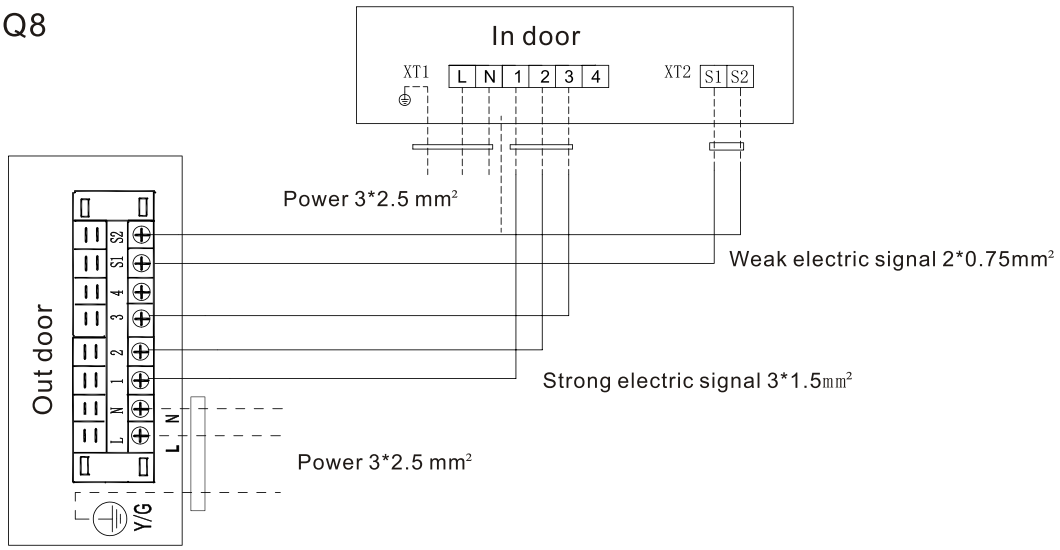
Type		18	24	36	48	60
Power	Phase	1Ph	1Ph	3Ph	3Ph	3Ph
	Frequency and Voltage	220-240V,50Hz	220-240V,50Hz	380V,50Hz	380V,50Hz	380V,50Hz
Circuit Breaker/ Fuse (A)		20/20	20/20	20/20	20/20	20/20
Indoor Unit Power Wiring (mm2)	Ground Wiring（mm2）	2.5	0.75/2.5	0.75/2.5	0.75/2.5	0.75/2.5
	Outdoor Unit power wiring（mm2）	3*2.5	3*2.5	5*2.5	5*2.5	5*2.5
	Strong Electric Signal（mm2）	3*1.5	3*0.75	4*0.75	4*0.75	4*0.75
	Weak ElectricSignal（mm2）	2*0.75	2*0.75	2*0.75	2*0.75	2*0.75

9.Wiring of indoor and outdoor

For 18K Q4

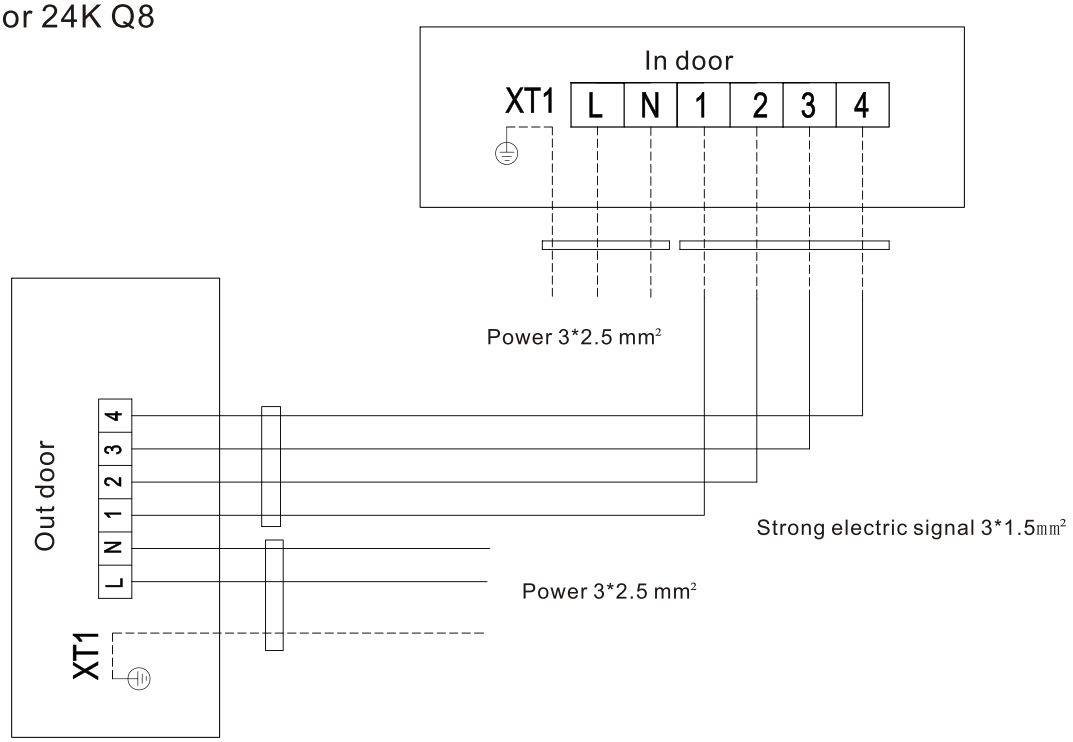


For 18K Q8

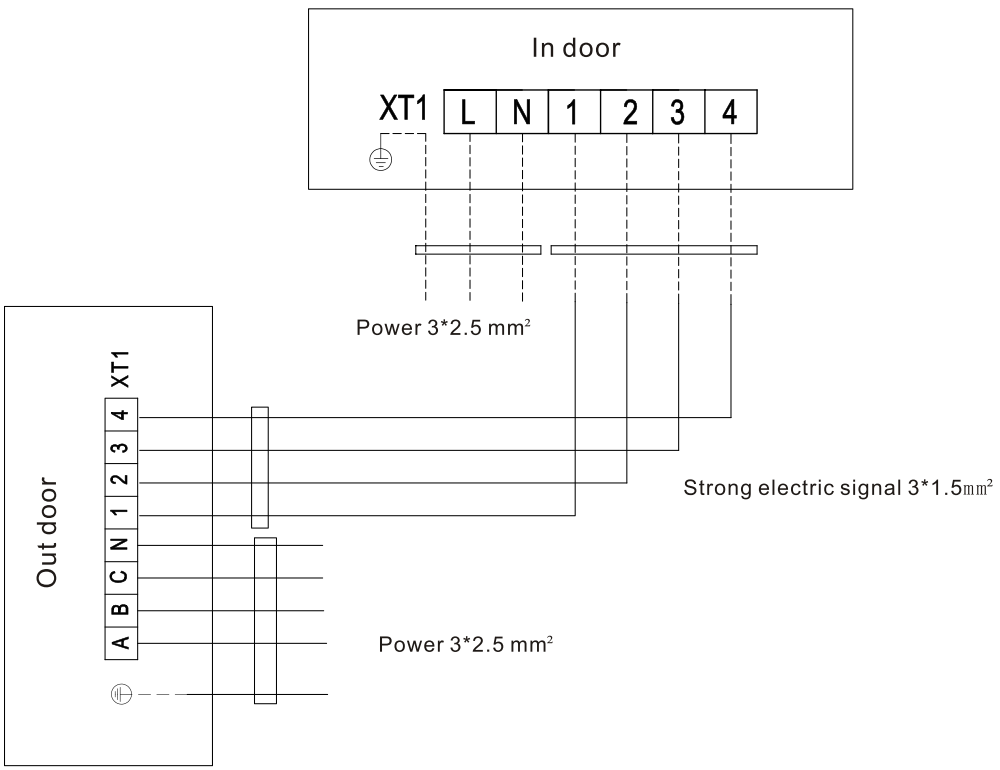


9.W iring of indoor and outdoor

For 24K Q8



For 36K\48K\60KQ8



MSP Duct Type

1. Features

1,Economic and convenient installation

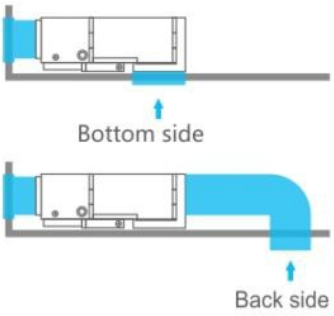
---Several diffusers branch off from an indoor unit, adjusting the room temperature, which makes many rooms to be air-conditioned with only one indoor unit.

---All models feature thin design making them applicable to ceiling pocket that tends to be shallow

2. A long-life and high-efficiency filter

3. Way of air intake and inserting air filter

---Air intake can be positioned either at the back or below the unit. Similarly, the air filter also can be inserted either from the back or from the bottom of the unit.



4, Easy for maintenance

Detachable plastic air blowers, make the maintenance of fan motor more easy

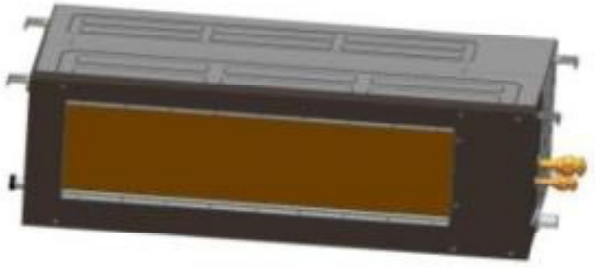
5, Built-in head drain pump

Standard built-in drain pumps with head height up to 700mm, creating an ideal solution for water drainage.

6, TitanGold heat exchanger (Optional)

The patented TitanGold technology ensures high-efficient heating exchanging, durable and even performance, easy maintenance.

7,Dual-direction drainage pipe design
The condensing water can be drained from either right or left



8，Wire controller standard with remote controller optional

2.Specifications

Model name	MESP Duct Indoor		TCC-18D2HRA/UI	TCC-24D2HRA/UI
Power supply		V//Hz/Ph	220-240V~/50Hz/1P	220-240V~/50Hz/1P
Cooling	Capacity	Btu/h	18000	24000
	Capacity	W	5300	7200
	Input	W	1761	2351
	Rated current	A	8.00	10.69
	EER	W/W	3.01	3.06
Heating	Capacity	Btu/h	20000	26500
	Capacity	W	5900	7900
	Input	W	1513	2388
	Rated current	A	6.87	12.4
	COP	W/W	3.90	3.31
Indoor coil	Number of row		3	4
	Fin spacing	mm	1.4	1.4
	Fin material		Hydrophilic & Louver Fin	Hydrophilic & Louver Fin
	Tube outside diameter	mm	φ7	φ7
	Tube material		Innergroover tube type	Innergroover tube type
	Coil length x height x width	mm	734×252×38.1	734×252×50.8
	Number of circuit		6	6
Indoor fan motor	Brand		Match-well	Match-well
	Model		YSK68-4P-5	YSK74-4P-5
	Input	W	98/86/72/66	190/136/104/82
	Running current	A	0.45/0.48/0.37/0.30	0.88/0.63/0.49/0.39
	Capacitor	uF	4	5
	Speed (Hi/Me/Lo)	rpm	1140/1000/775/660	990/830/720/640
Indoor air flow (Hi/Me/Lo)		m^3/h	1170/770/650	1400/950/800
Indoor external static pressure (Hi)		Pa	70	70
Indoor noise level (Hi/Me/Lo)		dB(A)	43/35/32	46/43/41
Indoor dimension with filter	Unit (WxHxD)	mm	920x210x605	920x270x605
	Packing (WxHxD)	mm	1115x280x690	1115×340×690
Indoor weight	Net	kg	23	28
	Gross	kg	28	32
Refrigerant	Type		R410A	R410A
Refrigerant pipe	Liquid side	mm	6.35	9.52
	Gas side	mm	12.70	15.88
Drainage water pipe diameter		mm	OD25	OD25
Ambient temperature range	Cooling	℃	-15~43	-15~43
	Heating	℃	-7 ~ 24	-7 ~ 24
Operation Control			Remote controller	Remote controller

Notes:
1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. piping: 7.5m (horizontal)
2. Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. piping: 7.5m (horizontal)
3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

Remark: The above design and specification are subject to change without prior notice for product improvement.

2.Specifications

Model name	MESP Duct Indoor		TCC-36D2HRA/UI	TCC-48D2HRA/U3I
Power supply		V//Hz/Ph	220-240V~/50Hz/3P	220-240V~/50Hz/3P
Cooling	Capacity	Btu/h	36000	48000
	Capacity	W	10550	14000
	Input	W	3584	4560
	Rated current	A	7.8	9.30
	EER	W/W	2.94	3.07
Heating	Capacity	Btu/h	40000	50000
	Capacity	W	12000	14650
	Input	W	3468	4446
	Rated current	A	7.2	9.50
	COP	W/W	3.46	3.30
Indoor coil	Number of row		3	4
	Fin spacing	mm	1.4	1.4
	Fin material		Hydrophilic & Louver Fin	Hydrophilic & Louver Fin
	Tube outside diameter	mm	φ7	φ7
	Tube material		Innergroover tube type	Innergroover tube type
	Coil length x height x width	mm	977×336×38.1	1030×378×50.8
	Number of circuit		8	8
Indoor fan motor	Brand		Match-well	Match-well/Lifeng
	Model		YSK140-4P-5	YSK170-4P-2
	Input	W	268/218/156/128	326/248/182/138
	Running current	A	1.25/1.00/1.08/0.582	1.49/1.21/108/0.63
	Capacitor	uF	10	10
	Speed (Hi/Me/Lo)	rpm	1055/920/750/665	1060/890/740/630
Indoor air flow (Hi/Me/Lo)		m^3/h	1800/1500/1350	2100/1750/1550
Indoor external static pressure (Hi)		Pa	80	100
Indoor noise level (Hi/Me/Lo)		dB(A)	46/44/42	47/44/42
Indoor dimension with filter	Unit (WxHxD)	mm	1140x270x745	1200x300x835
	Packing (WxHxD)	mm	1345x345x830	1405x375x925
Indoor weight	Net	kg	36	45
	Gross	kg	43	52
Refrigerant	Type		R410A	R410A
Refrigerant pipe	Liquid side	mm	9.52	9.52
	Gas side	mm	19.05	19.05
Drainage water pipe diameter		mm	OD25	OD25
Ambient temperature range	Cooling	℃	-15~43	-15~43
	Heating	℃	-7 ~ 24	-7 ~ 24
Operation Control			Remote controller	Remote controller

Notes:
1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. piping: 7.5m (horizontal)
2. Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. piping: 7.5m (horizontal)
3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

Remark: The above design and specification are subject to change without prior notice for product improvement.

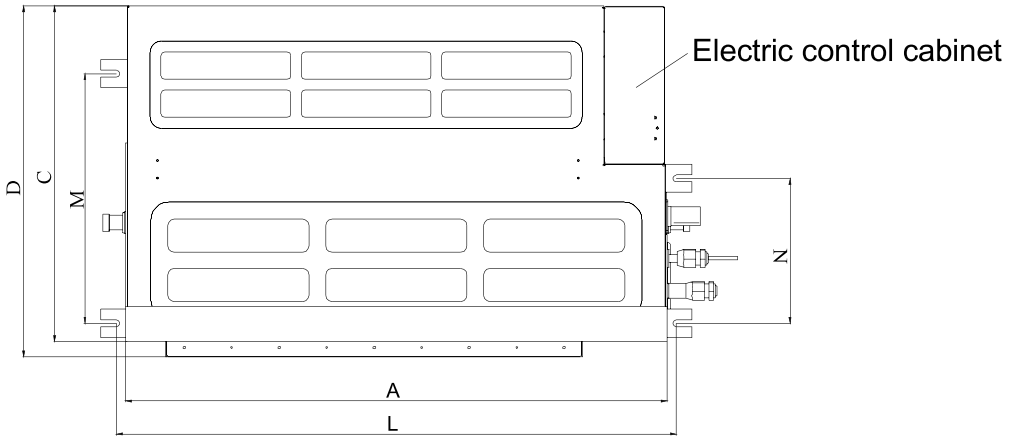
2.Specifications

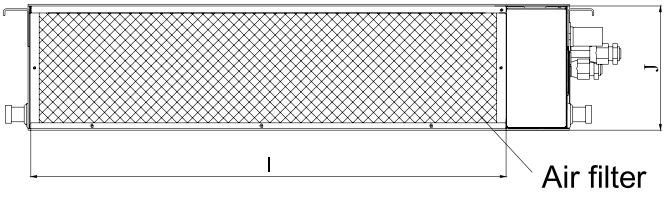
Model name	**MESP Duct Indoor**		**TCC-60D2HRA/U3I**
Power supply		V//Hz/Ph	220-240V~/50Hz/3P
Cooling	Capacity	Btu/h	55000
	Capacity	W	16119
	Input	W	5694
	Rated current	A	12.00
	EER	W /W	2.83
Heating	Capacity	Btu/h	60500
	Capacity	W	17731
	Input	W	4845
	Rated current	A	12.40
	COP	W /W	3.66
Indoor coil	Number of row		4
	Fin spacing	mm	1.4
	Fin material		Hydrophilic & Louver Fin
	Tube outside diameter	mm	φ7
	Tube material		Innergroover tube type
	Coil length x height x width	mm	1030×378×50.8
	Number of circuit		8
Indoor fan motor	Brand		Match-well
	Model		YSK180-4P-5
	Input	W	326/268/204/158
	Running current	A	1.49/1.21/0.92/0.72
	Capacitor	uF	10
	Speed (Hi/Me/Lo)	rpm	1025/895/750/660
Indoor air flow (Hi/Me/Lo)		m^3/h	2200/1800/1600
Indoor external static pressure (Hi)		Pa	100
Indoor noise level (Hi/Me/Lo)		dB(A)	47/45/43
Indoor dimension with filter	Unit (W xHxD)	mm	1200x300x835
	Packing (W xHxD)	mm	1405x375x925
Indoor weight	Net	kg	46
	Gross	kg	53
Refrigerant	Type		R410A
Refrigerant pipe	Liquid side	mm	9.52
	Gas side	mm	19.05
Drainage water pipe diameter		mm	OD25
Ambient temperature range	Cooling	℃	-15~43
	Heating	℃	-7 ~ 24
Operation Control			Remote controller

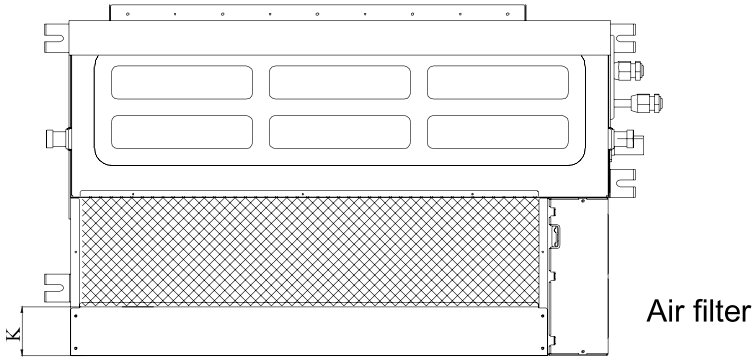
Notes:
1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. piping: 7.5m (horizontal)
2. Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. piping: 7.5m (horizontal)
3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

Remark: The above design and specification are subject to change without prior notice for product improvement.

3. Dimensions



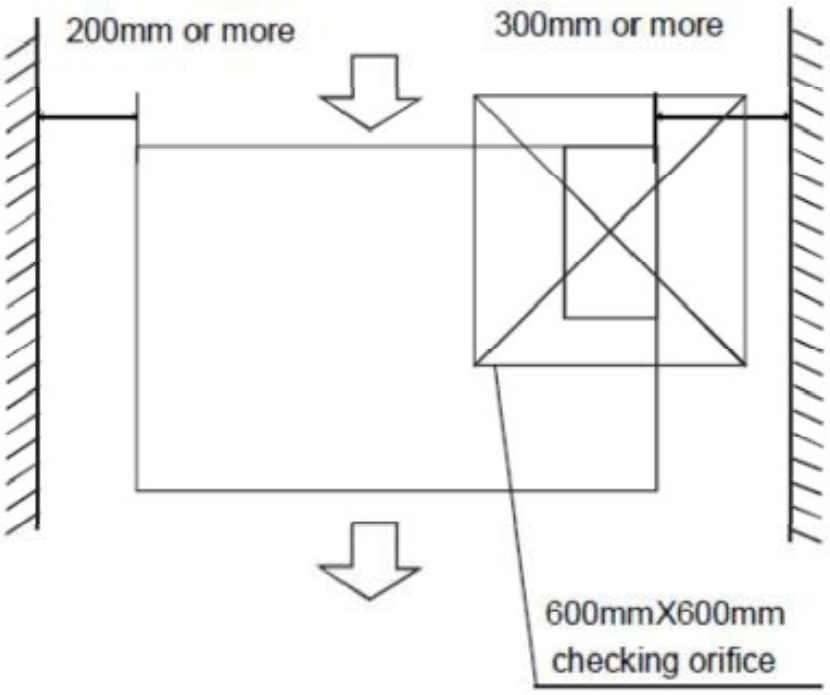




Capacity (KBtu)	Outline dimension(mm)				Air outlet opening size				Air return opening size			Size of outline dimension mounted plug		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
18	920	210	570	600	69	712	35	119	812	210	84	958	427	248
24	920	270	570	600	69	712	35	179	812	270	24	958	427	427
36	1140	270	710	740	69	933	40	175	1037	270	24	1178	541	541
48/60	1200	300	800	830	80	968	40	202	1096	300	45	1237	585	585

4. Service Space

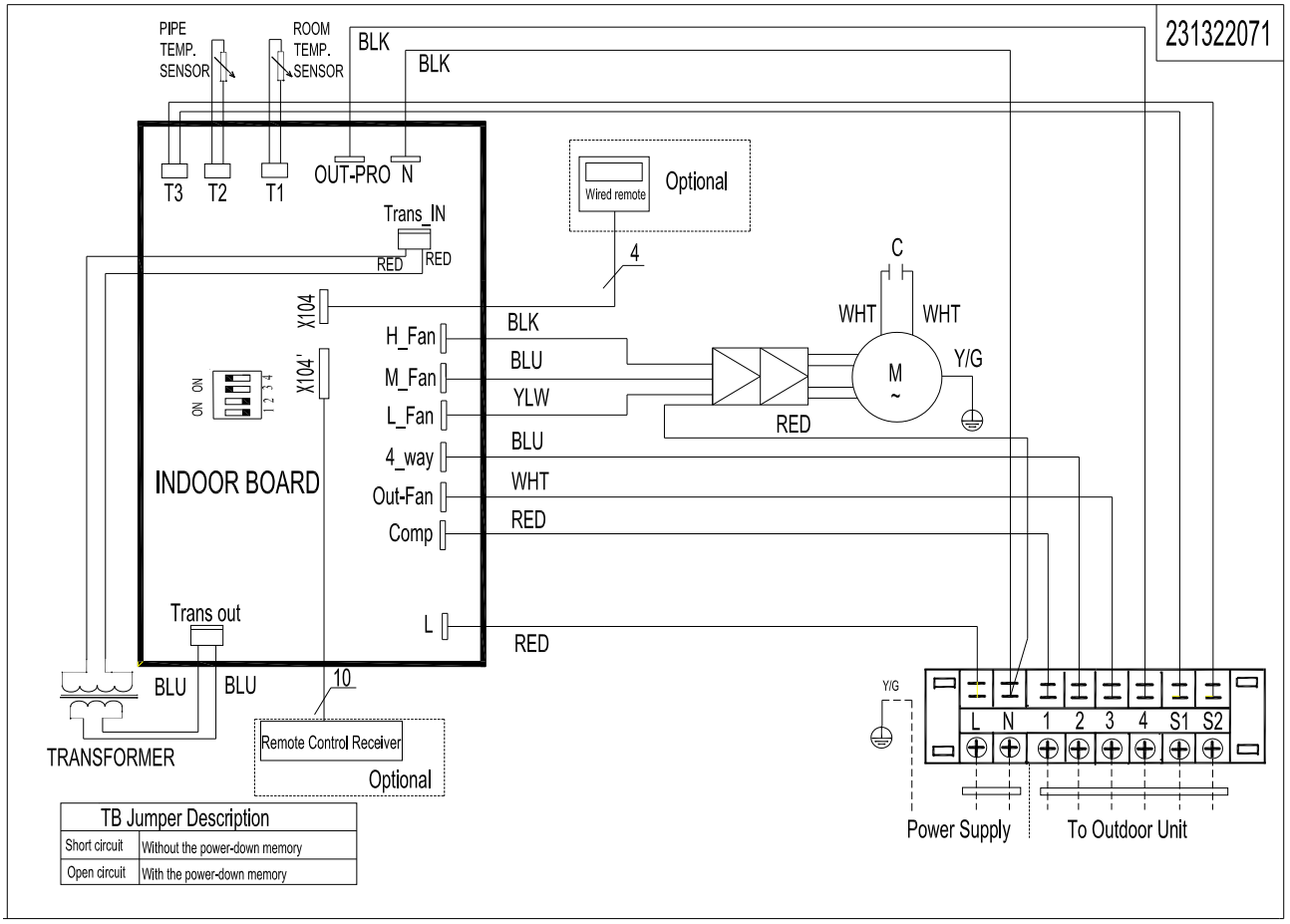
Ensure enough space required for installation and maintenance.



There is enough space for installation and maintenance. The ceiling is horizontal, and its structure can endure the weight of the indoor unit. The outlet and the inlet are not impeded, and the influence of external air is the least. The air flow can reach throughout the room. The connecting pipe and drainpipe could be extracted out easily. There is no direct radiation from heater.

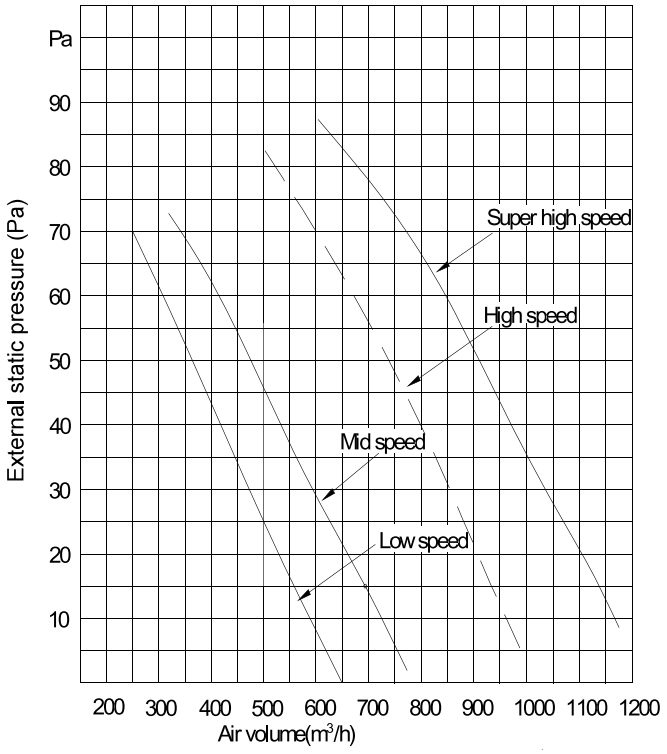
5. Wiring Diagrams

TCC-18D2HRA/UI TCC-24D2HRA/UI TCC-36D2HRA/UI
TCC-48D2HRA/UI TCC-60D2HRA/UI

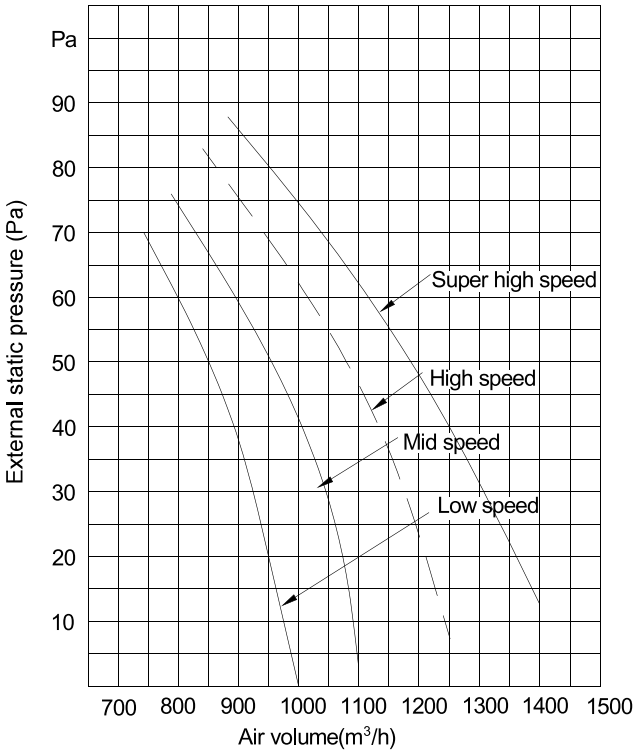


6. Static pressure

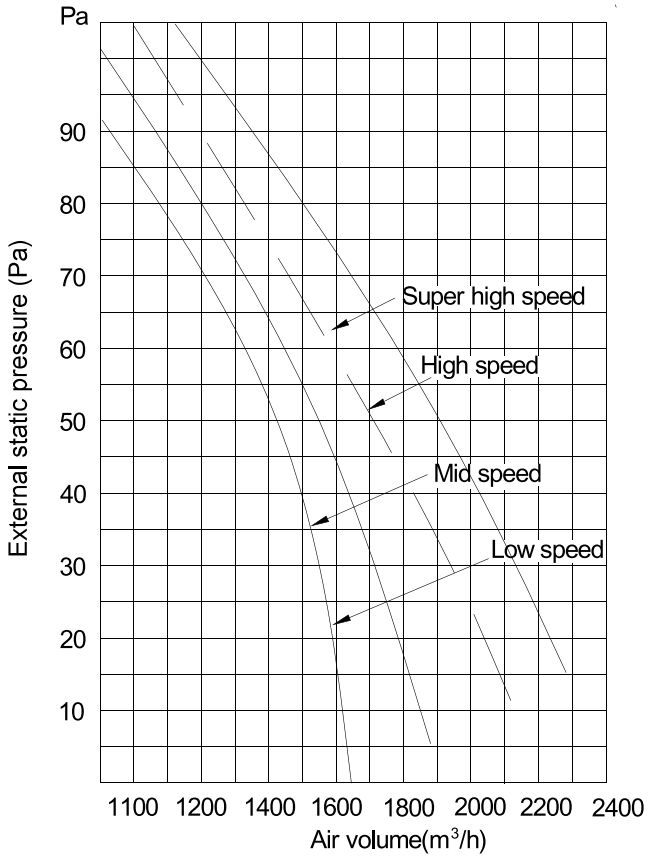
6. 1 TCC-18D2HRA/UI



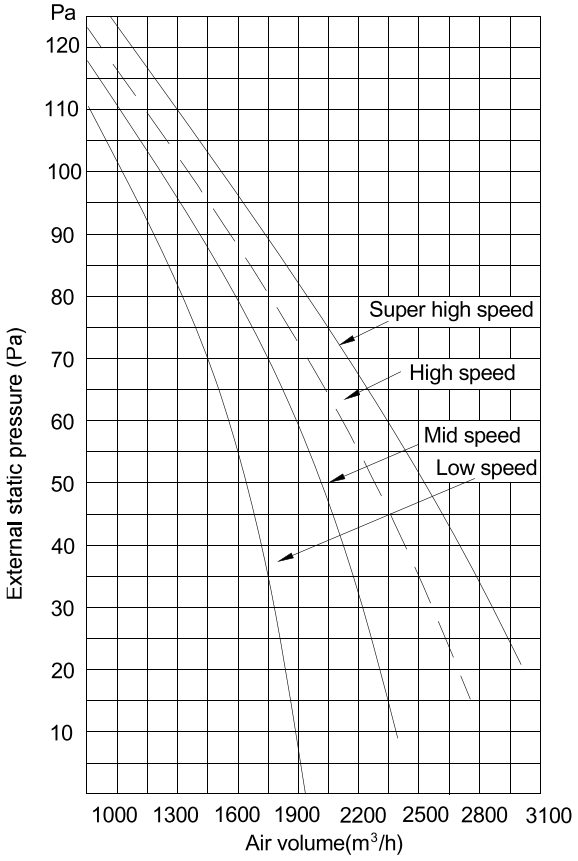
6. 2 TCC-24D2HRA/UI



6. 3 TCC-36D2HRA/UI

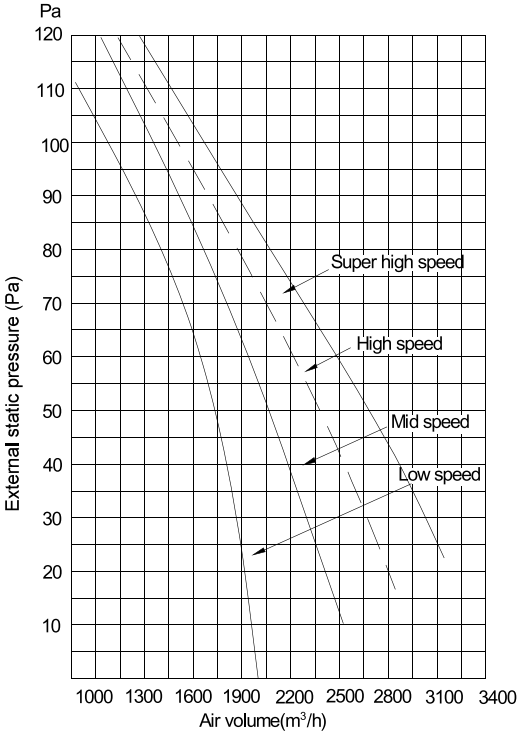


6. 4 TCC-48D2HRA/UI



6. Static pressure

6. 5 TCC-60D2HRA/UI



7. Electric Characteristics

model	Indoor unit				Power supply
	Hz	Voltage（V）	Min（V）	Max（V）	MFA（A）
TCC-18D2HRA/UI	50	220-240V	198	254	20
TCC-24D2HRA/UI	50	220-240V	198	254	20
TCC-36D2HRA/UI	50	380V	342	418	20
TCC-48D2HRA/UI	50	380V	342	418	20
TCC-60D2HRA/UI	50	380V	342	418	20

Remark:
MFA: Max. Fuse Amps. (A)

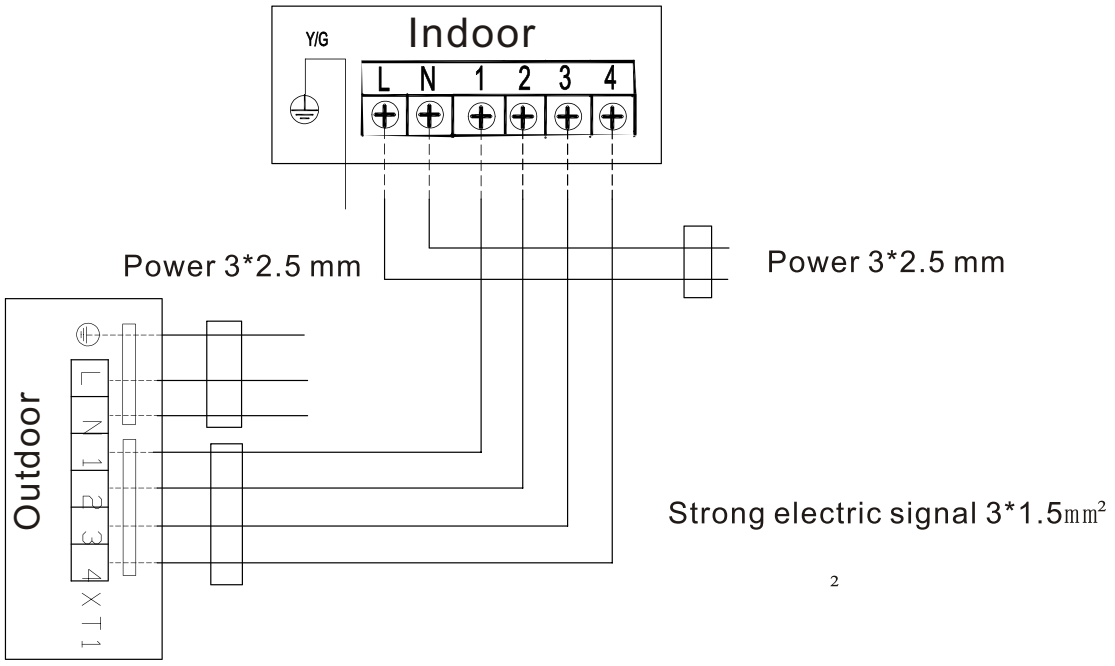
8. The specification of power

Cooling and heating

Type		18	24	36	48	60
Power	Phase	1Ph	1Ph	3Ph	3Ph	3Ph
	Frequency and Voltage	220-240V,50Hz	220-240V,50Hz	380V,50Hz	380V,50Hz	380V,50Hz
Circuit Breaker/ Fuse (A)		20/20	20/20	20/20	20/20	20/20
Indoor Unit Power Wiring (mm2)	Ground Wiring （mm2）	2.5	0.75/2.5	0.75/2.5	0.75/2.5	0.75/2.5
	Outdoor Unit power wiring（mm2）	3*2.5	3*2.5	5*2.5	5*2.5	5*2.5
	Strong Electric Signal（mm2）	3*1.5	3*0.75	4*0.75	4*0.75	4*0.75
	Weak ElectricSignal （mm2）	2*0.75	2*0.75	2*0.75	2*0.75	2*0.75

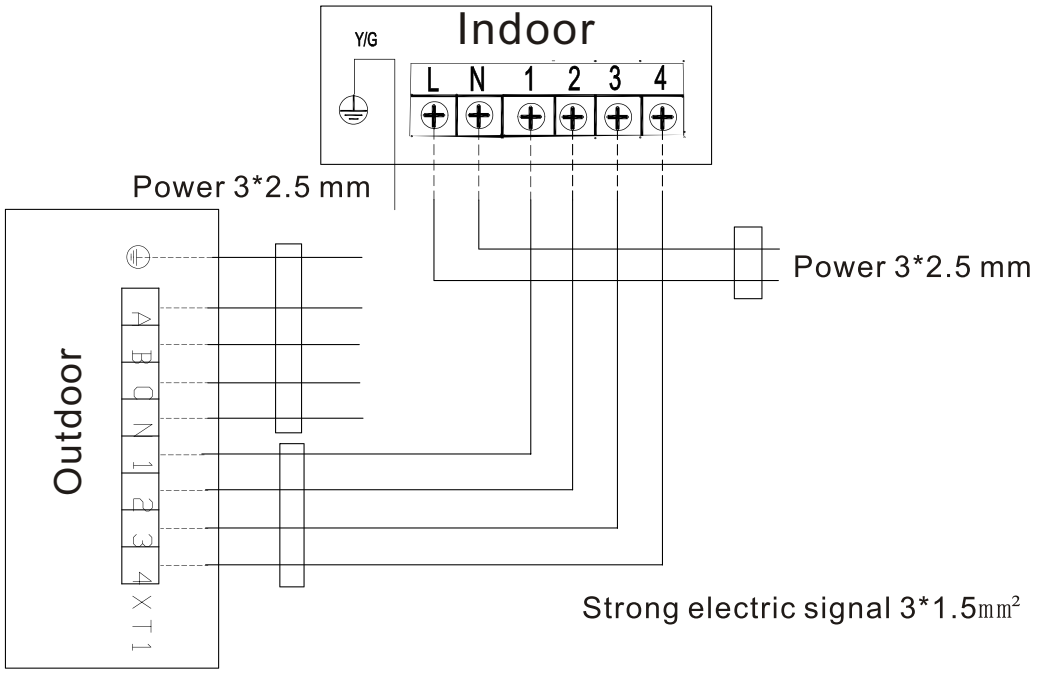
9.W iring of indoor and outdoor

FOR 18K/24K DUCT



2

FOR 36K/48K/60K DUCT



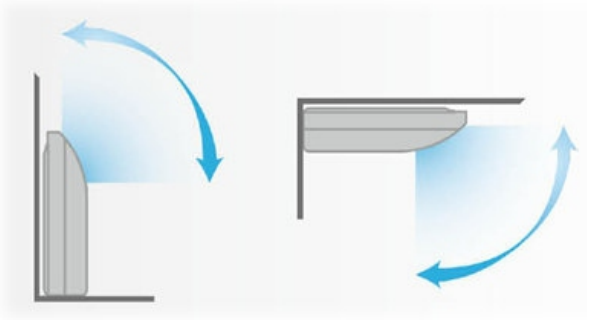
Ceiling & Floor Type

1. Features

1.1. New design, more modern and elegant appearance.

1.2. Convenient installation

--The ceiling type can be easily installed into a corner of the ceiling even if the ceiling is very narrow
--It is especially useful when installation of an air conditioner in the center of the ceiling is impossible due to a structure such as one lighting.



1.3. Two direction auto swing (vertical & horizontal) and wide angle air flow,

--Air flow directional control minimizes the air resistance and produces wilder air flow to vertical direction.
--The range of horizontal air discharge is widened which secures wider air flow distribution to provide more comfortable air circulation no matter where the unit is set up

1.4. Condensing water can be drained either from left or from right.

1.5. Easy operation.

1.6. Remote control and optional wired control method.

2. Specifications

Model name	**Ceiling Floor Indoor**		**TCC-18ZHRA/UI**	**TCC-24ZHRA/UI**
Power supply		V//Hz/Ph	220-240V~/50Hz/1P	220-240V~/50Hz/1P
Cooling	Capacity	Btu/h	18000	24000
	Capacity	W	5300	7200
	Input	W	1712	2230
	Rated current	A	7.78	10.1
	EER	W/W	3.10	3.23
Heating	Capacity	Btu/h	20000	26500
	Capacity	W	5900	7900
	Input	W	1782	2254
	Rated current	A	8.50	11.2
	COP	W/W	3.29	3.35
Indoor coil	Number of row		2	2
	Fin spacing	mm	1.5	1.5
	Fin material		Hydrophilic & Louver Fin	Hydrophilic & Louver Fin
	Tube outside diameter	mm	φ7	φ7
	Tube material		Innergroover tube type	Innergroover tube type
	Coil length x height x width	mm	795x294x25.4	795×294×25.4
	Number of circuit		5	6
Indoor fan motor	Brand		Broad-ocean	Broad-ocean
	Model		YSK36-4P	Y6S443B5136
	Input	W	86/82/74/64	136/122/112/90
	Running current	A	0.41/0.38/0.35/0.31	0.64/0.58/0.53/0.43
	Capacitor	uF	2.5	2.5
	Applied QTY.		1	1
	Speed (Hi/Me/Lo)	rpm	985/940/850/740	1230/1150/1045/860
Indoor air flow (Hi/Me/Lo)		m^3/h	900/800/700	1200/1050/900
Indoor noise level (Hi/Me/Lo)		dB(A)	43/41/38	45/43/40
Indoor dimension	Unit (WxHxD)	mm	1055×675×235	1055×675×235
	Packing (WxHxD)	mm	1130x748x305	1130x748x305
Indoor weight	Net	kg	24	24
	Gross	kg	29	30
Refrigerant	Type		R410A	R410A
Refrigerant pipe	Liquid side	mm	φ6.35	9.52
	Gas side	mm	φ12.7	φ15.88
Drainage water pipe diameter		mm	OD25	OD25
Ambient temperature range	Cooling	℃	-15~43	-15~43
	Heating	℃	-7 ~ 24	-7 ~ 24
Operation Control			Remote controller	Remote controller

Notes:
1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. piping: 7.5m (horizontal)
2. Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. piping: 7.5m (horizontal)
3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

Remark: The above design and specification are subject to change without prior notice for product improvement.

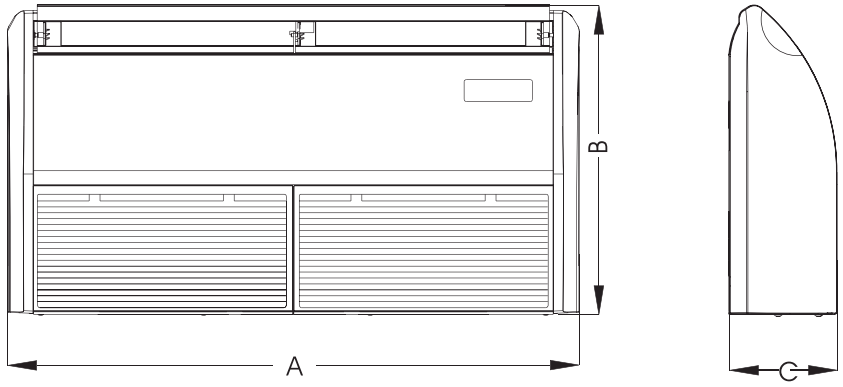
2. Specifications

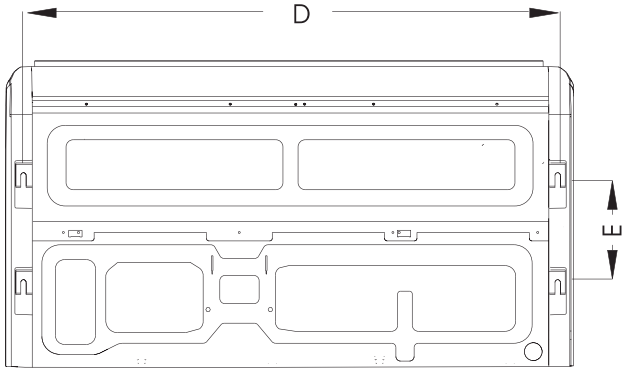
Model name	**Ceiling Floor Indoor**		**TCC-36ZHRA/UI**	**TCC-48ZHRA/UI(03)**	**TCC-60ZHRA/UI(03)**
Power supply		V//Hz/Ph	220-240V~/50Hz/3P	220-240V~/50Hz/3P	220-240V~/50Hz/3P
Cooling	Capacity	Btu/h	36000	48000	55000
	Capacity	W	10550	14000	16119
	Input	W	3578	4551	5594
	Rated current	A	7.8	9.30	12.00
	EER	W/W	2.95	3.08	2.88
Heating	Capacity	Btu/h	40000	50000	60500
	Capacity	W	12000	14650	17731
	Input	W	3468	4058	5147
	Rated current	A	7.2	9.50	12.40
	COP	W/W	3.46	3.61	3.44
Indoor coil	Number of row		2	3	3
	Fin spacing	mm	1.5	1.5	1.5
	Fin material		Hydrophilic & Louver Fin	Hydrophilic & Louver Fin	Hydrophilic & Louver Fin
	Tube outside diameter	mm	φ7	φ7	φ7
	Tube material		Innergroover tube type	Innergroover tube type	Innergroover tube type
	Coil length x height x width	mm	940×294×25.4	1300×294×38.1	1300×294×38.1
	Number of circuit		6	10	10
Indoor fan motor	Brand		Broad-ocean	Broad-ocean	Broad-ocean
	Model		Y6S443C0100	Y6S443B5137	Y6S443B8108
	Input	W	166/156/144/128	112/104/98/92	180/164/112/92
	Running current	A	0.75/0.71/0.69/0.59	0.51/0.48/0.45/0.44	0.81/0.78/0.55/0.44
	Capacitor	uF	4.5	3.5	4.5
	Applied QTY.		1	2	2
	Speed (Hi/Me/Lo)	rpm	1250/1170/1085/935	1220/1160/1010/930	1250/1160/1000/760
Indoor air flow (Hi/Me/Lo)		m^3/h	1700/1300/1100	2177/1689/1434	2177/1689/1434
Indoor noise level (Hi/Me/Lo)		dB(A)	45/43/40	52/49/46	52/49/46
Indoor dimension	Unit (WxHxD)	mm	1275×675×235	1635x675x235	1635x675x235
	Packing (WxHxD)	mm	1350x748x305	1710x748x305	1710x748x305
Indoor weight	Net	kg	29	38	41
	Gross	kg	35	46	48
Refrigerant	Type		R410A	R410A	R410A
Refrigerant pipe	Liquid side	mm	9.52	9.52	9.52
	Gas side	mm	φ19.05	φ19.05	φ19.05
Drainage water pipe diameter		mm	OD25	OD25	OD25
Ambient temperature range	Cooling	℃	-15~43	-15~43	-15~43
	Heating	℃	-7 ~ 24	-7 ~ 24	-7 ~ 24
Operation Control			Remote controller	Remote controller	Remote controller

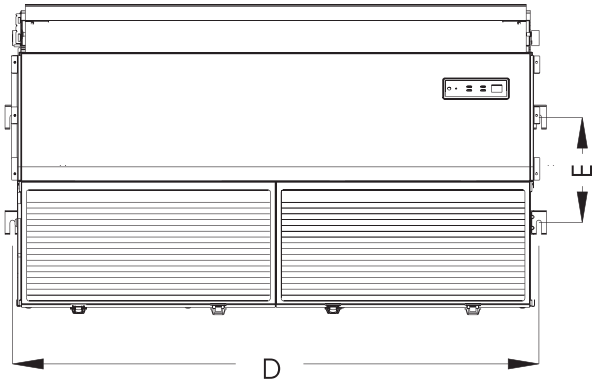
Notes:
1. Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. piping: 7.5m (horizontal)
2. Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. piping: 7.5m (horizontal)
3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

Remark: The above design and specification are subject to change without prior notice for product improvement.

3. Dimensions

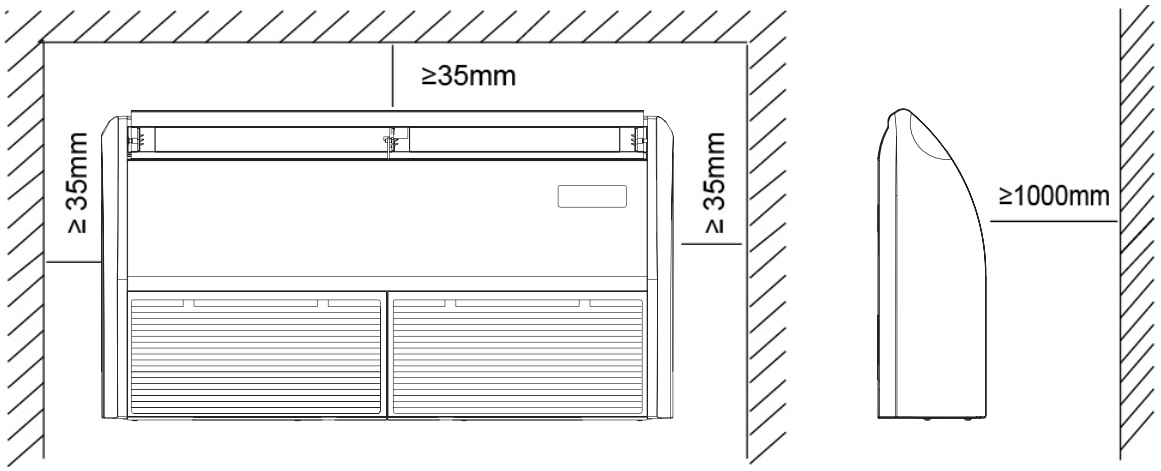






Capacity / Dimension	18000/2400 Btu/hr	36000 Btu/hr	48000/60000 Btu/hr
A	1055mm	1275mm	1635mm
B	675mm	675mm	675mm
C	235mm	235mm	235mm
D	980mm	1200mm	1560mm
E	240mm	240mm	240mm

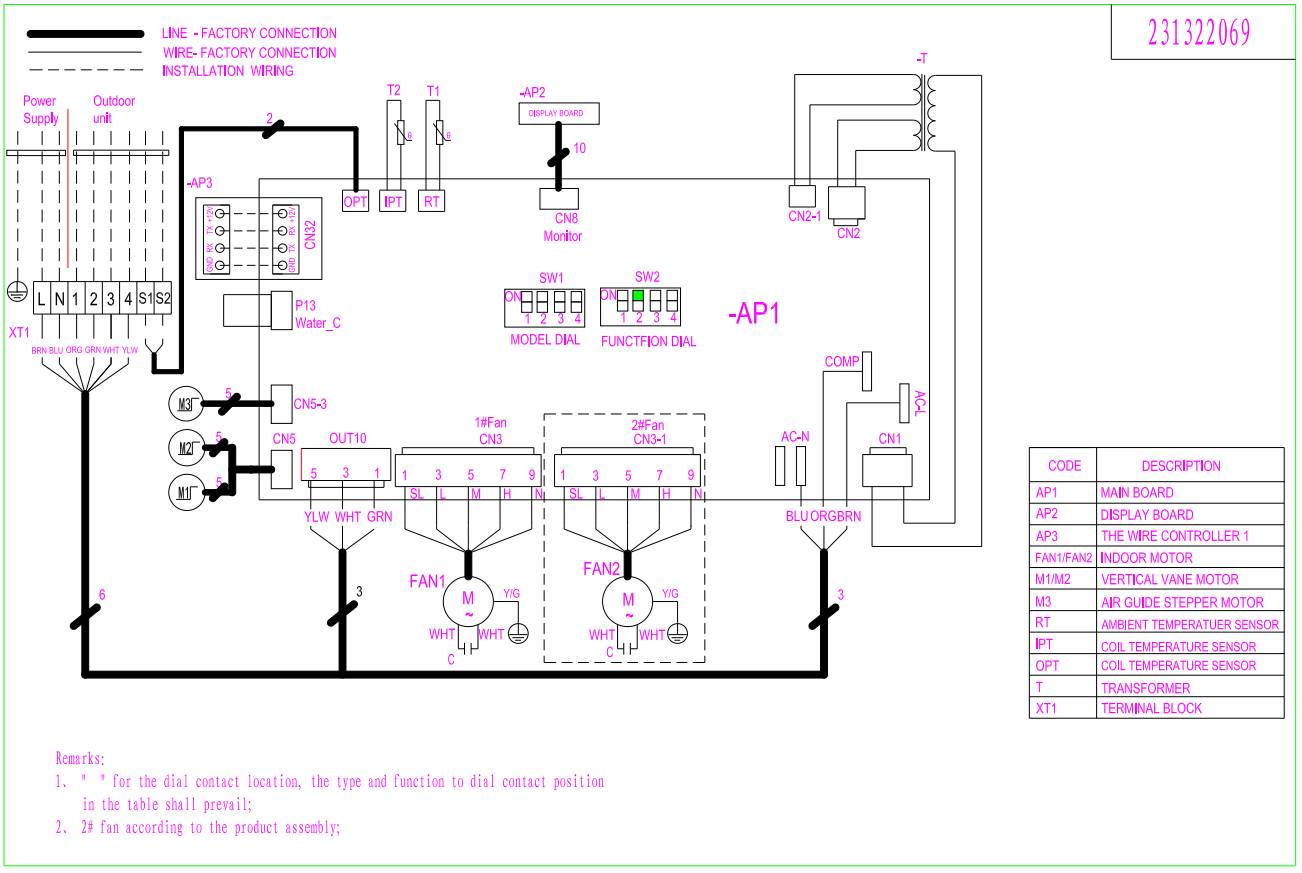
4. Service Space



5. Wiring Diagrams

TCC-18ZHRA/UI TCC-24ZHRA/UI TCC-36ZHRA/UI

TCC-48ZHRA/UI TCC-60ZHRA/UI

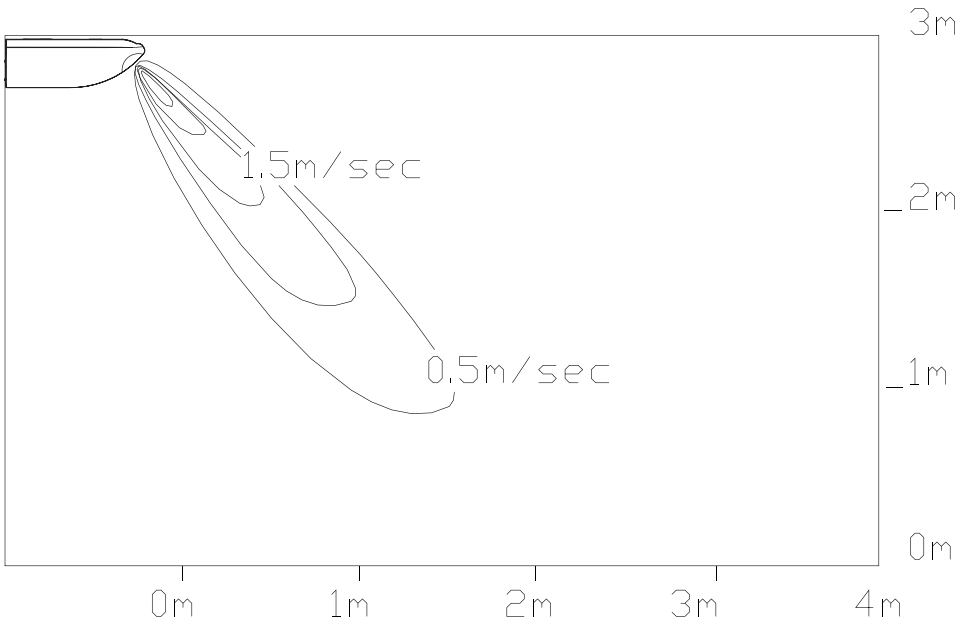


CODE	DESCRIPTION
AP1	MAIN BOARD
AP2	DISPLAY BOARD
AP3	THE WIRE CONTROLLER 1
FAN1/FAN2	INDOOR MOTOR
M1/M2	VERTICAL VANE MOTOR
M3	AIR GUIDE STEPPER MOTOR
RT	AMBIENT TEMPERATUER SENSOR
IPT	COIL TEMPERATURE SENSOR
OPT	COIL TEMPERATURE SENSOR
T	TRANSFORMER
XT1	TERMINAL BLOCK

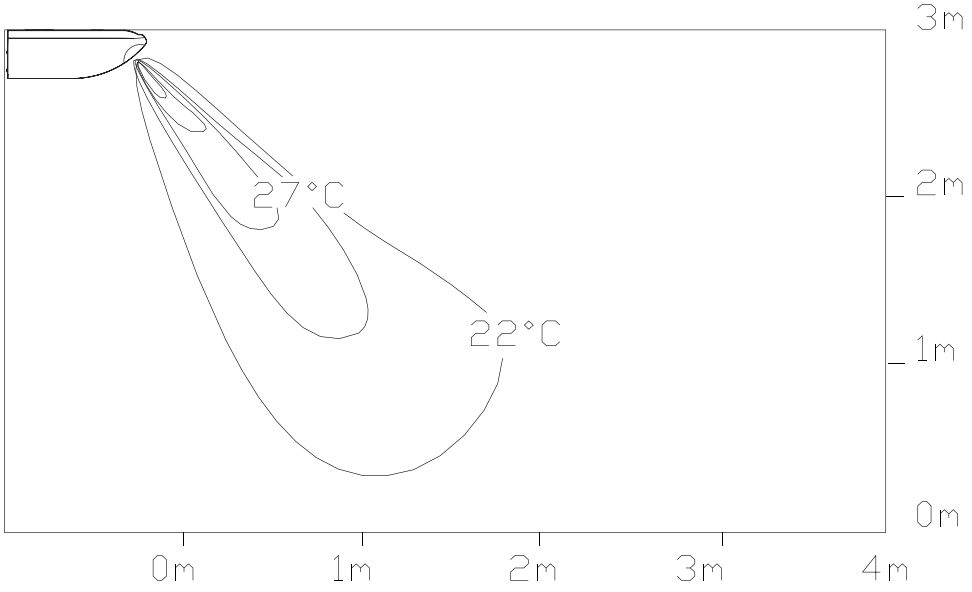
6. Air Velocity and Temperature Distributions

Discharge angle 60 (CEILING)

Airflow velocity



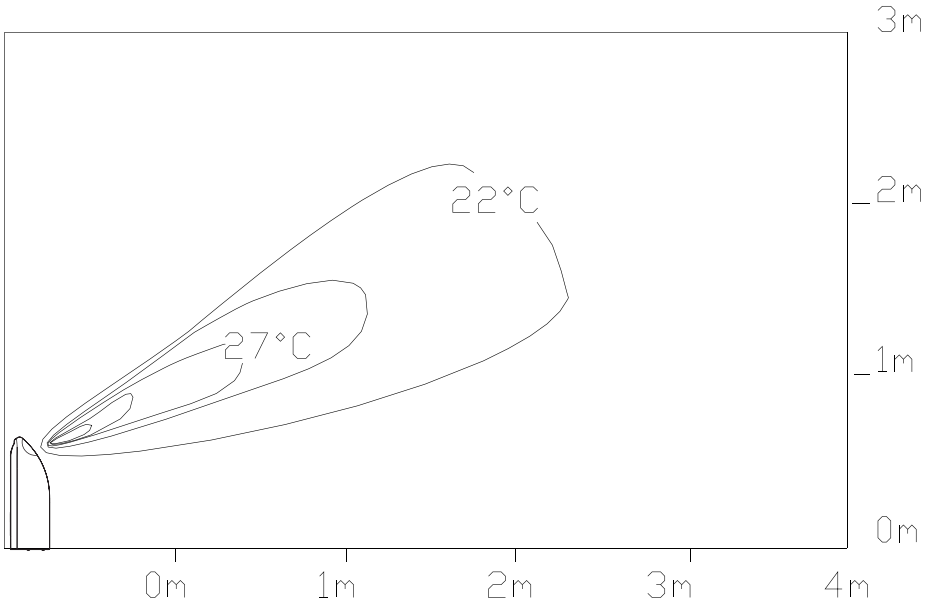
Temperature



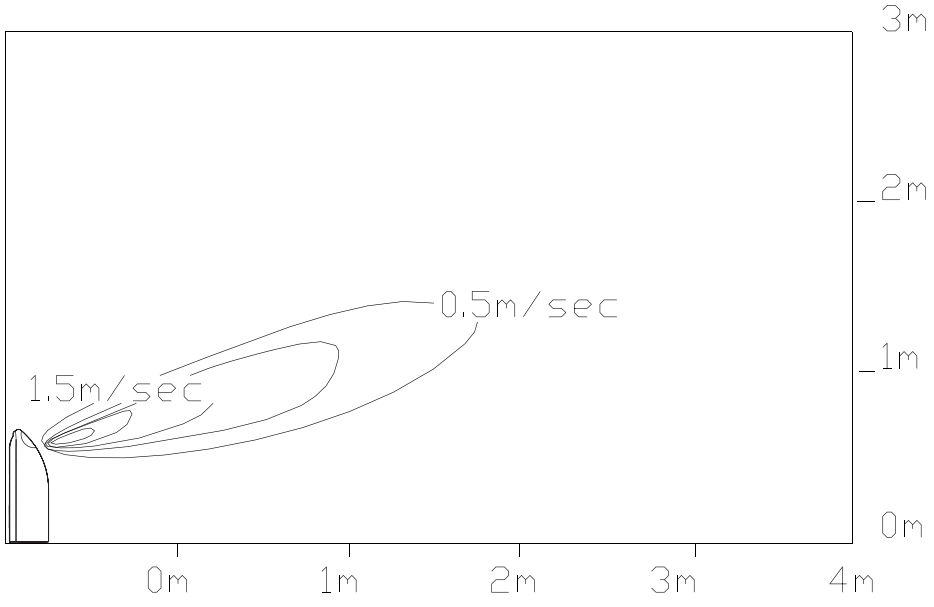
6. Air Velocity and Temperature Distributions

Discharge angle 60 (FLOOR)

Temperature



Airflow velocity



7. Electric Characteristics

Model	Indoor Units				Power Supply
	Hz	Voltage	Min.	Max.	MFA
TCC-18ZHRA/UI	50	220-240V	198V	254V	16
TCC-24ZHRA/UI	50	220-240V	198V	254V	25
TCC-36ZHRA/UI	50	380-415V	342V	418V	20
TCC-48ZHRA/UI	50	380-415V	342V	418V	20
TCC-60ZHRA/UI	50	380-415V	342V	418V	20

Remark:
MFA: Max. Fuse Amps. (A)

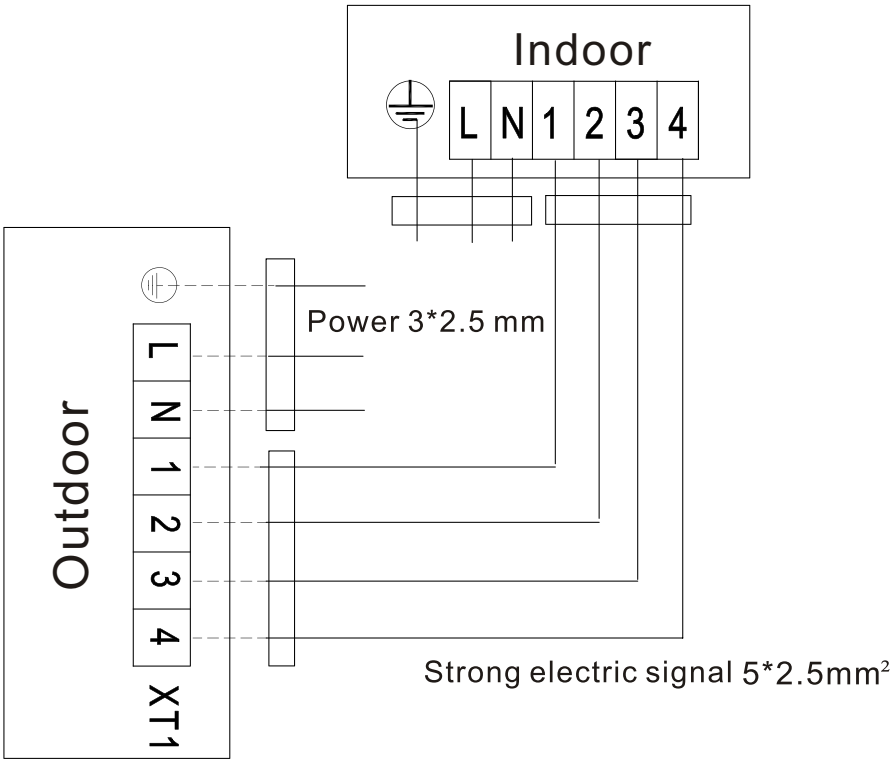
8 The Specification of Power

Cooling & Heating

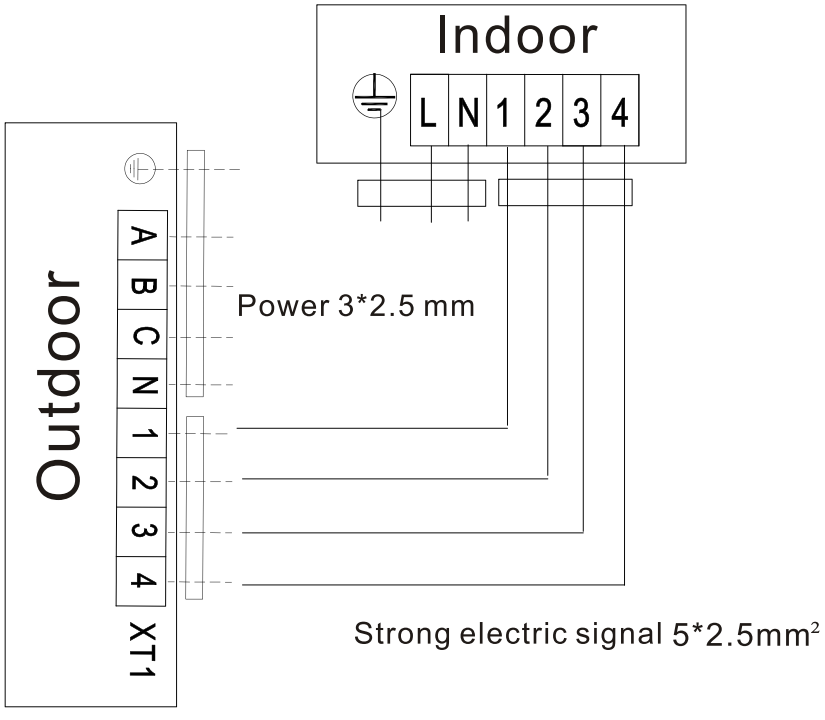
Type		12000-18000Btu/h	24000Btu/h	36000-60000Btu/h
Power	Phase	1-phase	1-phase	3-phase
	Frequency and Voltage	220-240V, 50Hz	220-240V, 50Hz	380-415V, 50Hz
Circuit Breaker/ Fuse (A)		20/16	40/25	40/20
Indoor Unit Power Wiring (mm^2)		3×2.5	3×2.5	5×2.5
Indoor/Outdoor Connecting Wiring (mm^2)	Ground Wiring	2.5	2.5	2.5
	Outdoor Unit Power Wiring	——	3×2.5	5×2.5
	Strong Electric Signal	5×2.5	3×2.5	3×1.0
	Weak Electric Signal	2-core shield wire 2×0.75 mm^2	2-core shield wire 2×0.75 mm^2	——

9.Wiring of Indoor and Outdoor

FOR 18K/24K MODEL



FOR 36K/48K/60K MODEL



Part 3
Outdoor Units

1.Specifications

Model name	Universal Outdoor Unit		TCC-18CHRA/UO(MZ)(DW)	TCC-24HRA/UO(MZ)
Power supply		V//Hz/Ph	220-240V~/50Hz/1P	220-240V~/50Hz/1P
Max. input consumption		W	3200	4500
Max. current		A	15.0	20.5
Starting current		A	36.8	66.0
Max Operating Pressure(MPa)	Discharge	MPa	4.2	4.2
	Suction	MPa	1.5	1.5
Compressor	Brand		GMCC	GMCC
	Model		PA215M2AS-4KU	PA290G2CS-4MU1
	Type		Rotary	Rotary
	Capacity	W	5355	7260
	Input	W	1845	2430
	Rated current(RLA)	A	8.7	11.7
	Locked rotor Amp(LRA)	A	42	66
	Thermal protector		internal	internal
	Capacitor	mF	50	50
	Refrigerant oil	ml	620	850
Outdoor coil	Number of row		2	2
	Fin spacing	mm	1.5	1.5
	Fin material		Louver or Corrugated Fin	Louver or Corrugated Fin
	Tube outside diameter	mm	φ7	φ7
	Tube material		Innergroover tube type	Innergroover tube type
	Coil length x height x width	mm	776×570×36.4	900×611×36.4
	Number of circuit		3	5
Outdoor fan motor	Brand		weiling	weiling
	Model		YDK45-6-7	**YKT-80-6-11**
	Input	W	**103.6**	**152**
	Output	W	**45**	**85**
	Running current	A	**0.452**	**0.698**
	Capacitor	mF	3.0	**5.0**
	Speed	rpm	**820**	**860**
Outdoor air flow		m^3/h	**2400**	**4000**
Outdoor noise level		dB(A)	**55**	**58**
Outdoor dimension	Unit (WxHxD)	mm	780×605×290	900×650×310
	Packing (WxHxD)	mm	883×653×412	1015×720×425
Outdoor weight	Net	kg	38	51
	Gross	kg	42	54
Refrigerant	Type		R410A	R410A
	Charge	g	1500	2000
Throttle type			Capillary	Capillary
Refrigerant pipe	Liquid side	mm	6.35	9.52
	Gas side	mm	12.70	15.88
	Max. refrigerant pipe length	m	25	30
	Max. difference in level	m	15	15
Ambient temperature range	Cooling	℃	-15~43	-15~43
	Heating	℃	-7 ~ 24	-7 ~ 24

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

Remark: The above design and specification are subject to change without prior notice for product improvement.

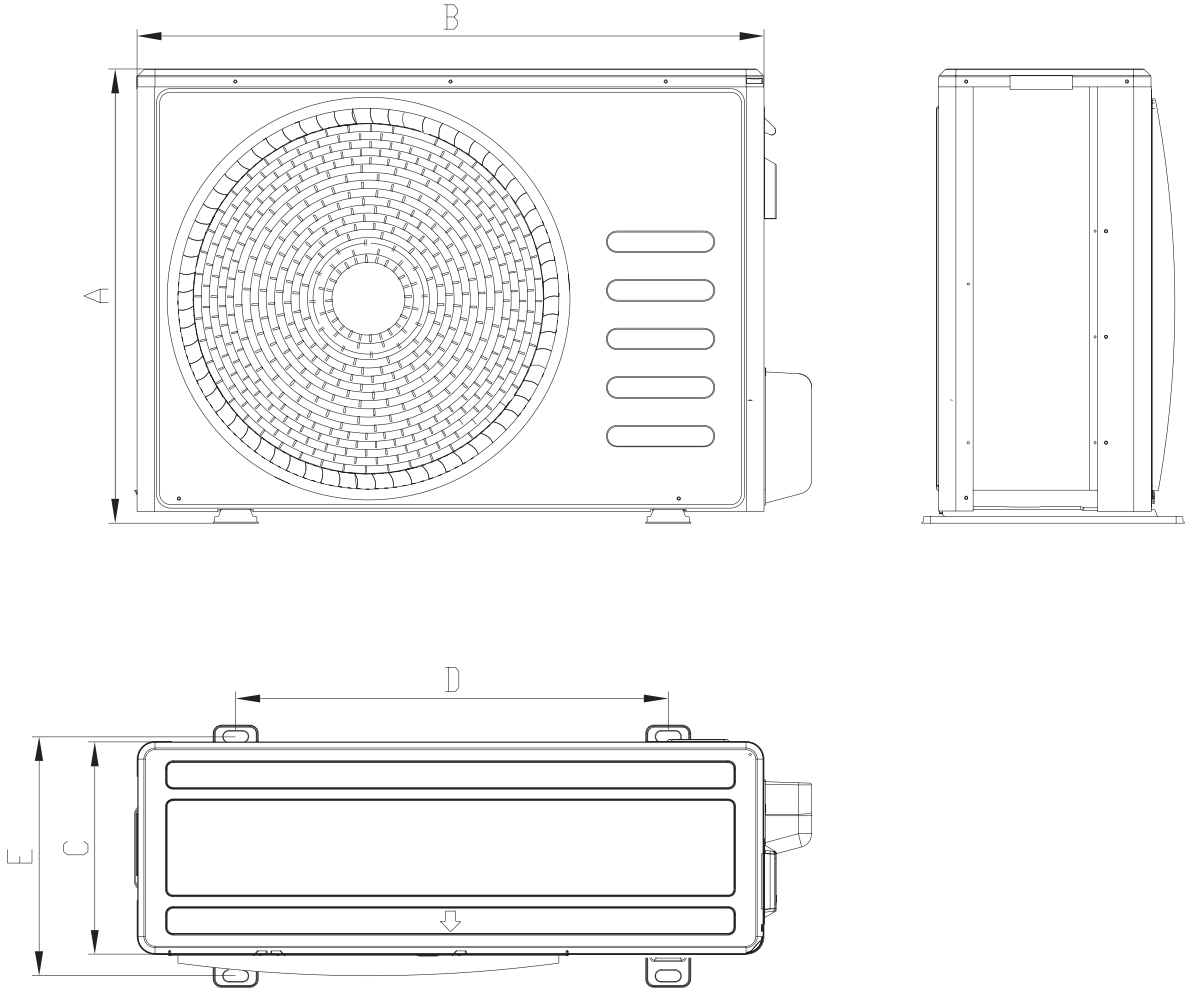
1.Specifications

Model name	Universal Outdoor Unit		TCC-36HA/U3O-L(03)	TCC-48HA/U3O-L(03)	TCC-60HA/U3O-L(03)
Power supply		V//Hz/Ph	380-415V~/50Hz/3P	380-415V~/50Hz/3P	380-415V~/50Hz/3P
Max. input consumption		W	6100	6600	9200
Max. current		A	11.5	12.8	16.0
Starting current		A	66	66.0	80.0
Max Operating Pressure(MPa)	Discharge	MPa	4.2	4.2	4.2
	Suction	MPa	1.5	1.5	1.5
Compressor	Brand		HIGHLY	HIGHLY	HIGHLY
	Model		ATH420UC-C9EU1	ATE550SC3Q9RK	ATE650SC3Q9JK
	Type		Rotary	Rotary	Rotary
	Capacity	W	9880	13950	16350
	Input	W	3280	4650	5630
	Rated current(RLA)	A	5.9	7.8	9.5
	Locked rotor Amp(LRA)	A	36	62	65
	Thermal protector		internal	internal	internal
	Capacitor	mF	/	/	/
	Refrigerant oil	ml	1200	1600	1850
Outdoor coil	Number of row		2	2	2
	Fin spacing	mm	1.5	1.6	1.6
	Fin material		Louver or Corrugated Fin	Louver or Corrugated Fin	Louver or Corrugated Fin
	Tube outside diameter	mm	φ7	φ7	φ9.52
	Tube material		Innergroover tube type	Innergroover tube type	Innergroover tube type
	Coil length x height x width	mm	1023X756X25.4	1124×1218×25.4	1124×1218×38.1
	Number of circuit		6	6	8
Outdoor fan motor	Brand		**Broad-ocean**	**Weiling**	**Weiling**
	Model		**Y6S696D208**	**YKT-80-6-221L**	**YKT-80-6-221L**
	Input	W	**154.3**	**168.1W**	**168.1W**
	Output	W	**96**	**78**	**78**
	Running current	A	**0.704**	**0.795**	**0.795**
	Capacitor	mF	**6**	**4**	**4**
	Speed	rpm	**850**	**850**	**850**
Outdoor air flow		m^3/h	**4900**	**6300**	**6300**
Outdoor noise level		dB(A)	58	60	60
Outdoor dimension	Unit (WxHxD)	mm	900×805×360	940x1250x340	940x1250x340
	Packing (WxHxD)	mm	1020×860×475	1030x1365x430	1030x1365x430
Outdoor weight	Net	kg	64	93	101
	Gross	kg	69	103	111
Refrigerant	Type		R410A	R410A	R410A
	Charge	g	2100	3500	3700
Throttle type			Capillary	Capillary	Capillary
Refrigerant pipe	Liquid side	mm	9.52	9.52	9.52
	Gas side	mm	19.05	19.05	19.05
	Max. refrigerant pipe length	m	30	50	50
	Max. difference in level	m	20	30	30
Ambient temperature range	Cooling	℃	-15~43	-15~43	-15~43
	Heating	℃	-7 ~ 24	-7 ~ 24	-7 ~ 24

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

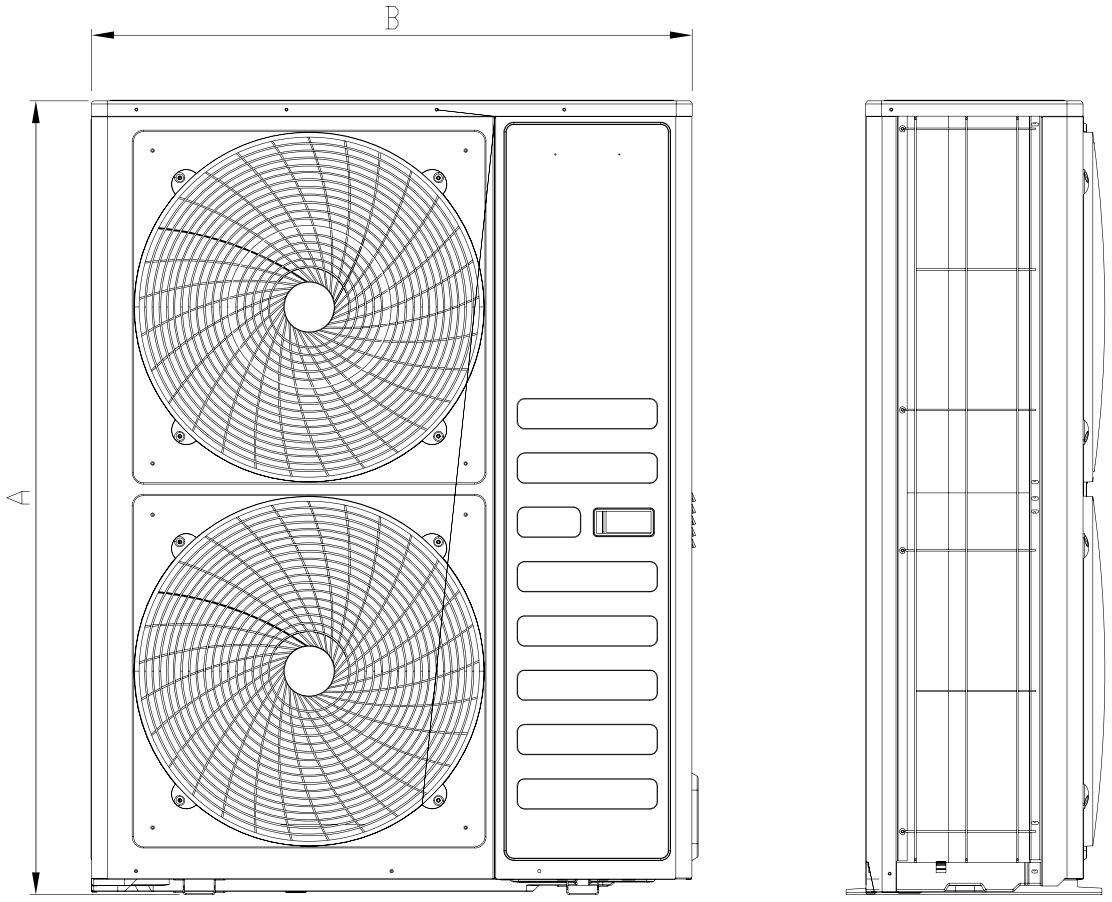
Remark: The above design and specification are subject to change without prior notice for product improvement.

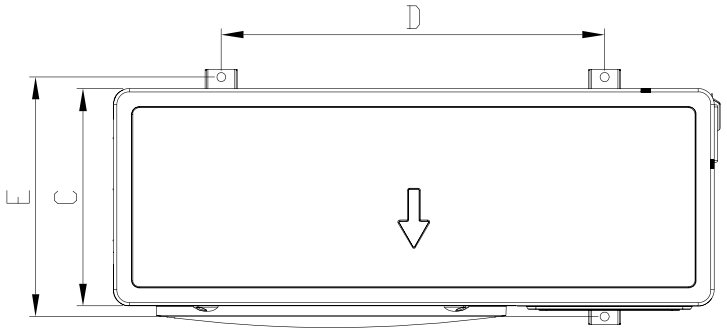
2. Dimensions



Model	A	B	C	D	E
TCC-18HA/UO	605	780	290	520	330
TCC-24HA/UO	650	900	310	623	359
TCC-36HA/U3O	805	900	360	570	398

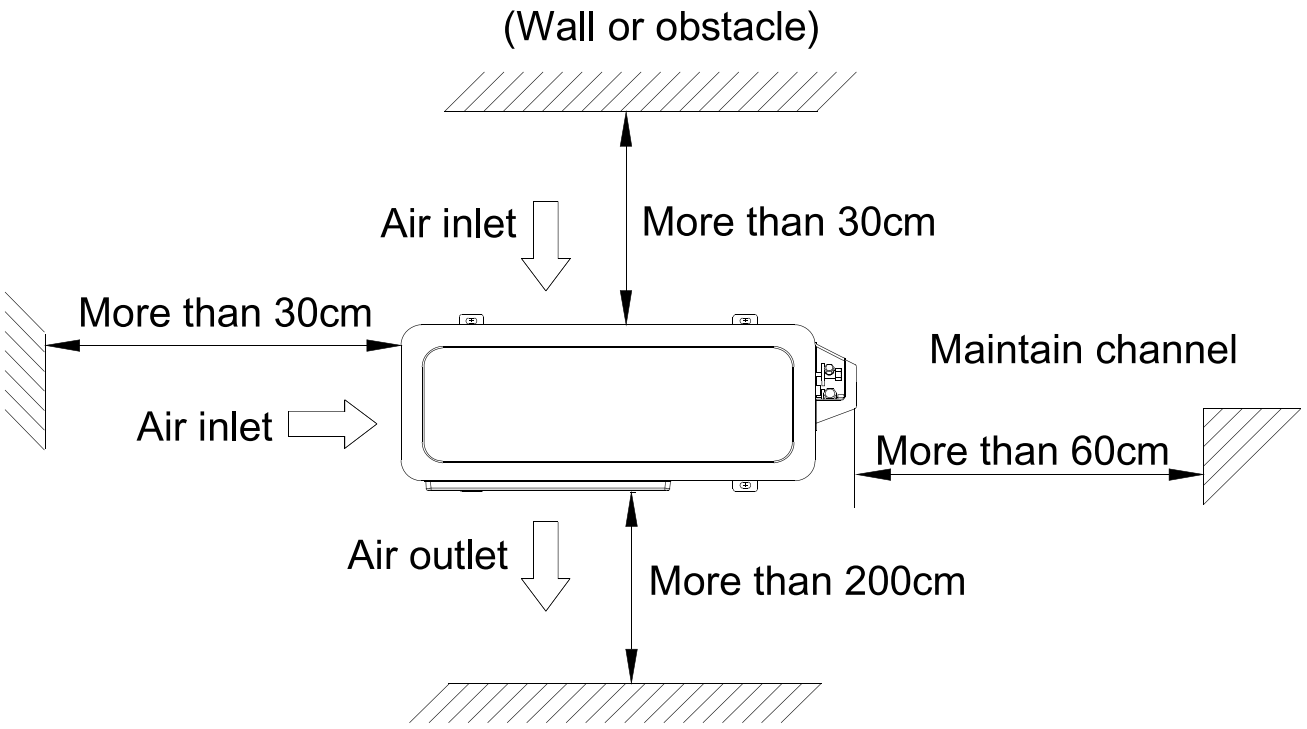
2. Dimensions

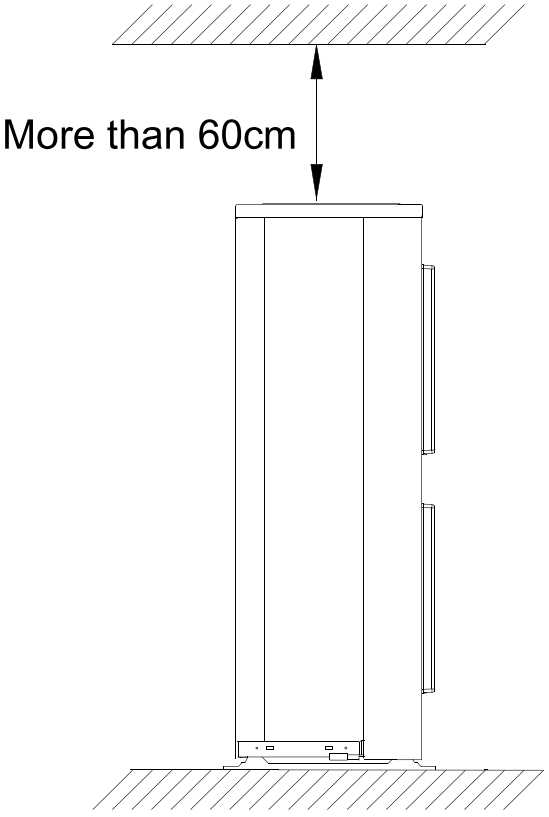




Model	A	B	C	D	E
TCC-48HA/U3O	1250	940	340	600	376
TCC-60HA/U3O	1250	940	340	600	376

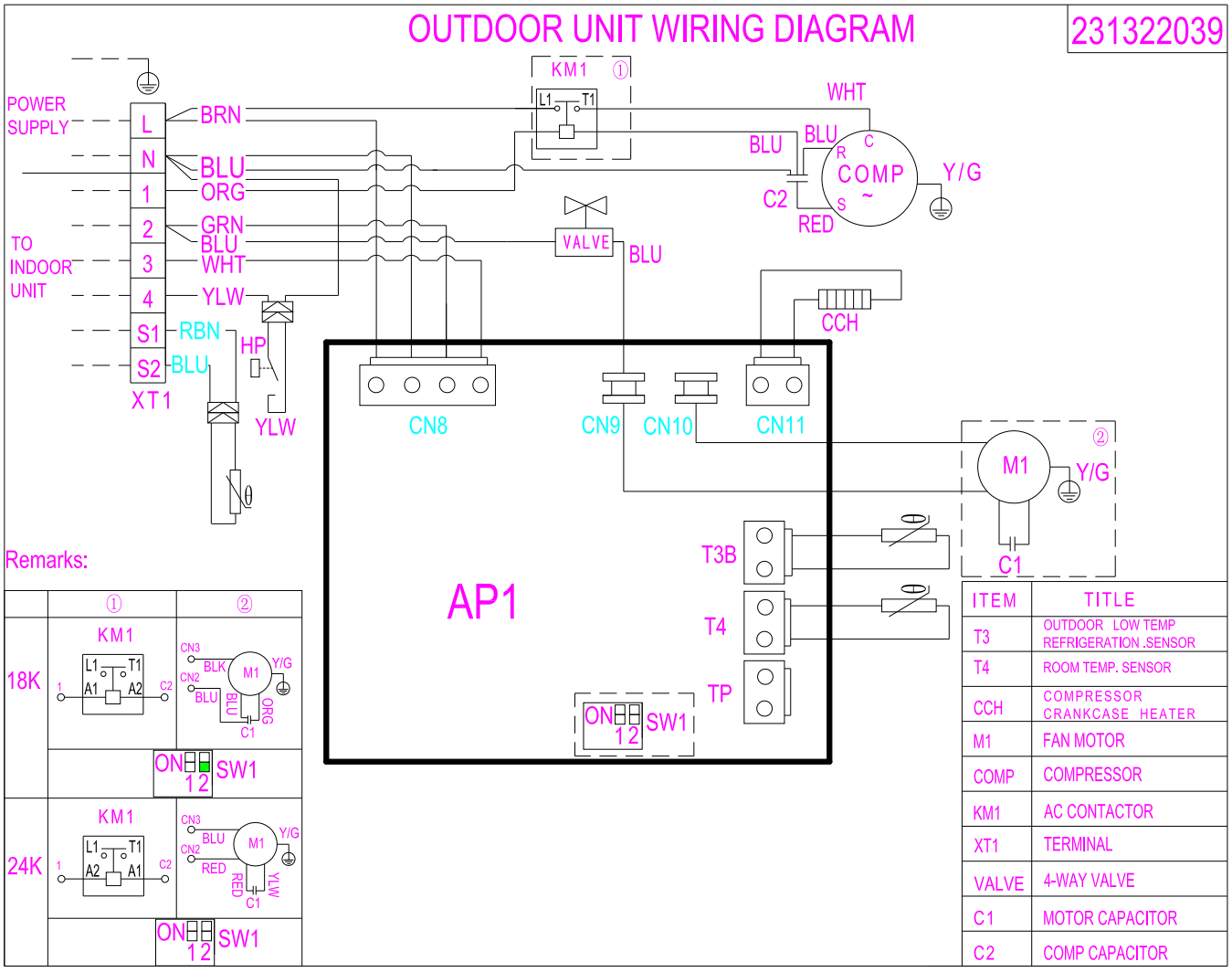
3. Service Space





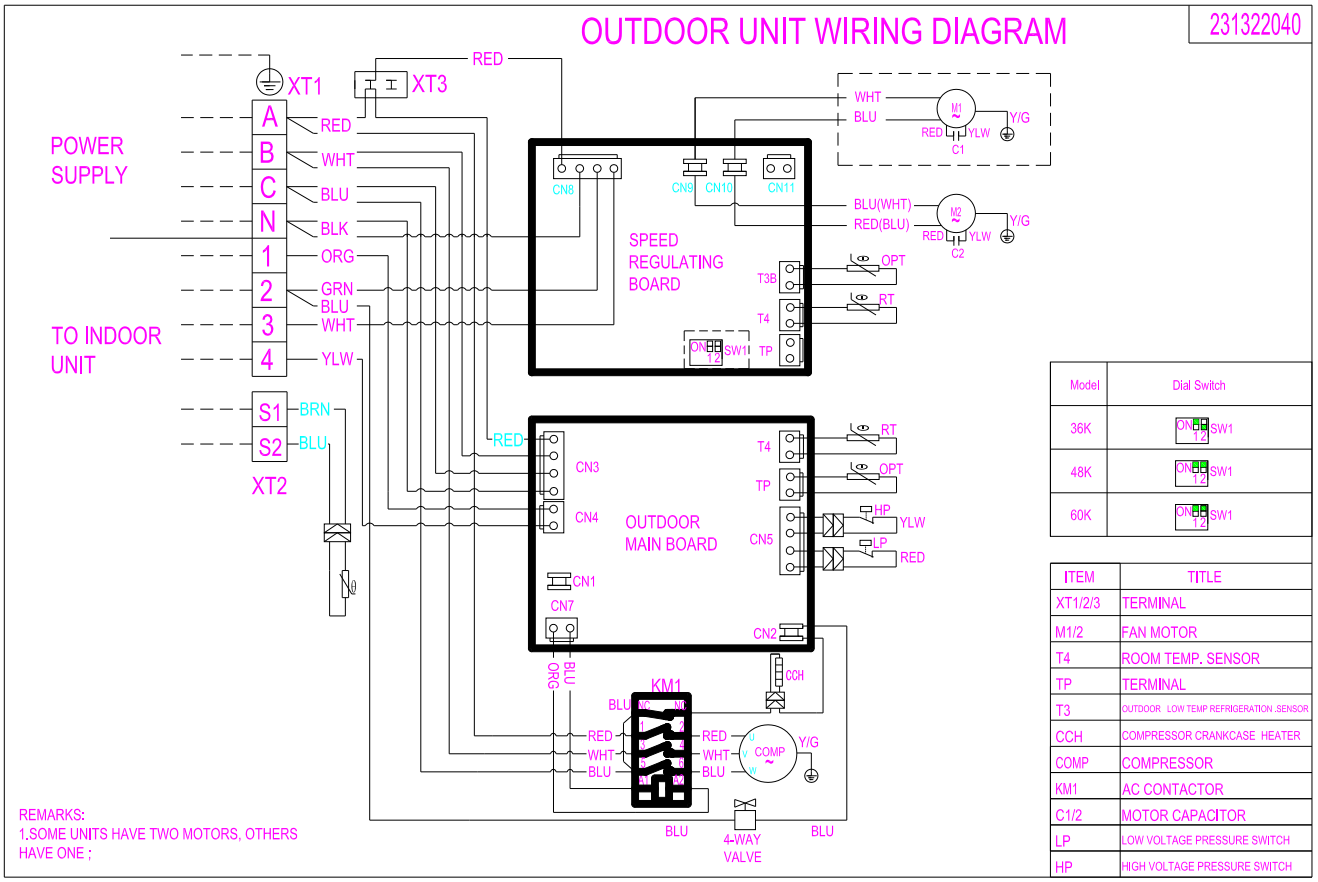
4.Wiring diagrams (Universal outdoor units)

4. 1 TCC-18CHRA/UO TCC-24CHRA/UO



4.Wiring diagrams (Universal outdoor units)

4.2 TCC-36CHRA/UO TCC-48CHRA/UO TCC-60CHRA/UO

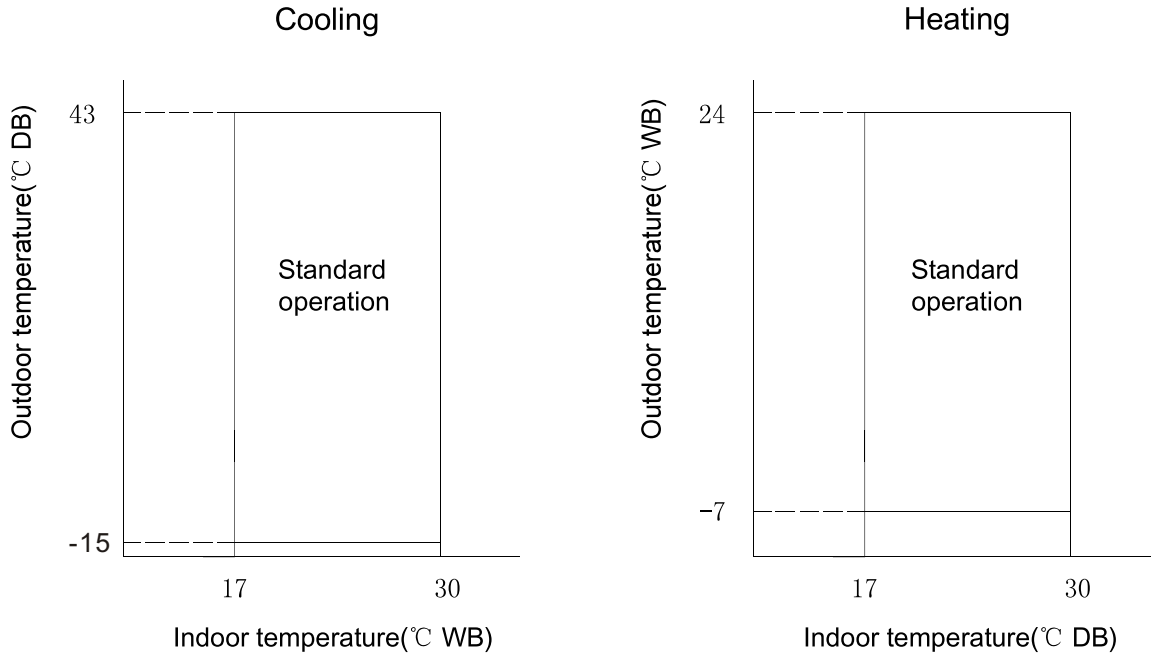


5. Electric Characteristics

Model	Outdoor Unit			
	Hz	Voltage (V)	Min. (V)	Max. (V) .
TCC-18HA/UO	50	220-240	198	254
TCC-24HA/UO	50	220-240	198	254
TCC-36HA/U3O	50	380	342	418
TCC-48HA/U3O TCC-60HA/U3O	50	380	342	418

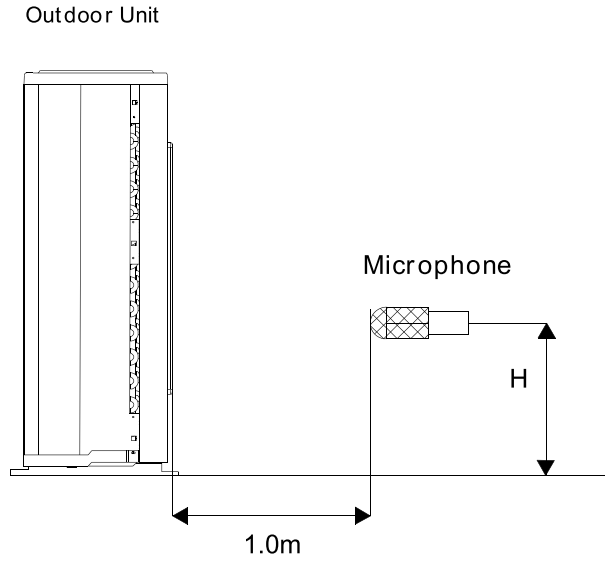
6. Operation Limits

Operation mode	Outdoor temperature(℃)	Room temperature(℃)
Cooling operation	**-15~43**	17~30
Heating operation	-7~24	17~30

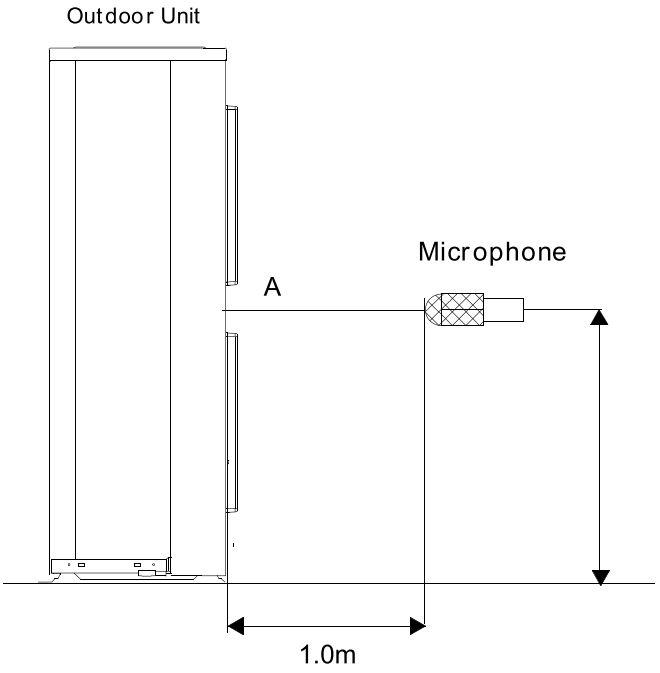


Note: Above chart is for low ambient model

7.Sound Levels



Note: H= 0.5 × height of outdoor unit



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

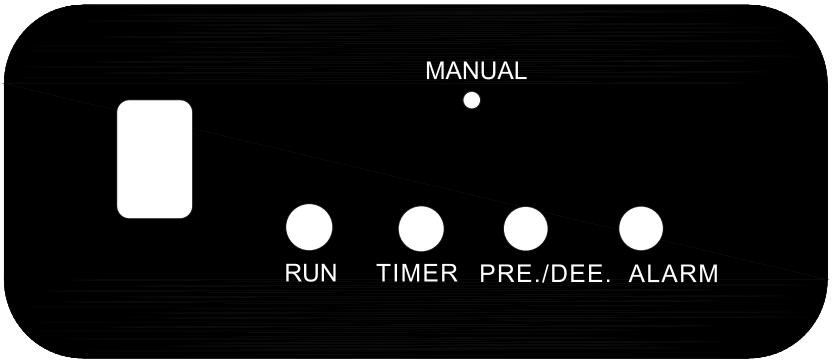
Model	Noise level dB(A)
TCC-18HA/UO	49
TCC-24HA/UO	51
TCC-36HA/U3O	55
TCC-48HA/U3O	57
TCC-60HA/U3O	57

8.Troubleshooting

8.1. Self-diagnosis

(1) For cassette type and MESP duct type

Indoor unit . s LED indication

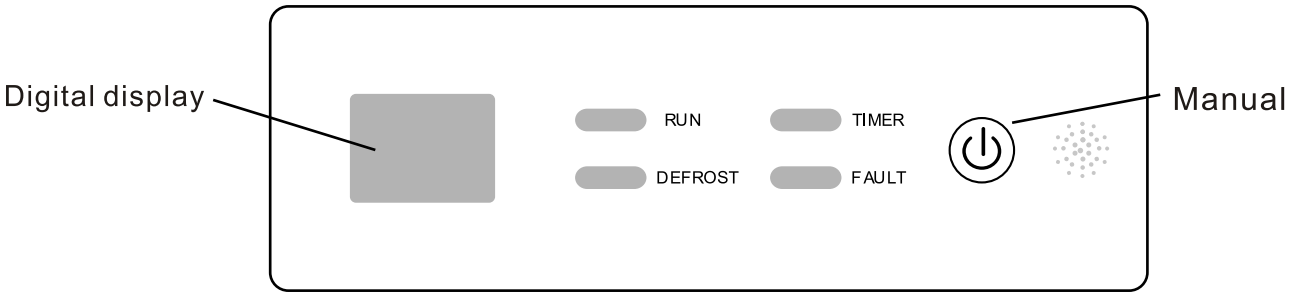


NO.	Failure	Led light flsshing	Solution
1	Indoor sensor failure	TIMER light flashes	Replace the faulty part with new ones ,the system will work again automatically
2	Evaporator sensor failure	RUN light flashes	
3	Condenser sensor failure	PRE/DEE light flashes	
4	Full-loading water alarm	ALARM light flashes	The water full protection maybe due to two causes:(1)water switch broken (2)pump broken.Then replace the faulty part with new ones ,turn off power then the system will return normal.
5	Outdoor unit protection	DEFROSTING light & ALARM light flashes	1.The the failures include the high/low pressure protection and power supply protection. 2.The high/low pressure protection maybe due to two causes: (1)gas leakage (2) the location of outdoor unit is not good for releasing hot air 3.The power supply protection also maybe due to two causes: (1)voltage fluctuation (2) in-appropriate wiring connection. 4.Pls check the connection of pipe and wiring to make sure that there is no gas leakage or no wiring connection failure.
6	EEPROM communication failure	RUN light & TIMER light flashes	Check and repair the wiring connection between indoor unit and outdoor unit, turn off power then the system will return normal.

8.Troubleshooting

(2) For Ceiling floor type

Indoor unit’s LED indication



8.Troubleshooting

Troubleshooting

Ceiling\Duct\Ceiling&Floor type conditioner

Models:R410A Fixed Speed Type Conditioner

Faults	Code	Solutions	
Indoor ambient sensor fault	E1	1.Check whether the sensors are normal.	Recoverable
Indoor coil sensor fault	E2	2.Check whether the sensors are connected.	Recoverable
Outdoor coil sensor fault	E3		Recoverable
Outdoor unit protection	E4	(if there is an outdoor control board) 1.View the fault code of outdoor unit. (if there is not an outdoor control board) 1.Check whether the protection input and the neutral line is short circult.	Unrecoverable before restart
EEPROM fault (Indoor)	Ed	/	Unrecoverable before restart
Water pump fault	d3	(if there is a water pump) 1.Check whether the water pump is normal. 2.Check whether the water level switch is normal. 3.Check whether the water level switch is connected. (if there is not a water pump) 1.Check whether the water level switch is short circuit.	Recoverable

8.Troubleshooting

(3) For Outdoor Units

Fault code of outdoor unit

● Lighting ◎ Flashing (1Hz) ○ Extinguishing

Red	Green	Blue	Faults/States	Solutions	Priority
●	●	◎	Phase-sequence error	1.Check whether the power phase is normal.	1
●	○	◎	Phase-loss		1
◎	○	○	High pressure protection	1.Check whether the high pressure isnormal.	2
○	●	◎	Exhaust temperature protection	1.Check whether the exhaust temperature is normal.	3
●	◎	○	Low pressure protection	1.Check whether the low pressure isnormal.	4
◎	●	○	Outdoor coil sensor fault	1.Check whether the sensors are normal.	5
◎	◎	○	Outdoor exhaust sensor fault	2.Check whether the sensors are connected.	6
○	●	○	Running		7

Fault code of thyristor module

● Lighting ◎ Flashing ○ Extinguishing

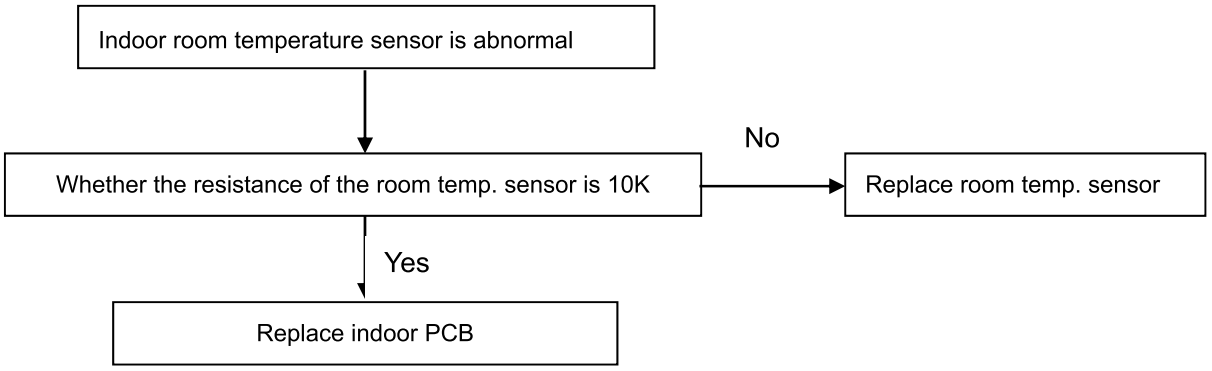
Red	Green	Faults/States	Solutions	Priority
●	○	Zero-cross point fault	1.Check whether the power frequency is 50Hz.	1
◎ (1Hz)	○	Outdoor ambient sensor/Outdoor coil sensor fault Outdoor exhaust sensor fault (reserved)	1.Check whether the sensors are normal. 2.Check whether the sensors are connected.	2
○	●	Standby		3
○	◎ (1Hz)	Cooling mode		4
○	◎ (0.5Hz)	Heating mode		5

8.Troubleshooting

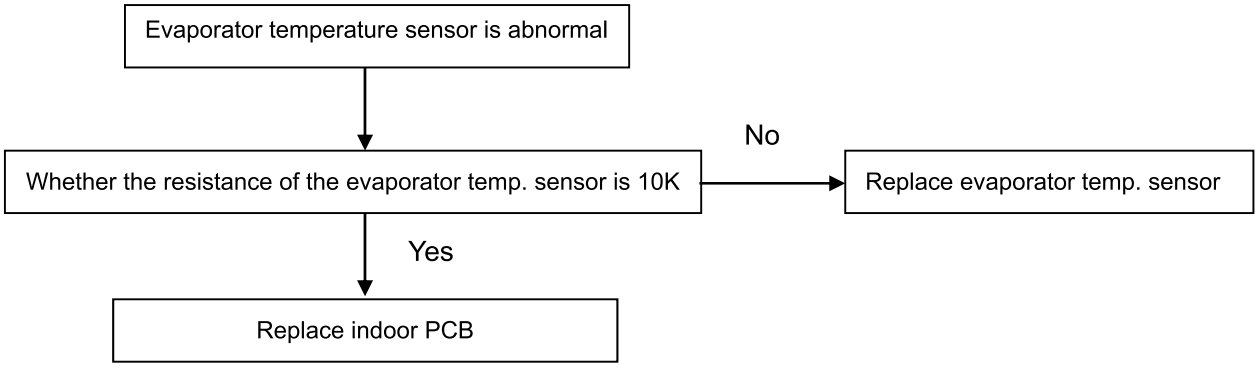
8.2. Solving steps for typical malfunction

(1) For indoor unit

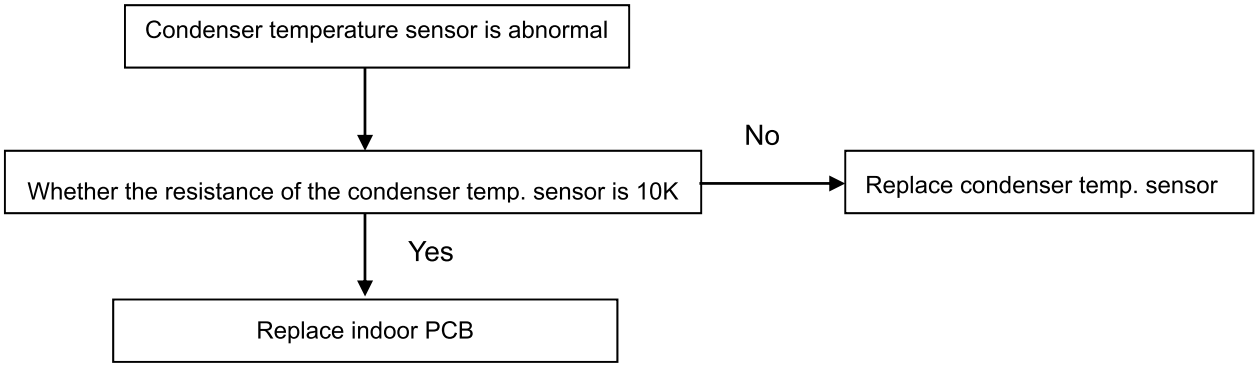
a. Indoor room temperature sensor is abnormal



b. Evaporator temperature sensor is abnormal



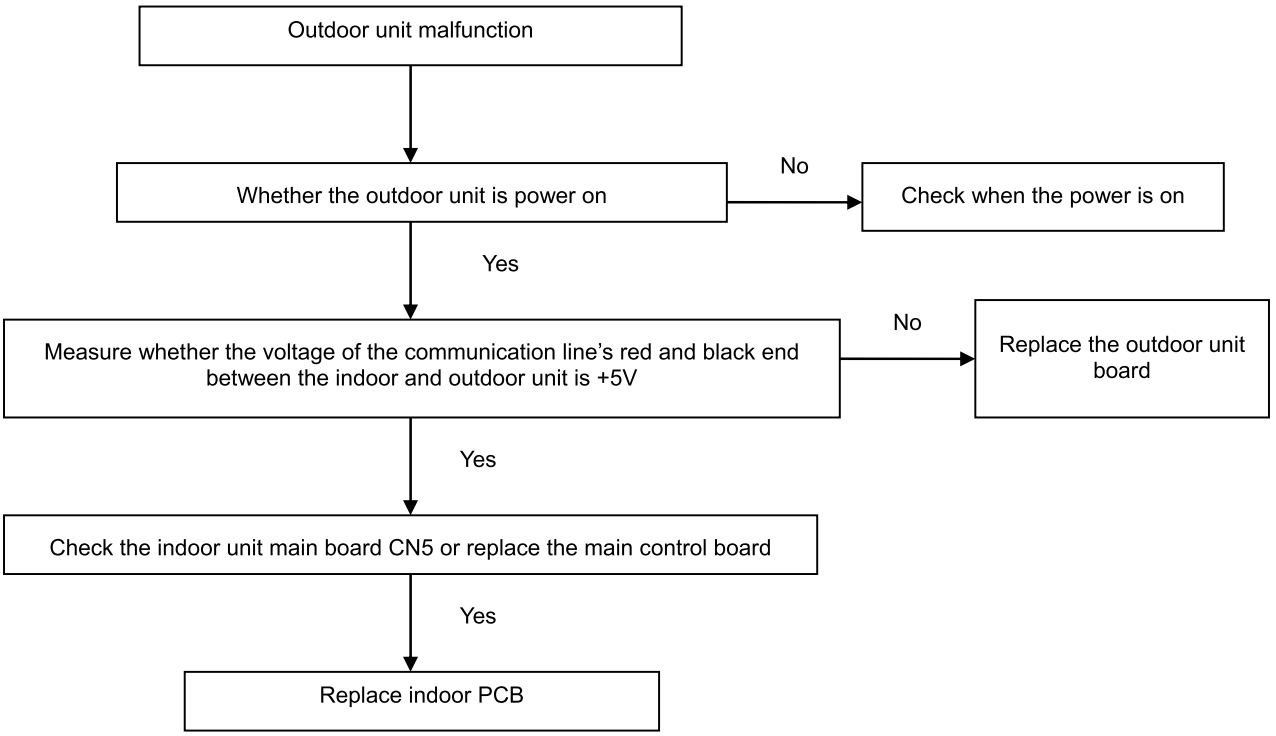
c. Condenser temperature sensor is abnormal



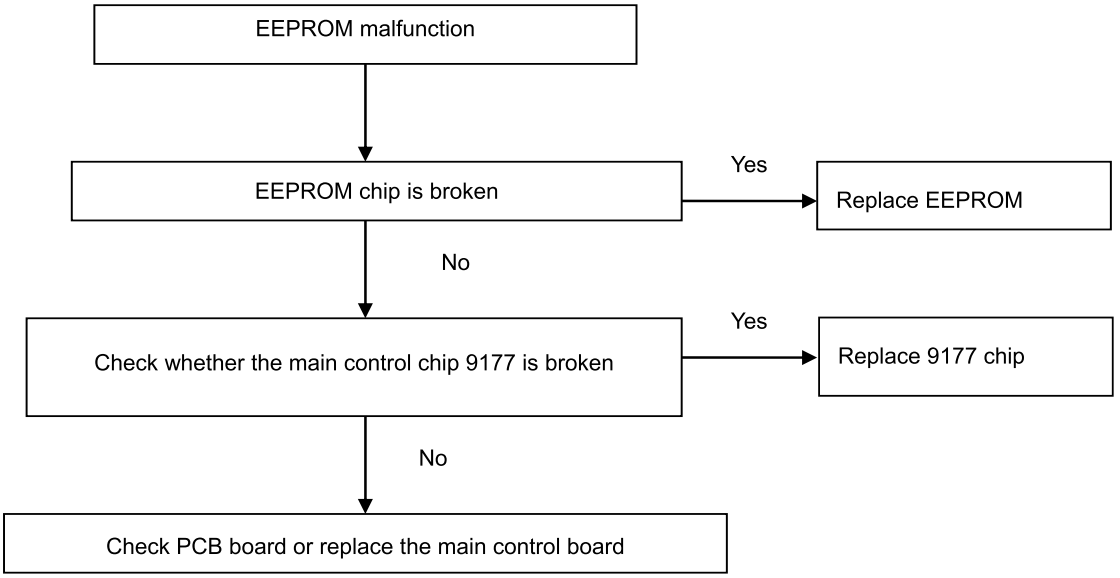
8.Troubleshooting

8.2. Solving steps for typical malfunction

d. Outdoor unit malfunction



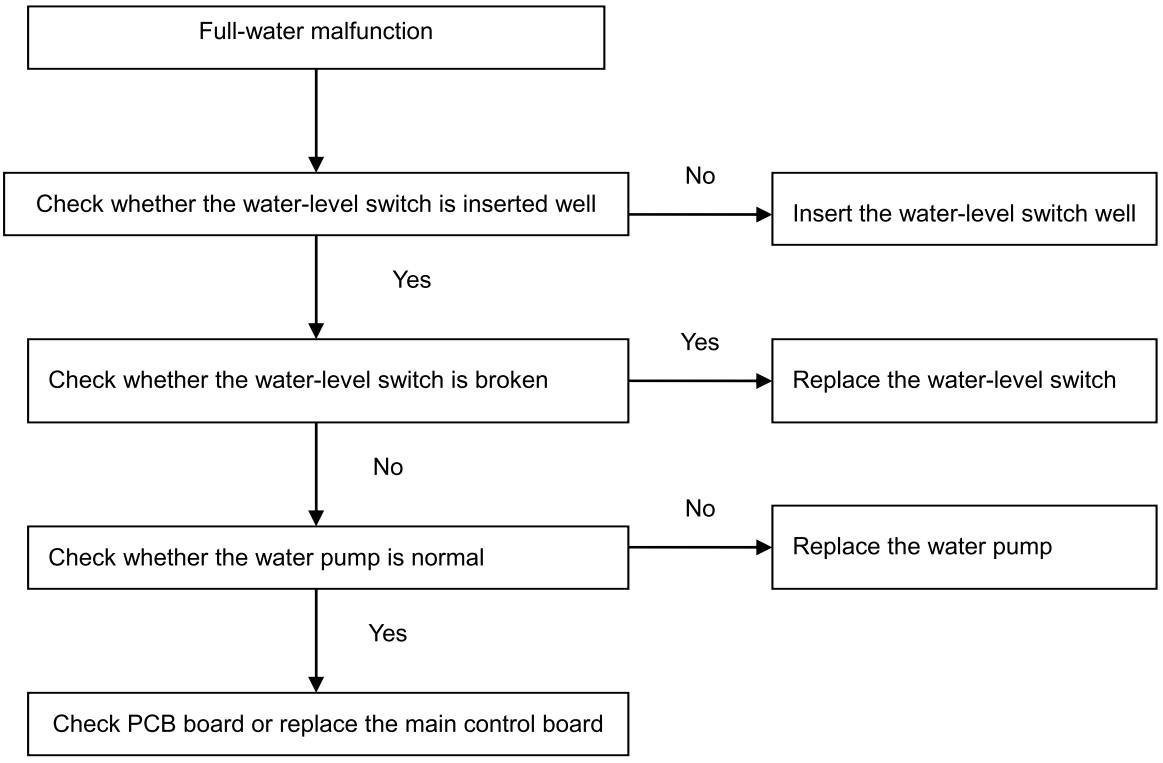
e. EEPROM malfunction



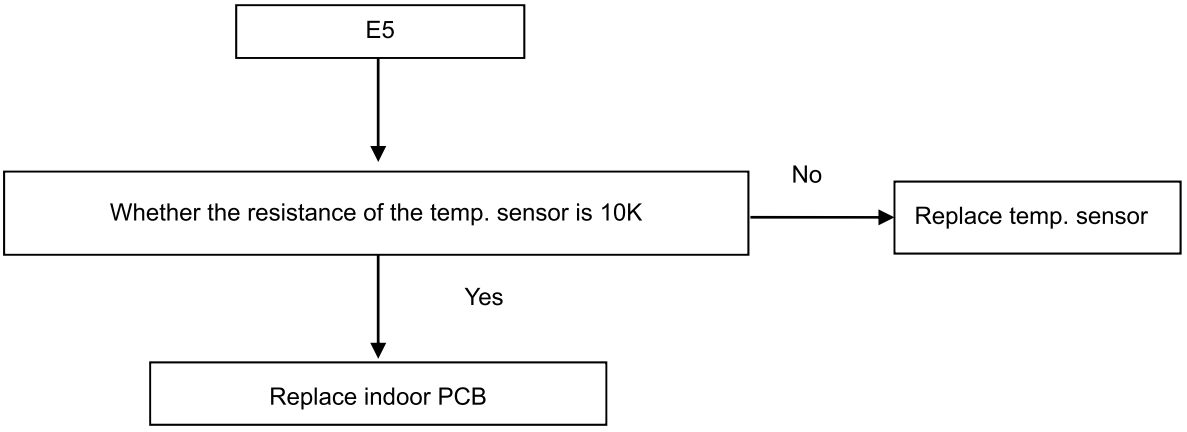
8.Troubleshooting

8.2. Solving steps for typical malfunction

f. Full-water malfunction



g. Temperature sensor error of water pump

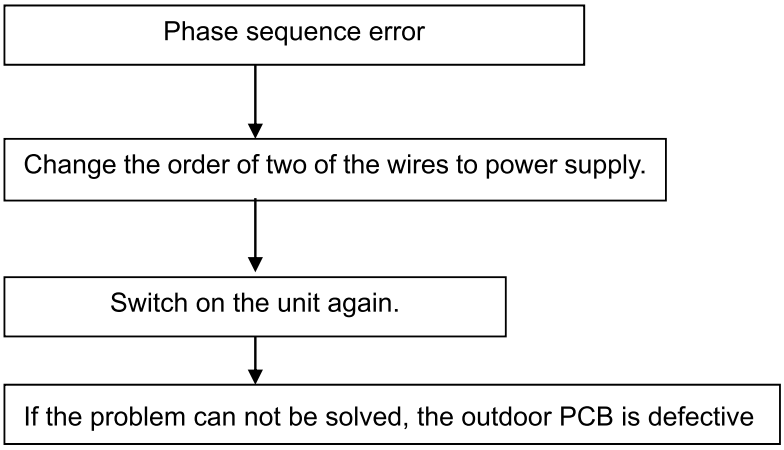


8.Troubleshooting

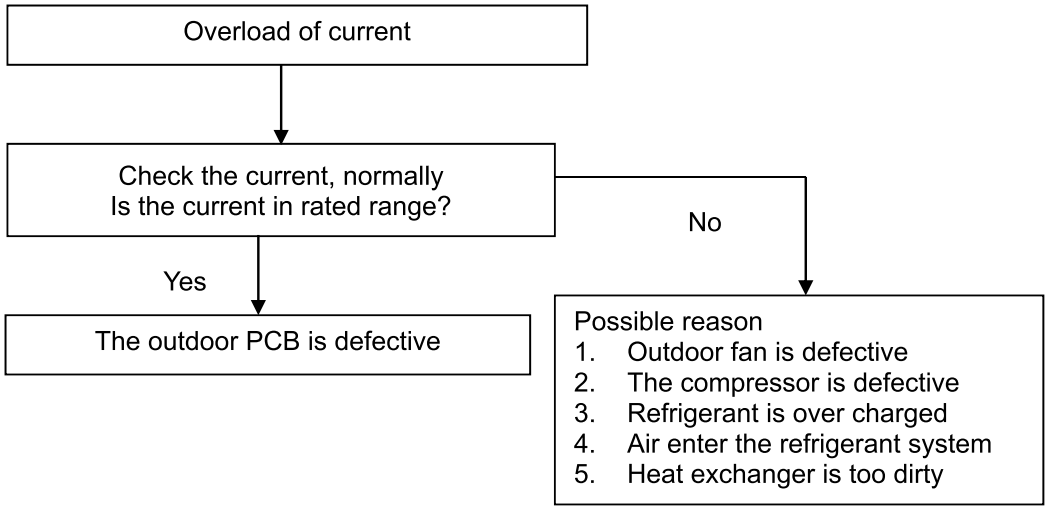
8.2. Solving steps for typical malfunction

(2) For the outdoor unit

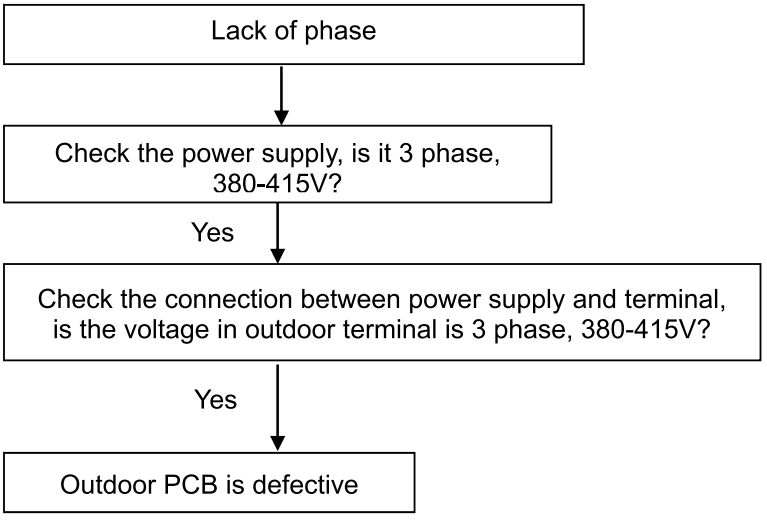
a. Phase sequence error:



b. Overload of current



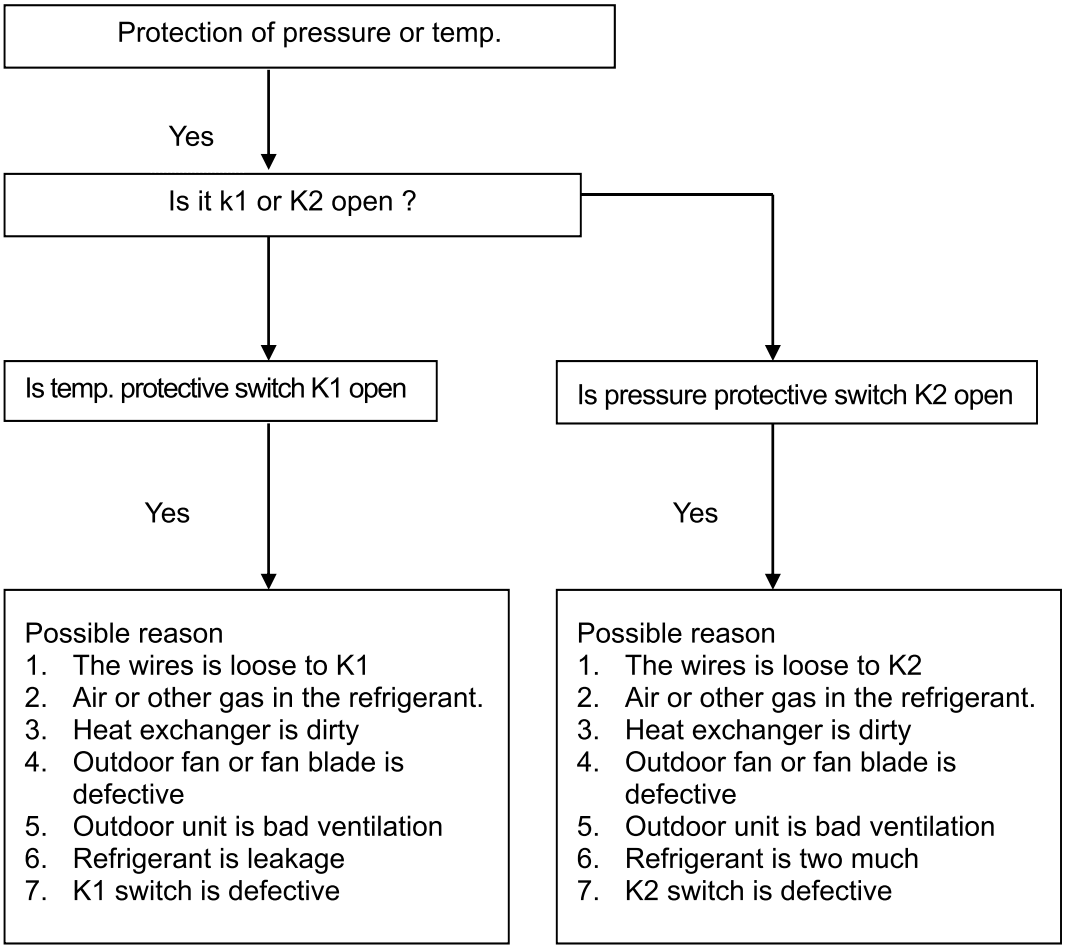
c. Lack of phase



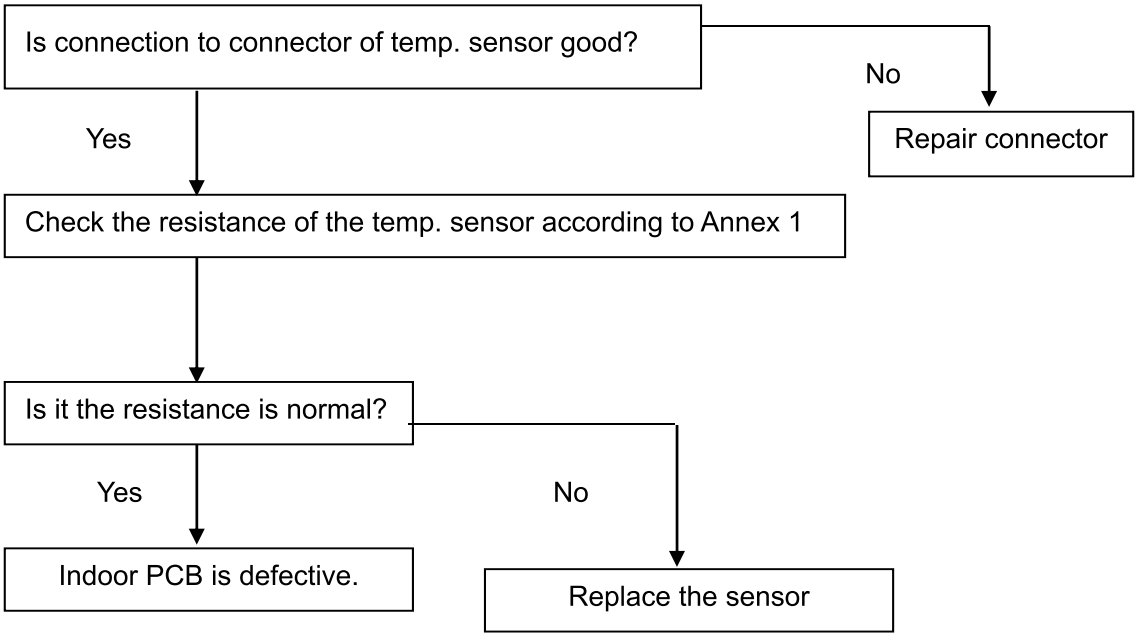
8.Troubleshooting

8.2. Solving steps for typical malfunction

d. Protection of pressure or temp.



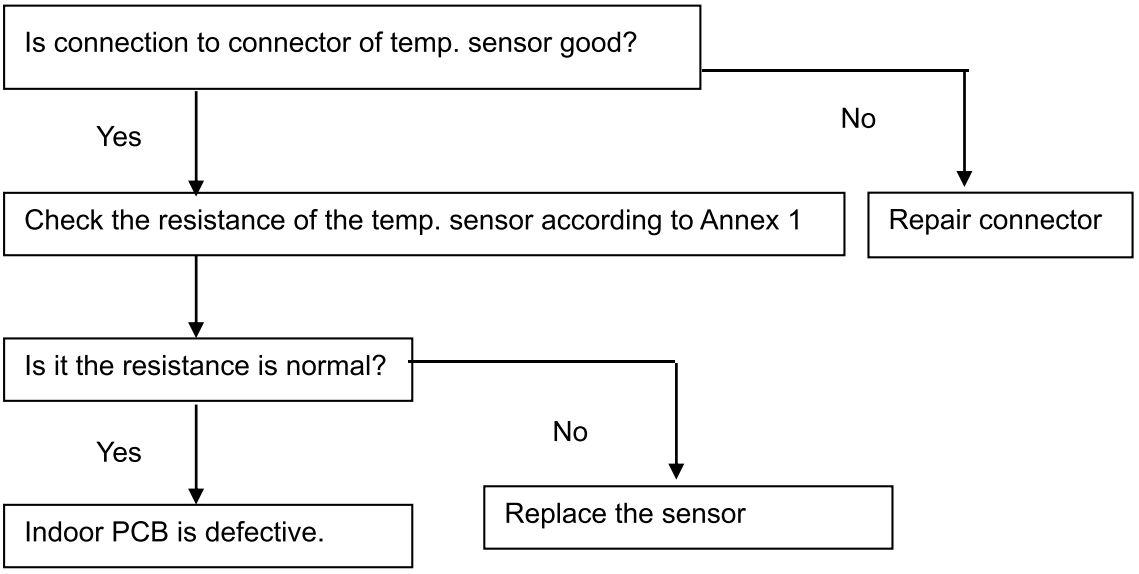
e. Open-circuit and short-circuit trouble of T3



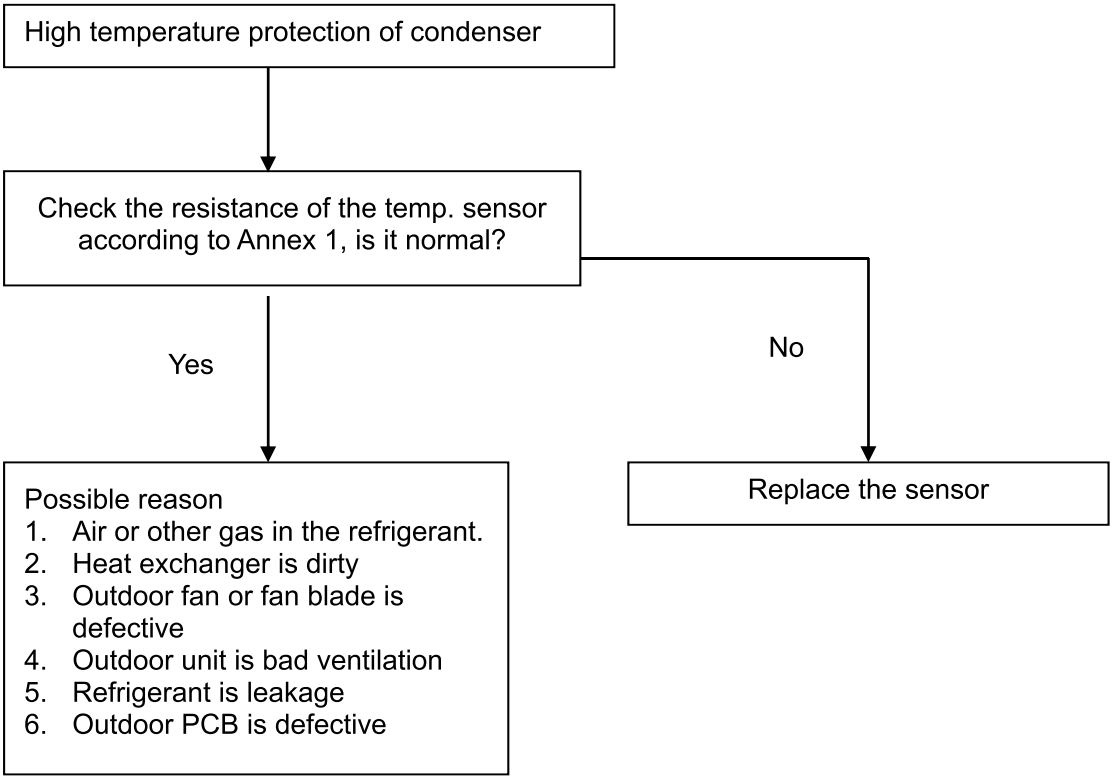
8.Troubleshooting

8.2. Solving steps for typical malfunction

f. Open-circuit and short-circuit trouble of T4



g. High temperature protection of condenser



Part 4
Installation

1. Precaution on Installation

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.

Specially Notice the pipe length/height/dimension of each capacity.

Maximum pipe length

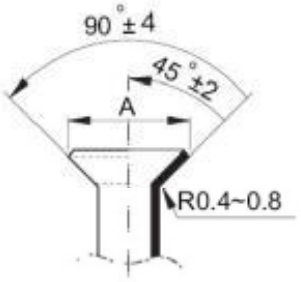
Model	Max. Length	Max. Elevation
18,000Btu/h	25m	15m
24,000Btu/h	30m	15m
36,000Btu/h	30m	20m
48,000Btu/h~60,000Btu/h	50m	30m

Piping sizes

Model	Liquid(mm)	Gas(mm)
18,000Btu/h	6.35	12.70
24,000Btu/h	9.52	15.88
36,000Btu/h~60,000Btu/h	9.52	19.05

CAUTIONS

- Daub the surfaces of the flare pipe and the joint nuts with frozen oil, and wrench it for 3~4 rounds
- With hands before fasten the flare nuts.
- Be sure to use two wrenches simultaneously when you connect or disconnect the pipes.

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

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

c. Expel the air after connecting the refrigerant pipe with the indoor unit and the outdoor unit. Then fasten the nuts at the repair-points.

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.

3) Connect the pipes.

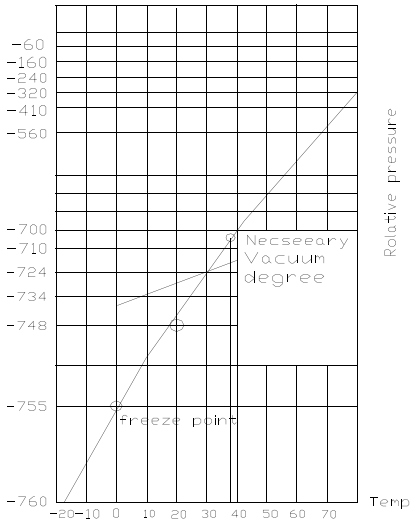
4) Then, open the stem of stop values of the outdoor unit to make the refrigerant pipe connecting the indoor unit with the outdoor unit in fluent flow.

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

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

2. Vacuum Dry and Leakage Checking

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

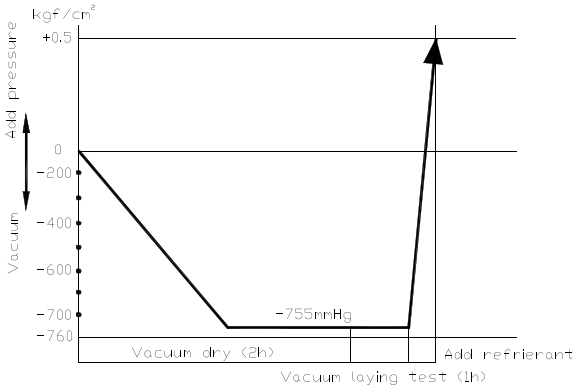


2.2 Vacuum dry procedure

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

①. Common vacuum dry procedure

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



②. Special vacuum dry procedure

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

③. Vacuum destroy for the second time ····· Fill nitrogen to 0.5Kgf/cm^2

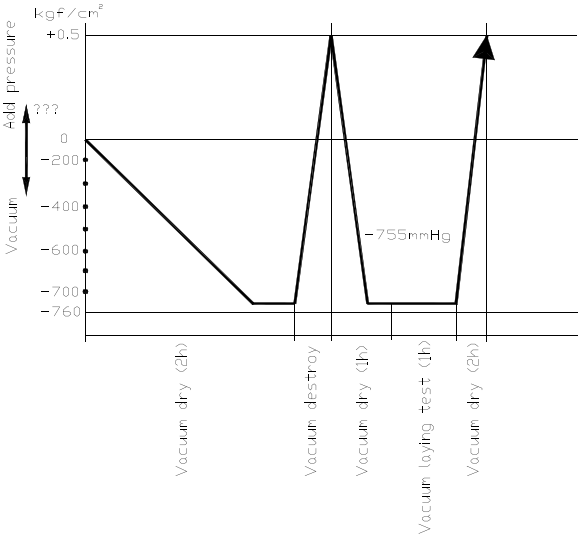
Because nitrogen is for drying gas, it has vacuum drying effect during vacuum destroy. But if the moisture is too much, this method can't dry thoroughly. So, please pay more attention to prevent water entering and forming condensation water.

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

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

⑤. Vacuum placing test ····· 1h

⑥. Sketch map of special vacuum dry procedure



3. Additional Refrigerant Charge

Caution

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

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

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

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

● Refrigerant containers shall be opened slowly.

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

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

R(g) D(mm) / L(m)	φ6.4	Φ9.5	Φ12.7
Less than 5m (One-way)	—	—	—
Added Refrigerant(R410A) WhenOver 5m(One-way)	22g/m×(L-5)	54g/m×(L-5)	110g/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 diameter

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	1.5~2m

4.1.3. Precautions

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

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

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

④ All connection should be firm.

⑤ Wipe color on PVC pipe to note connection.

⑥ Climbing, horizontal and bending conditions are prohibited.

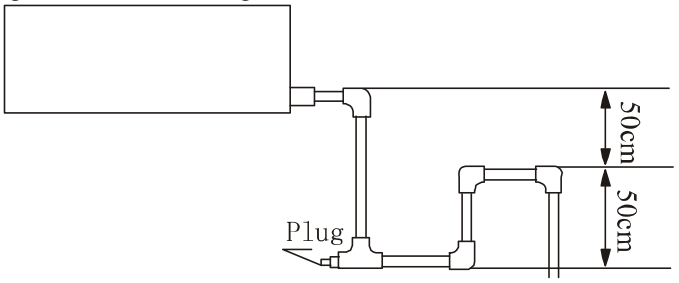
⑦ The dimension of drainpipe can't less than the connecting dimension of indoor drainpipe.

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

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

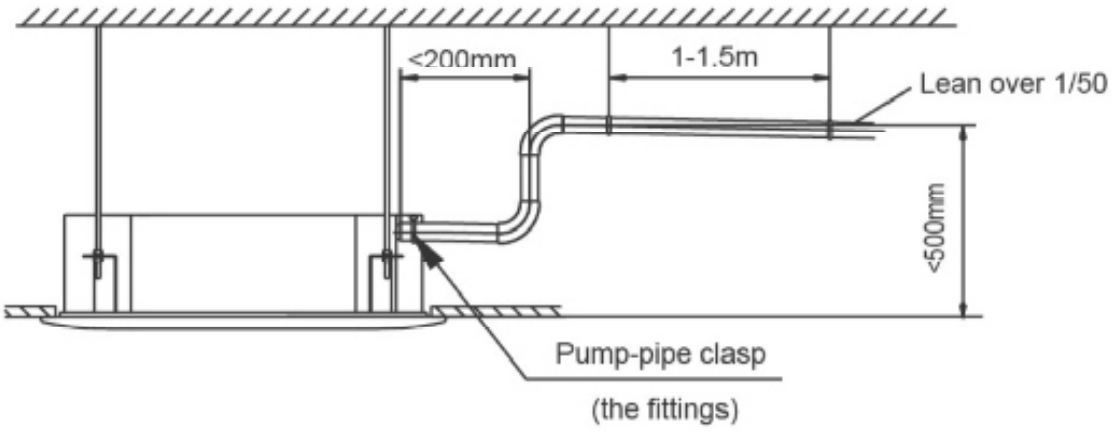
4.2 Drainpipe Trap

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

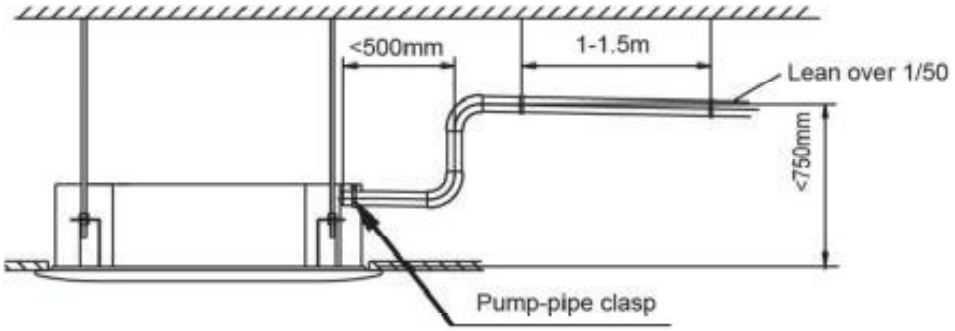


4.3 Upwards drainage (drain pump)

For Four-way cassette(compact)

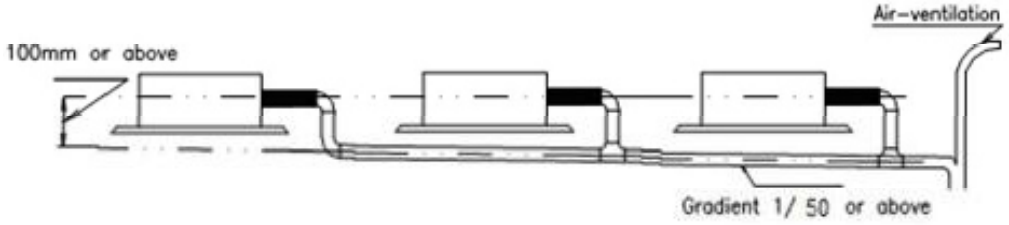


For Four-way cassette



4.4 Convergent drainage

4.4.1. The number of indoor units should be as small as possible to prevent the traverse main pipe overlong.
4.4.2. Indoor unit with drain pump and indoor unit without drain pump should be in different drainage system.



4.4.3. Selecting the diameter

Number of connecting indoor units→Calculate drainage volume→Select the diameter
Calculate allowed volume =Total cooling capacity of indoor units(HP)×2 (l/ hr)

	Allowed volume(lean 1/50) (l/ hr)	I.D. (mm)	Thick
Hard PVC	∽≤14	₵25	3.0
Hard PVC	14＜∽≤88	₵30	3.5
Hard PVC	88＜∽≤334	₵40	4.0
Hard PVC	175＜∽≤334	₵50	4.5
Hard PVC	334＜∽	₵80	6.0

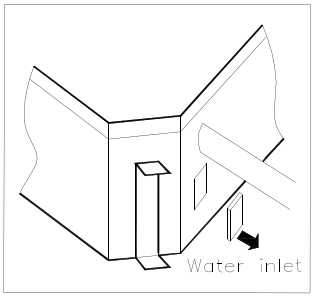
4.5 Drainage test

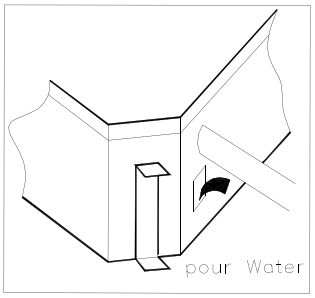
4.5.1Drainage without drain pump

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

4.5.2 Drainage with drain pump

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





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

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

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

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

5. Insulation Work

5.1 Insulation material and thickness

5.1.1. Insulation material

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

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

5.1.2. Thickness choice for insulation material

Insulation material thickness is as follows:

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

5.2 Refrigerant pipe insulation

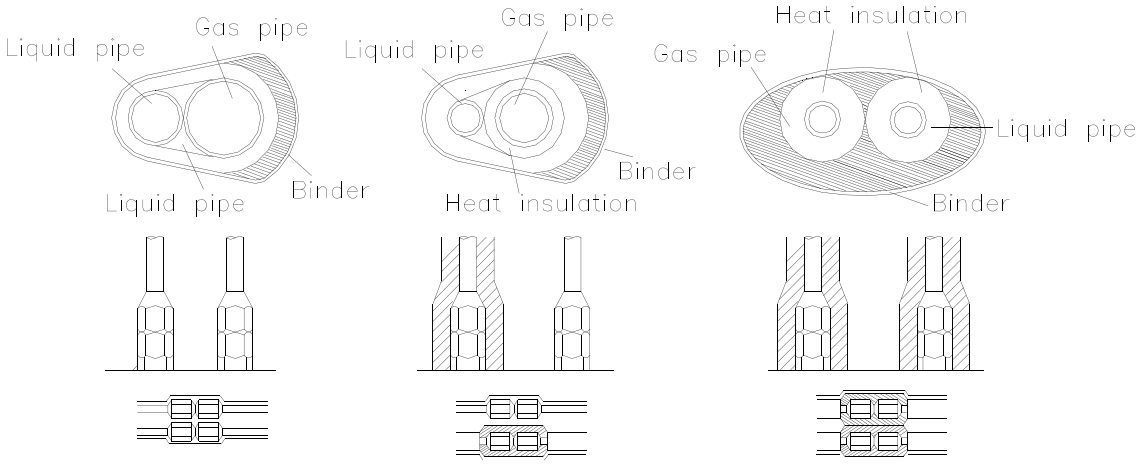
5.2.1. Work Procedure

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

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

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

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

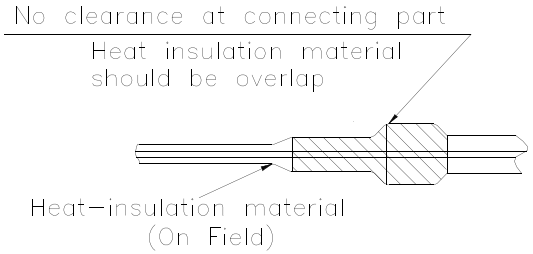


For construction convenience, before laying pipes, use insulation material to insulate the pipes to be deal with, at the same time, at two ends of the pipe, remain some length not to be insulated, in order to be welded and check the leakage after laying the pipes.

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

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

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



5.3 Drainage pipe insulation

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

5.4 Note

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

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

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

7. Test Operation

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

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

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

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

(4) Test operation

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

Indoor unit

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

Outdoor unit

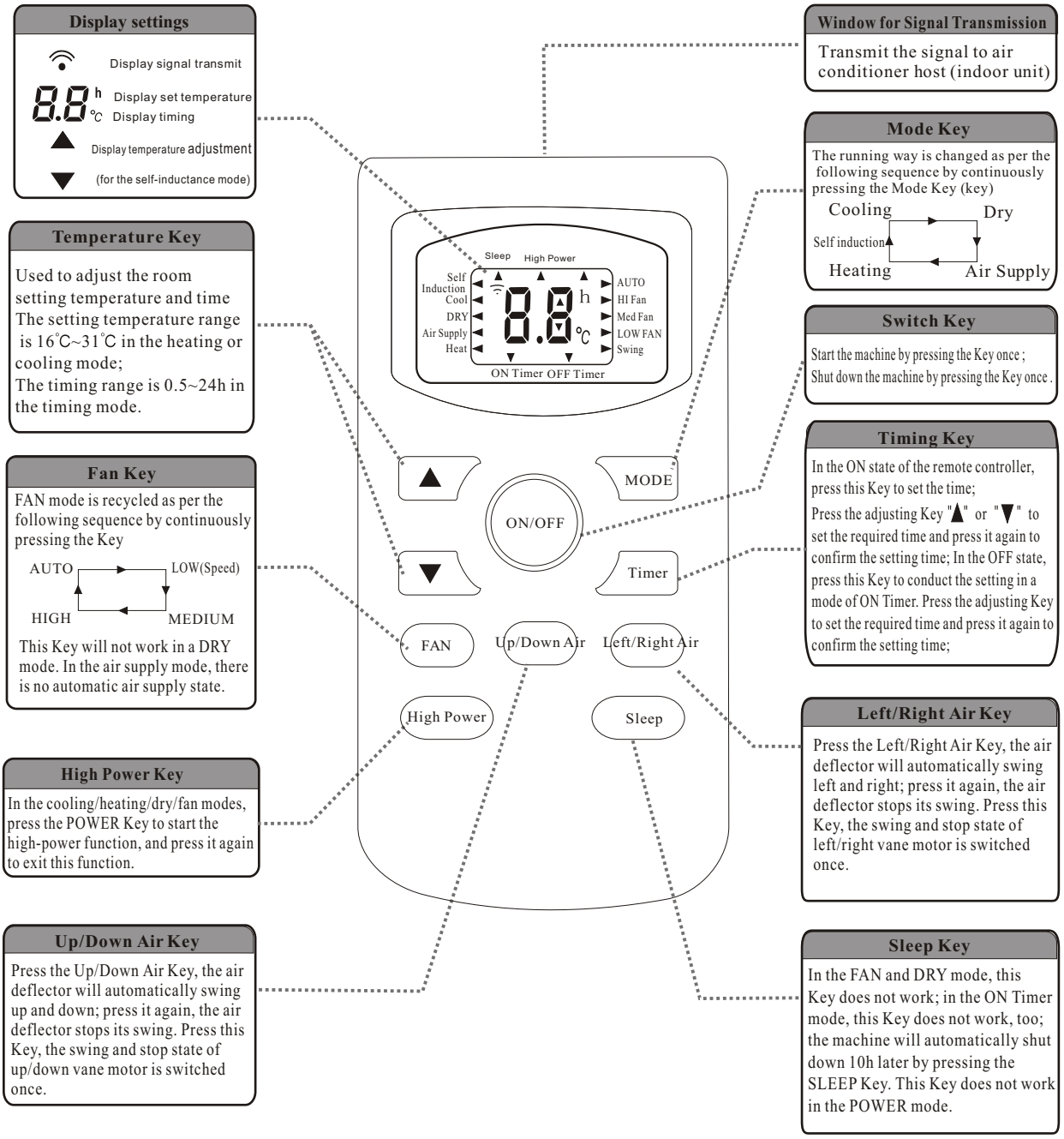
- Whether there is vibration or abnormal noise during operation.
- Whether the generated wind, noise, or condensed of by the air conditioner have influenced your neighborhood.
- Whether any of the refrigerant is leaked.

Part 5
Control

1. Wireless remote controller

Operation of Remote Controller

① Name and Function (for sake of description, the following diagram presents all display contents, but only corresponding contents will be displayed in the actual operations)



★ Some functions will still be displayed in the remote controller even if the air conditioner is stopped;

★ The said remote controller is only a schematic view, and its actual physical appearance shall prevail in the actual application.

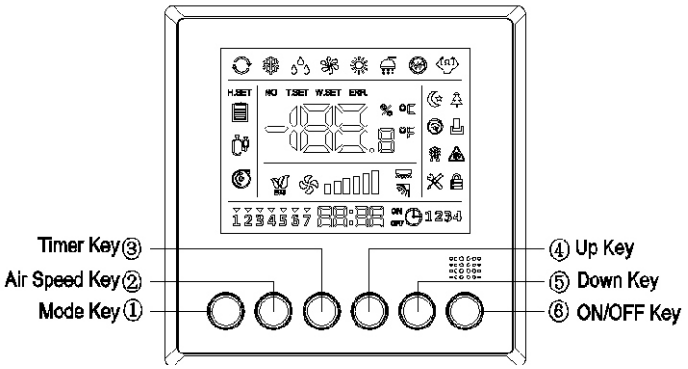
★ The remote controller for single-cooling air conditioner has no heating function.

Meaning of symbols on the liquid crystal display

NO.	Button	Function
1	or	FEEL mode indicator
2		COOLING indicator
3		DEHUMIDIFYING indicator
4		FAN ONLY OPERATION indicator
5		HEATING indicator
6	or	SIGNAL RECEPTION indicator
7	or TIMER or	TIMER OFF indicator
8	or TIMER or	TIMER ON indicator
9	AUTO or or or (FLASH)	AUTO FAN indicator
10	or or or	LOW FAN SPEED indicator
11	or or or	MIDDLE FAN SPEED indicator
12	or or or	HIGH FAN SPEED indicator
13	QUIET or or or	SLEEP indicator
14		COMFORTABLE SLEEP indicator (optional)
15		I FEEL indicator(optional)
16	or	FLAP SWING indicator
17		FLAP and Deflectors SWING indicator
18	or POWERFUL	SUPER indicator
19	or HEALTHY	HEALTHY indicator
20	or	ECO indicator
21		ANTI-MILDEW indicator
22		BATTERY indicator
23	88:88	CLOCK indicator

2. Wired remote controller

86B2 WALL CONTROLLER



◆ Description of Icons or Symbols

	Sleep		Fresh		Door Card		Defrost
	Anti-freeze		Set		Child Lock	ECO	Economic
	Up/Down Swing		Left/Right Swing	°C	Degree centigrade	°F	Fahrenheit
	Electric	ERR.	Error		Water Level		Water Pump Sign
W.	Current Water Temperature	T.	Ambient Temperature	SET	Set Temperature		Compressor Sign
ON	Timer ON	OFF	Timer OFF				

Remark: If an icon goes on, it means “ON”; if such icon goes off, it means “OFF”.

◆ Dial Setting

Definition	SW1-1	SW1-2	Description
Reserve	ON	-	/
	OFF	-	/
Reserve	-	ON	/
	-	OFF	/

II. Initial Power-on

1.1. It is necessary to initially power the wire controller on for self-check wherein all the icons or symbols go on for 3 seconds. During such period, all the key ad remote controller operations are invalid.

1.2. The wire controller is without the power-down memory function by default. If a user needs to use the power-down memory function, such user can see the detailed parameters corresponding to “P1” in Section 7.2 --- Parameter Setting.

III. Key Description

3.1 [ON/OFF] Key

3.1.1. Press the [ON/OFF] key once to start the controller; press the [ON/OFF] key once again to stop the controller.

3.1.2. Liquid Crystal Self-check:

Press the [ON/OFF] key to power the controller on for 5 seconds and then release such key; the controller enters self-check at the moment. The controller executes the liquid crystal self-check in the following sequence:

After the buzzer short sounds once, the following outputs successively motion (wherein the liquid crystal successively goes on from left to right and then go off.) After that, the controller exits from the self-check.

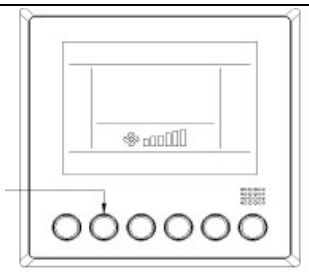
Notes: 1. The controller exits from the self-check status after it is powered off in the self-check status.

2. All the keys are invalid during the self-check.

3.2. [Mode] Key

3.2.1. Mode Switch

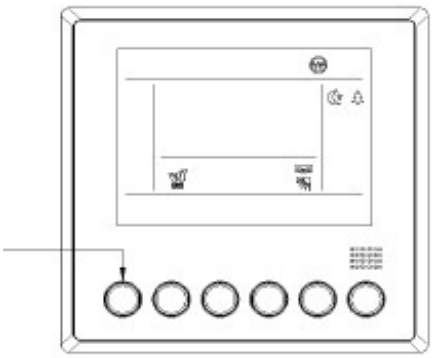
On the startup interface, press the [Mode] key once when the selected mode icon normally goes on and other icons go off. The switch sequence is as shown in the right picture.



- The refrigeration machine is without the “Heat” icon.
- Automatic Mode: The controller with the power-down memory function can be powered on again after being powered down, re-judge the temperature and then re-execute the automatic mode; if the power-down memory function is not started, the controller will enter the standby mode.

3.2.2. Function Setting:

On the startup interface, long press the [Mode] key for over 5 seconds to enter the function setting interface; short press the [Mode] key when the selected function icon twinkles with the frequency of 1Hz and other icons act as per the actual status (if the status is ON, the icons normally go on; otherwise, the icons go off.)



3.3. [▲]/[▼] Key

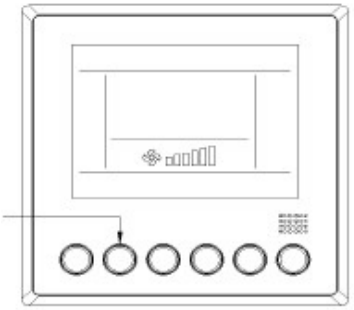
3.3.1. On the startup interface, press the [▲]/[▼] key once to set the temperature increase or decrease by 0.5℃;

3.3.2. Forced Defrosting

On the startup interface, set the wire controller to be in the heating mode and at the temperature of 16℃, and then finish the following 6 keys of operations within 5 seconds:
“[▲]→[▼]→[▲]→[▼]→[▲]→[▼]”. At the moment, the system successfully enters the forced defrosting and then the buzzer long beeps once.

3.4. [Air Speed] Key

On the startup interface, press the [Air Speed] key once, the selected air speed icon normally goes on and other icons go off wherein the air speed switches in the cyclic sequence of low air speed → intermediate air speed → high air speed



● When the wire controller is initially powered on, its default air speed is low and the icon of low air speed is displayed.

● When being in the dehumidifying mode, the wire controller does not respond to any operation of the [Air Speed] key wherein the air speed cannot be adjusted, the default air speed is low and the icon of low air speed normally goes on.

●When the wire controller is at the time of automatic air, the air speed icon is successively displayed in the dynamic and cyclic sequence of low air speed→intermediate air speed→high air speed→low air speed.

● If the air speed is of individual backup, the wire controller will display the last set air speed of the corresponding mode when it enters the same mode next time.

3.5. [Timer] Key

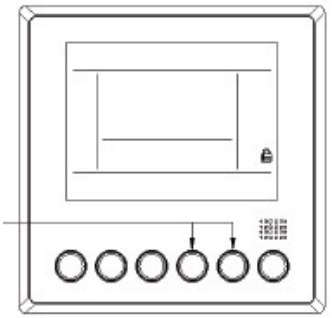
3.5.1. Continuously press the [Timer] key for over 5 seconds to enter the clock setting interface (See Chapter V---Clock Setting for details).

3.5.2. Press the [Timer] key once to enter the timer setting interface (See Chapter VI---Timer Setting for details).

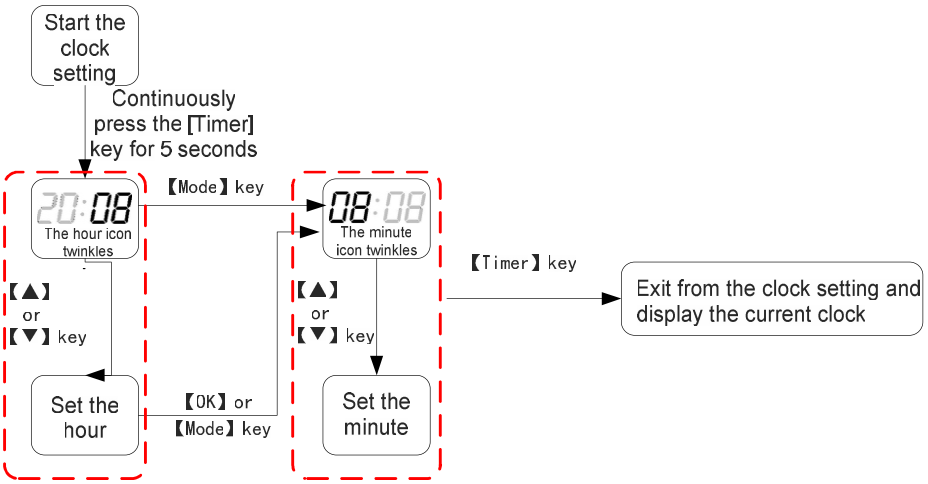
IV. Auxiliary Functions

4.1. Child Lock

1. On the startup or shutdown interface, simultaneously press the [▲] and [▼] keys for over 5 seconds to enable the child lock when the child lock icon normally goes on.
2. When the child lock is valid, the operations of other keys are invalid but the icons twinkle with the frequency of 1Hz.

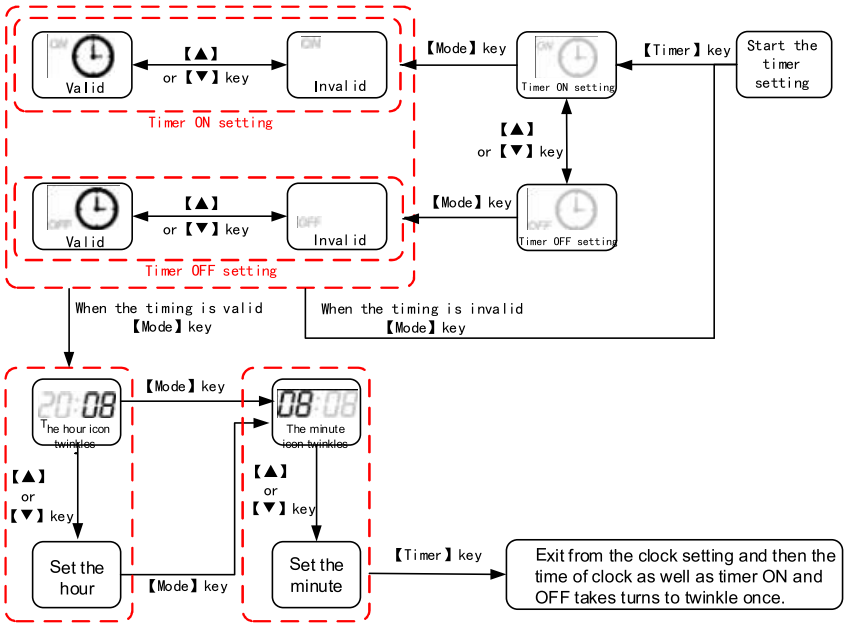


V. Clock Setting



Set the period by pressing the [Timer] key and then exit from the clock setting with such setting saved;
Set the period by pressing the [ON/OFF] or [Mode] key and then exit from the clock setting with such setting not saved;
Set the status and if there are no key operations for 15 consecutive seconds, exit from the clock setting with such setting not saved.

VI. Timer Setting



Set the period by pressing the [Timer] key and then exit from the clock setting with such setting saved;
Set the period by pressing the [ON/OFF] or [Mode] key and then exit from the clock setting with such setting not saved;
Set the status and if there are no key operations for 15 consecutive seconds, exit from the clock setting with such setting not saved.

VII. Parameter Query/Setting

7.1. Parameter Query

◆ Continuously press the “[Mode]+[▲]” combination keys for 5 seconds to automatically enter the parameter query interface when the “Time Area-Hour” icon twinkles and displays the “Parameter Code” and “Temperature Area” displays the current “Parameter Value” corresponding to such “Parameter Code”.
◆ When the parameter code twinkles, press the [▲] or [▼] key to switch the parameter code.

Parameter Code	Area Display	Parameter Name	Value to Query	Area Display	Display Range
01	Time Area-Hour	Indoor ambient temperature (℃)	Current value	Temperature Display Area	-30~150
02	Time Area-Hour	Temperature in the middle of evaporator of the indoor unit (℃)	Current value	Temperature Display Area	-30~150
03	Time Area-Hour	Temperature at the outlet of evaporator of the indoor unit (℃)	Current value	Temperature Display Area	-30~150
E1	Time Area-Hour	Historical Error 1	Err+**	Temperature Display Area	
E2	Time Area-Hour	Historical Error 2	Err+**	Temperature Display Area	
E3	Time Area-Hour	Historical Error 3	Err+**	Temperature Display Area	
E4	Time Area-Hour	Historical Error 4	Err+**	Temperature Display Area	
E5	Time Area-Hour	Historical Error 5	Err+**	Temperature Display Area	

7.2. Parameter Setting

◆ Continuously press the “[Mode]+[▼]” combination keys for 5 seconds to automatically enter the parameter setting interface when the “Time Area-Hour” icon twinkles and displays the “Parameter Code” and “Temperature Area” displays the current “Parameter Value” corresponding to such “Parameter Code”.
◆ When the parameter code twinkles, press the [▲] or [▼] key to switch the “Parameter Code”; press the [Mode] key to stop

the “Parameter Code” from twinkling and enters the “Parameter Value” changing interface when the “Parameter Value” twinkles.

◆ When the parameter value twinkles, press the [▲] or [▼] key to change the “Parameter Value”; press the [Mode] key to save the “Parameter Value” and return to the “Parameter Code” twinkling interface.

Parameter Code			Query the Current Parameter		Query Range
Parameter Code	Area Display	Parameter Name	Value to Query	Area Display	
P1	Time Area-Hour	Power-down Memory Mode	Off	Temperature Display Area	On: Resume the pre-outage status after being powered on in case of outage
			On		
P2	Time Area-Hour	Temperature Unit Conversion	℃	Temperature Display Area	
			℉		

VIII. Error Protection and Description

◆ When the system goes wrong or enters protection, the “ERR.” Icon normally goes on and the “Temperature Area” twinkles and displays the current error or protection code.

◆ When there are multiple errors or protections simultaneously, the codes are displayed in the cyclic sequence of “Code 1→ Code 2 →…Code 5”.

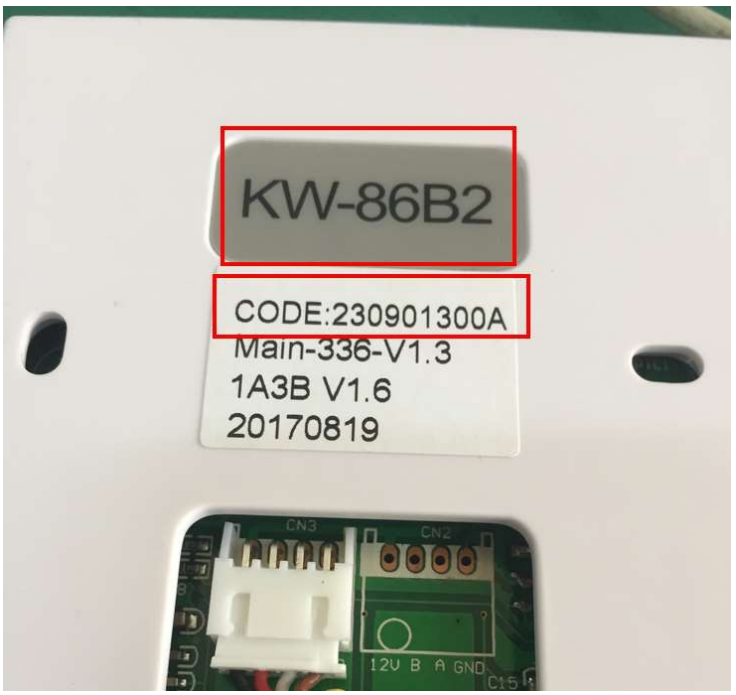
Classification	Code	Error Description
Error	E0	The Indoor-outdoor communication goes wron .
	E1	The Room Temperature Sensor T1 goes wrong.
	E2	The Internal Coil Temperature Sensor T2 goes wrong.
	E3	The External Coil Temperature Sensor T3 goes wrong.
	E4	The outdoor unit goes wrong.
	E5	The model configuration processing (frequency conversion) goes wrong.
	E6	The indoor fan goes wrong and/or the communication between the indoor DC fan and the indoor main control panel goes wrong.
	E7	The Outdoor Temperature Sensor T4 goes wrong.
	E8	The exhaust temperature sensor (TP1 of variable-frequency compressor) goes wrong.
	E9	The variable-frequency module goes wrong.
	EA	The current sensor goes wrong.
	EH	The Return-air Temperature Sensor T5 goes wrong.
	EC	The outdoor communication goes wrong.
	EL	The outdoor low-temperature protection goes wrong.
	EE	The EEPROM goes wrong (The E2 of the outdoor unit goes wrong).
	EF	The outdoor fan goes wrong. The wire controller communication goes wrong.
	EP	The temperature switch at the top of compressor goes wrong.
	EU	The voltage sensor goes wrong.
	Eb	The communication between the main control panel and the display panel goes wrong.
	Ed	The EEPROM of main control panel goes wrong (The E2 of the indoor unit goes wrong)
	En	The indoor coil outlet temperature sensor goes wrong.
	b1	The ambient temperature sensor goes wrong.
	b2	The inlet pipe temperature sensor goes wrong.
	b3	The middle temperature sensor goes wrong.
	b4	The outlet pipe temperature sensor goes wrong.
	b5	The humidity sensor goes wrong.
	b6	The water temperature sensor goes wrong.
	b7	The indoor EEPROM goes wrong.
	b8	The swing motor goes wrong.
	b9	The MAC address of the indoor unit is abnormal.
	bA	The model dial is wrong.
	H0	The outdoor unit goes wrong (including protection) in an all-round way.

Classification	Code	Error Description
Error	C0	The CAN communication goes wrong in an all-round way.
	C1	Multiple main control panel errors
	C2	The number of outdoor unit modules is abnormal (Deficiency/increase)
	C3	The communication between the main control panel and the variable-frequency compressor drive goes wrong.
	C4	The communication between the main control panel and the variable-frequency fan drive goes wrong.
	C5	The communication between the indoor unit and the wire controller goes wrong.
Protection	P0	Module protection
	P1	Over/Under-voltage protection
	P2	Over-current protection (Variable-frequency compressor)
	P3	Outdoor unit protection
	P4	Exhaust high-temperature protection (Variable-frequency compressor or Slave F3)
	P5	Under-cooling protection in the cooling mode (Indoor unit coil temperature protection)
	P6	Over-heating protection in the cooling mode (Condenser high-temperature protection)
	P7	Over-heating protection in the heating mode (Indoor unit coil temperature protection)
	P8	Outdoor high/low-temperature protection
	P9	Drive protection (load abnormal)
	PA	The modes conflict and the top air-out board communication goes wrong.
	d1	Indoor fan protection
	d2	Auxiliary electric heating protection
	d3	Water full protection
	d4	Anti-freezing protection
	d5	The modes conflict.
	d6	The IP address of the indoor unit is abnormal.
	d7	The capacity dial is wrong.
	d8	The engineering numbers conflict.

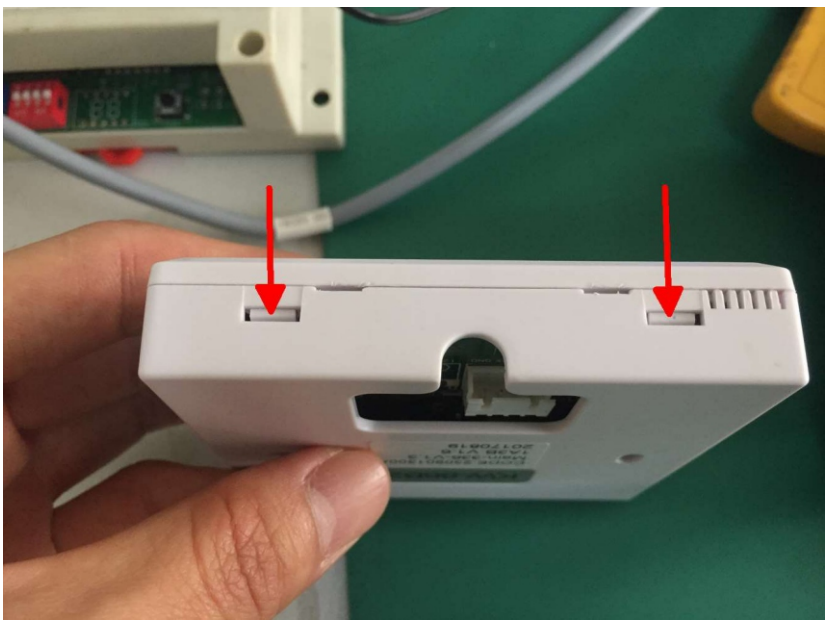
Guide for Installation

86B1\86B2 wire controller installation guideline

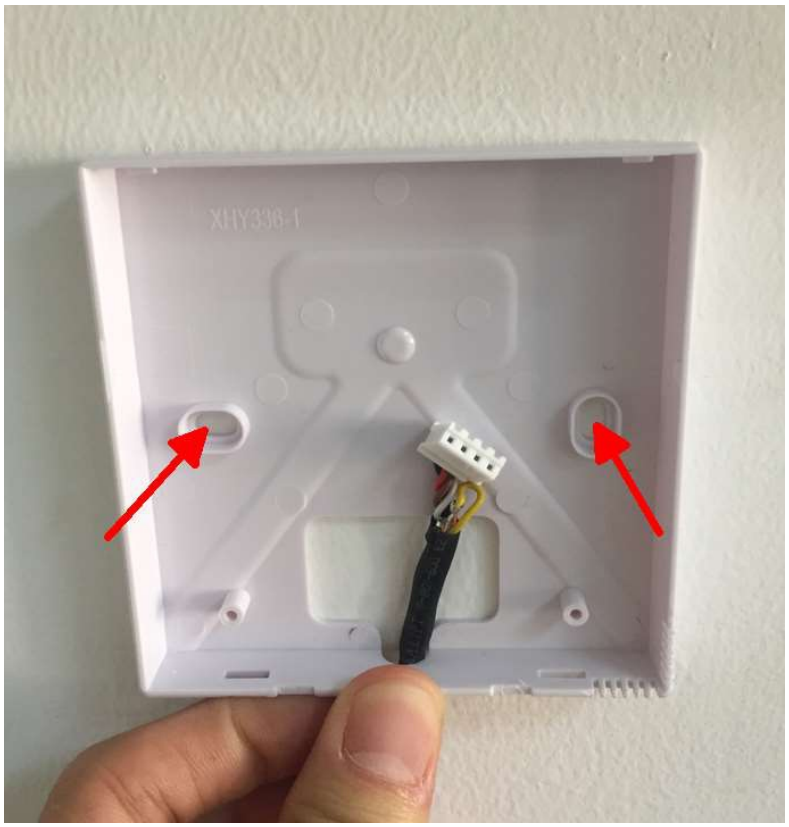
1、Open the wire controller packaging, check the model and the code at back surface.



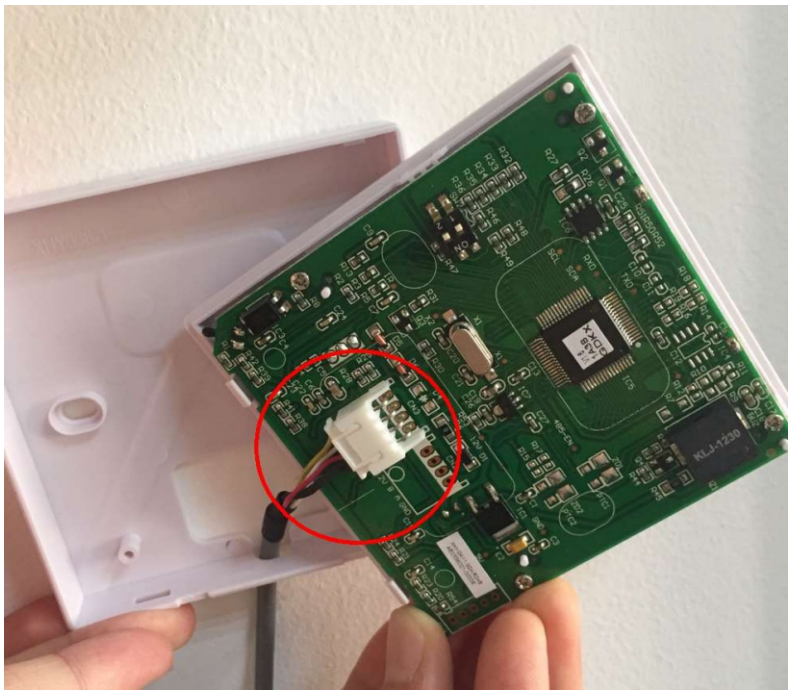
2、Flip the wire controller, press the button at the bottom to separate the back plate from the front panel.



3、Pass the cable through the back panel and use 2 screws to fix it on the wall.



4、Connect the cable and the PCB board.



5、Align the front and back panel and press firmly.