

GIWEE

Service Manual

-- R32 Multi Split Unit



2021.05



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Safety Precautions

Read Safety Precautions Before Installation

Incorrect installation due to ignoring instructions can cause serious damage or injury.

The seriousness of potential damage or injuries is classified as either a WARNING or CAUTION.



Warning

This symbol indicates that ignoring instructions may cause death or serious injury.



Caution

This symbol indicates that ignoring instructions may cause moderate injury to you or damage to your appliance or other property.



Warning

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

I. Installation Warnings

- Ask an authorized dealer to install this air conditioner. Inappropriate installation may cause water leakage, electric shock, or fire.
- All repairs, maintenance and relocation of the unit must be performed by an authorized service technician. Inappropriate repairs can lead to serious injury or product failure.

II. Warnings for product use

- If an abnormal situation arises (like a burning smell), immediately turn off the unit and pull the power plug.
- Call your dealer for instructions to avoid electric shock, fire or injury.
- Do not insert fingers, rods or other objects into the air inlet or outlet. This may cause injury, since the fan may be rotating at high speeds.
- Do not use flammable sprays such as hair spray, lacquer or paint near the unit. This may cause fire or combustion.
- Do not operate the air conditioner in places near or around combustible gases. Emitted gas may collect around the unit and cause explosion.
- Do not operate the air conditioner in a wet room (e.g., bath room or laundry room). This can cause electrical shock and cause the product to deteriorate.
- Do not expose your body directly to cool air for a prolonged period of time.

III. Electrical Warnings

- Only use the specified power cord. If the power cord is damaged, it must be replaced by the manufacturer or certified service agent.

- Keep power plug clean. Remove any dust or grime that accumulates on or around the plug. Dirty plugs can cause fire or electric shock.
- Do not pull power cord to unplug unit. Hold the plug firmly and pull it from the outlet. Pulling directly on the cord can damage it, which can lead to fire or electric shock.
- Do not use an extension cord, manually extend the power cord, or connect other appliances to the same outlet as the air conditioner. Poor electrical connections, poor insulation, and insufficient voltage can cause fire.

IV. Cleaning and Maintenance Warnings

- Turn off the device and pull the plug before cleaning. Failure to do so can cause electrical shock.
- Do not clean the air conditioner with excessive amounts of water.
- Do not clean the air conditioner with combustible cleaning agents. Combustible cleaning agents can cause fire or deformation.







Caution

- If the air conditioner is used together with burners or other heating devices, thoroughly ventilate the room to avoid oxygen deficiency.
- Turn off the air conditioner and unplug the unit if you are not going to use it for a long time.
- Turn off and unplug the unit during storms.
- Make sure that water condensation can drain unhindered from the unit.
- Do not operate the air conditioner with wet hands. This may cause electric shock.
- Do not use device for any other purpose than its intended use.
- Do not climb onto or place objects on top of the outdoor unit.
- Do not allow the air conditioner to operate for long periods of time with doors or windows open, or if the humidity is very high.

I. Specifications

1. Model Reference

Indoor unit		Outdoor unit	Power supply
Wall mounted unit 	CCG-V07HR4-GSA-S40	C2OU-D14HR4-A01 C2OU-D18HR4-A01 C3OU-D21HR4-C01 C3OU-D27HR4-C01 C4OU-D28HR4-D01 C4OU-D36HR4-D01 C5OU-D42HR4-D01	220-240V/1Ph/50Hz
	CCG-V09HR4-GSA-S40		
	CCG-V12HR4-GSB-S40		
	CCG-D18HR4-GSC-S40		
	CCG-D24HR4-GSC-S40		
Cassette unit 	CCB-D07HR4-Q402		
	CCB-D09HR4-Q402		
	CCB-D12HR4-Q402		
	CCB-D18HR4-Q402		
Ducted unit 	CTA-D07HR4-F101		
	CTA-D09HR4-F101		
	CTA-D12HR4-F101		
	CTA-D18HR4-F102		
Console unit 	CZA-D09HR4-ZA		
	CZA-D12HR4-ZA		
	CZA-D18HR4-ZA		

2. Specification

2.1 Outdoor unit

ODU			C2OU-D14HR4-A01	C2OU-D18HR4-A01
			821039200008	821039200007
Power supply		V/Ph/Hz	220-240/1/50	220-240/1/50
Capacity				
Cooling	Capacity	Btu/h	7000~14000	7000-18000
		kW	2.1-4.1	2.1-5.3
	Input	W	1280	1650
	Rated current	A	5.56	7.3
	EER	W/W	3.2	3.2
	SEER		6.2	6.1
Heating	Capacity	Btu/h	8000~16000	8000-20000
		kW	2.3-4.7	2.3-5.9
	Input	W	1350	1730
	Rated current	A	6.4	7.97
	COP	W/W	3.5	3.4
	SCOP		4	4
Max	Current	A	11.4	13.2
	Input	W	2300	2500
Physical data				
Compressor	Model		KSN140D21UFZ	KSN140D21UFZ
	Type		DC	DC
	Brand		GMCC	GMCC
	Capacity	W	4370	4370
	Input	W	1135	1135
	Refrigerant oil	ml	VG74(440ml)	VG74(440ml)
Fan motor	Model		DRN-310-34-8	DRN-310-34-8
	Type		DC	DC
	Output	W	34	34
	Speed	r/min	860	860
Outdoor coil	Number of rows		2	2
	Tube pitch(a)×Row pitch(b)	mm	21*19.4	25*21.65
	Fin type		Hydrophilic	Hydrophilic
	Fin spacing	mm	1.4	1.6
	Tube outside dia. and type	mm	7	9.52
			Inner screw	Inner screw
	Coil length× height× width	mm	820*504*38.8	812*500*43.3
Number of circuits		2	4	
Outdoor air flow(High speed)		m3/h	2300	2300

Sound pressure noise level		dB(A)	55	55
Sound power noise level		dB(A)	65	65
Net dimension(W×H×D)		mm	880×555×345	880×555×345
Packing dimension(W×H×D)		mm	920×600×380	920×600×380
Net/Gross weight		kg	32.4/35.1	33.2/36
Refrigerant	Refrigerant quantity	g	1100	1350
	Refrigerant		R32	R32
	Pipe length without additional charge	m	5	5
	Refrigerant charge(Pipe length>5m)		forφ6.35 (Pipe length-5) *15g/m, forφ9.52 (Pipe length-5) *20g/m Note: Piping length means that liquid side of each indoor unit.	
Piping data				
Liquid side/Gas side		mm	2×(6.35/9.52)	2×(6.35/9.52)
Max. pipe length (total)		m	30	30
Max. height difference between indoor unit and outdoor unit(ODU below)		m	10	10
Max. height difference between indoor unit and outdoor unit(ODU above)		m	10	10
Max. height difference between indoor unit and indoor unit		m	5	5
Main power of outdoor unit cable			3*2.5mm ²	3*2.5mm ²
Connecting wire of indoor unit and outdoor unit			4*1mm ²	4*1mm ²
Ambient temperature	Cooling	°C	-15~52	-15~52
	Heating	°C	-15~34	-15~34
Application area		m ²	2* (10~15)	2* (12~18)

ODU		C30U-D21HR4-C01	C30U-D27HR4-C01	
		821039400007	821039400008	
Power supply	V/Ph/Hz	220-240/1/50	220-240/1/50	
Capacity				
Cooling	Capacity	Btu/h	7000-21000	7000-27000
		kW	2.1-6.2	2.1-7.9
	Input	W	1930	2472
	Rated current	A	8.4	10.9
	EER	W/W	3.2	3.2
	SEER		6.3	6.2
Heating	Capacity	Btu/h	8000-24000	8000-30000
		kW	2.3-7.0	2.3-8.8
	Input	W	2150	2600
	Rated current	A	10.8	10.8
	COP	W/W	3.4	3.4
	SCOP		4	4
Max	Current	A	14.2	17.2
	Input	W	2880	3500
Physical data				
Compressor	Model		KSN140D21UFZ	KTM240D43UMT
	Type		DC	DC
	Brand		GMCC	GMCC
	Capacity	W	4370	7760
	Input	W	1135	2055
	Refrigerant oil	ml	VG74(440ml)	VG74(620ml)
Fan motor	Model		DRN-310-75-8	DRN-310-75-8
	Type		DC	DC
	Output	W	75	75
	Speed	r/min	860	860
Outdoor coil	Number of rows		2	3
	Tube pitch(a) × Row pitch(b)	mm	21*19.4	21*13.37
	Fin type		Hydrophilic	Hydrophilic
	Fin spacing	mm	1.5	1.6
	Tube outside dia. and type	mm	7	7
			Inner screw	Inner screw
	Coil length× height× width	mm	793*650*38.8	784*650*40.1
Number of circuits		6	7	
Outdoor air flow(High speed)	m3/h	3300	3300	
Sound pressure noise level	dB(A)	56	56	
Sound power noise level	dB(A)	66	66	
Net dimension(W×H×D)	mm	938×702×382	938×702×382	
Packing dimension(W×H×D)	mm	975×770×435	975×770×435	
Net/Gross weight	kg	46.3/49.5	51.3/54.5	

Refrigerant	Refrigerant quantity	g	1600	1800
	Refrigerant		R32	R32
	Pipe length without additional charge	m	5	5
	Refrigerant charge(Pipe length>5m)		for ϕ 6.35 (Pipe length-5) *15g/m, for ϕ 9.52 (Pipe length-5) *20g/m Note: Piping length means that liquid side of each indoor unit.	
Piping data				
Liquid side/Gas side		mm	3*(6.35/9.52)	3*(6.35/9.52)
Max. pipe length (total)		m	45	45
Max. height difference between indoor unit and outdoor unit(ODU below)		m	10	10
Max. height difference between indoor unit and outdoor unit(ODU above)		m	10	10
Max. height difference between indoor unit and indoor unit		m	5	5
Main power of outdoor unit cable			3*4mm ²	3*4mm ²
Connecting wire of indoor unit and outdoor unit			4*1mm ²	4*1mm ²
Ambient temperature	Cooling	°C	-15~52	-15~52
	Heating	°C	-15~34	-15~34
Application area		m ²	3* (10~15)	3* (12~18)

ODU			C4OU-D28HR4-D01	C4OU-D36HR4-D01	C5OU-D42HR4-D01
			821042000238	821042000237	821042000239
Power supply		V/Ph/ Hz	220-240/1/50	220-240/1/50	220-240/1/50
Capacity					
Cooling	Capacity	Btu/h	7000~28000	7000~36000	7000-42000
		kW	2.1~8.2	2.1-10.5	2.1-12.3
	Input	W	2520	3400	3900
	Rated current	A	11.2	15.2	18
	EER	W/W	3.25	3.2	3.2
	SEER		6.4	6.6	6.1
Heating	Capacity	Btu/h	8000~30000	8000-38000	8000-44000
		kW	2.3~8.8	2.3-11.1	2.3-12.9
	Input	W	2450	3080	3650
	Rated current	A	11.2	15.2	18
	COP	W/W	3.63	3.6	3.55
	SCOP		4	4	4
Max	Current	A	19	27	28
	Input	W	3600	4900	5100
Physical data					
Compressor	Model		KTM240D43UM T	KTM240D43UMT	KTM310D85UM T
	Type		DC	DC	DC
	Brand		GMCC	GMCC	GMCC
	Capacity	W	7760	7760	9800
	Input	W	2055	2055	2680
	Refrigerant oil	ml	VG74(620ml)	VG74(620ml)	VG74(850ml)
Fan motor	Model		DRN-310-90-8	DRN-310-90-8	DRN-310-90-8
	Type		DC	DC	DC
	Output	W	90	90	90
	Speed	r/min	850	850	850
Outdoor coil	Number of rows		2	2.5	2.5
	Tube pitch(a) × Row pitch(b)	mm	25*21.65	25*21.65	25*21.65
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic
	Fin spacing	mm	1.6	1.6	1.6
	Tube outside dia. and type	mm	9.52	9.52	9.52
			Inner screw	Inner screw	Inner screw
	Coil length × height × width	mm	1003*750*43.3	1003*750*43.3+ 580*750*21.65	1003*750*43.3+ 580*750*21.65
Number of circuits		4	5	5	
Outdoor air flow(High speed)		m3/h	4000	4000	4000
Sound pressure noise level		dB(A)	58	58	58

Sound power noise level		dB(A)	68	68	68
Net dimension(W×H×D)		mm	1035×808×445	1035×808×445	1035×808×445
Packing dimension(W×H×D)		mm	1075×875×495	1075×875×495	1075×875×495
Net/Gross weight		kg	61.5/66	65/70	67.4/72
Refrigerant	Refrigerant quantity	g	2600	2800	3400
	Refrigerant		R32	R32	R32
	Pipe length without additional charge	m	5	5	5
	Refrigerant charge(Pipe length>5m)		forφ6.35 (Pipe length-5) *15g/m, forφ9.52 (Pipe length-5) *20g/m Note: Piping length means that liquid side of each indoor unit.		
Piping data					
Liquid side/Gas side		mm	4×(6.35/9.52)	4×(6.35/9.52)	5×(6.35/9.52)
Max. pipe length (total)		m	60	60	75
Max. height difference between indoor unit and outdoor unit(ODU below)		m	10	10	10
Max. height difference between indoor unit and outdoor unit(ODU above)		m	10	10	10
Max. height difference between indoor unit and indoor unit		m	5	5	5
Main power of outdoor unit cable			3*4mm ²	3*4mm ²	3*6mm ²
Connecting wire of indoor unit and outdoor unit			4*1mm ²	4*1mm ²	4*1mm ²
Ambient temperature	Cooling	°C	-15~52	-15~52	-15~52
	Heating	°C	-15~34	-15~34	-15~34
Application area		m ²	4* (10~15)	4* (12~18)	5* (12~18)

2.2 Wall mounted unit

Wall mounted IDU			CCG-V07HR4-GSA-S40	CCG-V09HR4-GSA-S40	CCG-V12HR4-GSB-S40	CCG-D18HR4-GSC-S40	CCG-D24HR4-GSC-S40
Power supply		V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50
Cooling	Capacity	Btu/h	7000	9000	12000	18000	24000
		kW	2.1	2.6	3.5	5.3	7
Heating	Capacity	Btu/h	8000	10000	13000	19000	25000
		kW	2.3	2.9	3.8	5.6	7.3
Max	Current	A	0.3	0.3	0.4	0.5	0.6
	Input	W	35	35	45	55	65
Fan motor	Model		YDK-15-4P3-AL	YDK-15-4P3-AL	YDK-15-4P3-AL	DR-310-30G-8	DR-310-30G-8
	Type		AC	AC	AC	DC	DC
	Output	W	13	13	13	30	30
	Capacitor	μF	1.5	1.5	1.5	-	-
	Speed(L/M/H/T)	r/min	850/1030/1150/1200	850/1030/1150/1200	800/1100/1220/1250	900/1050/1180/1200	950/1150/1300/1350
Indoor coil	Number of rows		2	2	2	2	2
	Tube pitch(a)*row pitch(b)	mm	21*13.37	21*13.37	21*13.37	21*13.37	21*13.37
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic	Hydrophilic	Hydrophilic
	Fin spacing	mm	1.3	1.3	1.3	1.3	1.3
	Tube outside dia. and type	mm	7	7	7	7	7
			Inner screw	Inner screw	Inner screw	Inner screw	Inner screw
Indoor air flow(Hi)	m ³ /h		450	450	550	850	1020
Sound power noise level (Hi)	dB(A)		50	50	50	53	55
Net dimension(W×H×D)	mm		715*295*198	715*295*198	864*300*200	972*320*215	972*320*215
packing dimension(W×H×D)	mm		800*380*290	800*380*290	950*380*290	1070*410*310	1070*410*310
Net/Gross weight	kg		8.5/10.5	8.5/10.5	9.5/11.5	11.5/14.5	11.5/14.5
Liquid/Gas	mm		6.35/9.52	6.35/9.52	6.35/9.52	6.35/12.7	9.52/15.88
Drainage pipe	mm		DN17	DN17	DN17	DN17	DN17
Application area	m ²		10~15	12~18	16~23	23~34	34~51

2.3 Cassette unit

Cassette IDU			CCB-D07HR4-Q402	CCB-D09HR4-Q402	CCB-D12HR4-Q402	CCB-D18HR4-Q402
Power supply		V/ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50
Cooling	Capacity	Btu/h	7000	9000	12000	18000
		kW	2.1	2.6	3.5	5.3
	Input	W	25	25	26	34
	Rated current	A	0.12	0.12	0.12	0.16
Heating	Capacity	Btu/h	8000	10000	13000	19000
		kW	2.3	2.9	3.8	5.6
	Input	W	25	25	26	34
	Rated current	A	0.12	0.12	0.12	0.16
Fan motor	Model		DR-310-35Q-8-1	DR-310-35Q-8-1	DR-310-35Q-8-1	DR-310-35Q-8-1
	Type		DC	DC	DC	DC
	Input	W	21/16/12	21/16/12	23/18/13	30/24/18
	Speed(H/M/L)	r/min	540/490/410	540/490/410	690/610/520	790/740/610
Indoor coil	Number of rows		2	2	2	2
	Tube pitch(a) ×row pitch(b)	mm	21*13.37	21*13.37	21*13.37	21*13.37
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic	Hydrophilic
	Fin spacing	mm	1.4	1.4	1.4	1.4
	Tube outside dia. and type	mm	7	7	7	7
			Inner screw	Inner screw	Inner screw	Inner screw
	Coil size (W*D*H)	mm	1313*26.74*210	1313*26.74*210	1313*26.74*210	1313*26.74*210
Number of circuits		4	4	4	4	
Indoor air flow(Hi/Mi/Lo)	m ³ /h	540/490/410	540/490/410	690/610/520	790/710/610	
Indoor noise(Hi/Mi/Lo)	dB(A)	39/36/33	39/36/33	40/37/34	44/41/38	
Sound power noise level (Hi)	dB(A)	50	50	54	55	
Net dimension(W×H×D)	mm	580×267×580	580×267×580	580×267×580	580×267×580	
packing dimension(W×H×D)	mm	755×375×680	755×375×680	755×375×680	755×375×680	
Net/Gross weight	kg	16.5/21.5	16.5/21.5	16.5/21.5	16.5/21.5	
Liquid/Gas	mm	6.35/9.52	6.35/9.52	6.35/9.52	6.35/12.7	
Drainage pipe	mm	DN25	DN25	DN25	DN25	
Application area	m ²	10~15	12~18	16~23	23~34	
Dehumidification	kg/h	0.5	0.6	0.84	1.27	

2.4 Ducted unit

Ducted IDU			CTA-D07HR4-F101	CTA-D09HR4-F101	CTA-D12HR4-F101	CTA-D18HR4-F102
Power supply		V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50
Cooling	Capacity	Btu/h	7000	9000	12000	18000
		kW	2.1	2.6	3.5	5.3
	Input	W	20	20	30	55
	Rated current	A	0.1	0.1	0.15	0.2
Heating	Capacity	Btu/h	8000	10000	13000	19000
		kW	2.3	2.9	3.8	5.6
	Input	W	20	20	30	55
	Rated current	A	0.1	0.1	0.15	0.2
Fan motor	Model		DR-310-27F-8	DR-310-27F-8	DR-310-27F-8	DR-310-55F-8
	Type		DC	DC	DC	DC
	Output	W	27	27	27	55
	Speed(H/M/L)	r/min	850/640/550	850/640/550	850/640/550	1080/980/800
Indoor coil	Number of rows		2	2	2	2
	Tube pitch(a) × row pitch(b)	mm	21*12.7	21*12.7	21*12.7	21*12.7
	Fin type		Hydrophilic	Hydrophilic	Hydrophilic	Hydrophilic
	Fin spacing	mm	1.4	1.4	1.4	1.4
	Tube outside dia. and type	mm	7	7	7	7
			Inner screw	Inner screw	Inner screw	Inner screw
	Coil size (W*D*H)		2*(515*27*146)	2*(515*27*146)	2*(515*27*146)	2*(715*38.1*147)
Number of circuits		4	4	4	4	
Indoor air flow(Hi/Mi/Lo)	m ³ /h	550/410/340	550/410/340	550/410/340	800/700/600	
Static Pressure	Pa	0-30	0-30	0-30	0-30	
Indoor noise(Hi/Mi/Lo)	dB(A)	30/26/23	30/26/23	30/26/23	38/33/29	
Sound power noise level (Hi)	dB(A)	47	47	47	58	
Net dimension(W×H×D)	mm	814×210×467	814×210×467	814×210×467	1010×210×467	
packing dimension(W×H×D)	mm	910×240×510	910×240×510	910×240×510	1110×240×510	
Net/Gross weight	kg	17/19.5	17/19.5	17/19.5	22.5/26	
Liquid/Gas	mm	6.35/9.52	6.35/9.52	6.35/9.52	6.35/12.7	
Drainage pipe	mm	DN25	DN25	DN25	DN25	
Application area	m ²	10~15	12~18	16~23	23~34	
Dehumidification	kg/h	0.5	0.6	0.84	1.27	

2.5 Console

Console IDU			CZA-D09HR4- ZA	CZA-D12HR4- ZA	CZA-D18HR4- ZA	
Power supply		V/ph/H z	220~240/1/50	220~240/1/50	220~240/1/50	
Cooling	Capacity	Btu/h	4500~9000~9900	6000~12000~13200	9000~18000~19800	
		kW	1.3~2.6~2.9	1.76~3.5~3.87	2.64~5.3~5.80	
	Input	W	35~40~45	35~40~45	40~45~50	
	Rated current	A	0.20	0.20	0.22	
Heating	Capacity	Btu/h	5000~10000~11000	6500~13000~14300	9500~19000~20900	
		kW	1.5~2.9~3.2	1.91~3.8~4.19	2.78~5.6~6.13	
	Input	W	35~40~45	35~40~45	40~45~50	
	Rated current	A	0.20	0.20	0.22	
Fan motor	Model		DR-310-30N-8	DR-310-30N-8	DR-310-30N-8	
	Type		DC	DC	DC	
	Input	W	38	38	43	
	Speed(H/M/L)	r/min	600/570/500	650/600/570	700/650/600	
Indoor coil	Number of rows		2	2	2	
	Tube pitch(a)*row pitch(b)		mm	21×13.37	21×13.37	21×13.37
	Fin type			Hydrophilic	Hydrophilic	Hydrophilic
	Fin spacing	mm	1.4	1.4	1.4	
	Tube outside dia. and type	mm	7	7	7	
			Inner screw	Inner screw	Inner screw	
	Coil size (W*D*H)	mm	552*26.74*378	552*26.74*378	552*26.74*378	
Number of circuits			3	3	3	
Indoor air flow(Hi/Mi/Lo)		m ³ /h	520/480/420	560/520/480	610/560/520	
Indoor noise(Hi/Mi/Lo)		dB(A)	39/37/35	41/39/37	43/41/39	
Sound power noise level (Hi/Mi/Lo)		dB(A)	50/48/46	52/50/48	54/52/50	
Net dimension(W×H×D)		mm	700×630×215	700×630×215	700×630×215	
packing dimension(W×H×D)		mm	790×700×275	790×700×275	790×700×275	
Net/Gross weight		kg	15/18	15/18	15/18	
Liquid/Gas		mm	6.35/9.52	6.35/9.52	6.35/12.7	
Drainage pipe		mm	DN25	DN25	DN25	
Application area		m ²	12~18	16~23	23~34	
Dehumidification		kg/h	0.6	0.84	1.27	

3. Indoor unit combination

C2OU-D14HR4-A01

One IDU	Two IDU
7	7+7
9	7+9
12	9+9
18	

C2OU-D18HR4-A01

One IDU	Two IDU	
9	7+7	9+9
12	7+9	9+12
18	7+12	

C3OU-D21HR4-C01

One IDU	Two IDU		Three IDU	
12	7+7	9+9	7+7+7	7+9+9
18	7+9	9+12	7+7+9	9+9+9
24	7+12	9+18	7+7+12	
	7+18	12+12		

C3OU-D27HR4-C01

One IDU	Two IDU			Three IDU		
18	7+7	9+9	12+12	7+7+7	7+9+9	9+9+9
24	7+9	9+12	12+18	7+7+9	7+9+12	9+9+12
	7+12	9+18		7+7+12	7+9+18	9+12+12
	7+18	9+24		7+7+18		
	7+24					

C4OU-D28HR4-D01

One IDU	Two IDU			Three IDU			Four IDU	
18	7+7	9+9	12+12	7+7+7	7+9+9	9+9+9	7+7+7+7	7+9+9+9
24	7+9	9+12	12+18	7+7+9	7+9+12	9+9+12	7+7+7+9	9+9+9+9
	7+12	9+18	12+24	7+7+12	7+9+18	9+9+18	7+7+7+12	
	7+18	9+24	18+18	7+7+18		9+12+12	7+7+9+9	
	7+24					12+12+12	7+7+9+12	

C4OU-D36HR4-D01

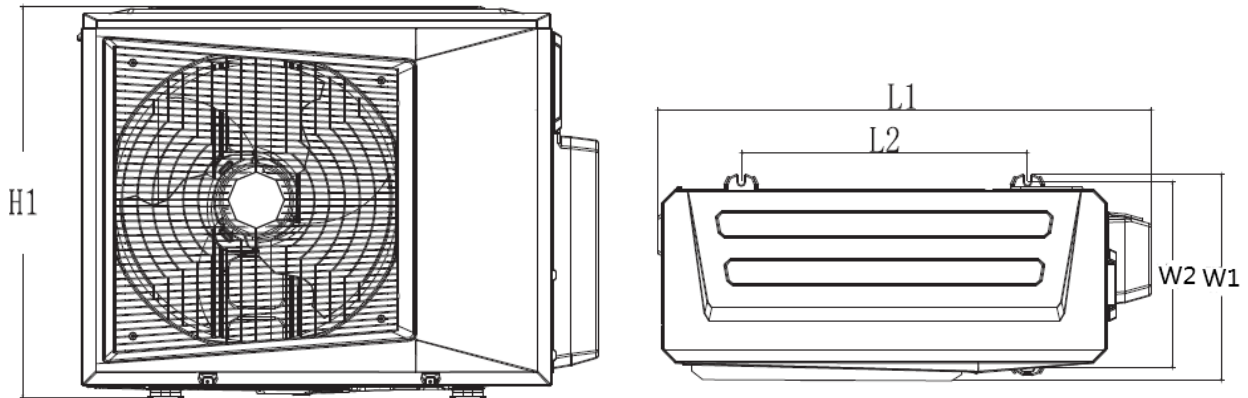
One IDU	Two IDU			Three IDU						
18	7+9	9+9	12+12	7+7+7	7+9+9	7+12+12	9+9+9	9+12+12	12+12+12	
24	7+12	9+12	12+18	7+7+9	7+9+12	7+12+18	9+9+12	9+12+18	12+12+18	
	7+18	9+18	12+24	7+7+12	7+9+18	7+12+24	9+9+18	9+12+24		
	7+24	9+24	18+18	7+7+18	7+9+24	7+18+18	9+9+24	9+18+18		
			18+24	7+7+24						
Four IDU										
7+7+7+7			7+7+9+9			7+9+9+9		9+9+9+9		
7+7+7+9			7+7+9+12			7+9+9+12		9+9+9+12		
7+7+7+12			7+7+9+18			7+9+9+18		9+9+9+18		
7+7+7+18			7+7+12+12			7+9+12+12		9+9+12+12		
7+7+7+24			7+7+12+18			7+9+12+18		9+12+12+12		
					7+12+12+12					

C5OU-D42HR4-D01

One IDU	Two IDU		Three IDU						
24	7+18	12+12	7+7+7	7+9+9	7+12+12	9+9+9	9+12+12	12+12+12	
	7+24	12+18	7+7+9	7+9+12	7+12+18	9+9+12	9+12+18	12+12+18	
	9+12	12+24	7+7+12	7+9+18	7+12+24	9+9+18	9+12+24	12+12+24	
	9+18	18+18	7+7+18	7+9+24	7+18+18	9+9+24	9+18+18	12+18+18	
	9+24	18+24	7+7+24	18+18+18	7+18+24		9+18+24	12+18+24	
Four IDU									
7+7+7+7		7+7+9+9		7+7+12+12		7+9+9+9		9+9+12+12	
7+7+7+9		7+7+9+12		7+7+12+18		7+9+9+12		9+9+12+18	
7+7+7+12		7+7+9+18		7+7+12+24		7+9+9+18		9+9+12+24	
7+7+7+18		7+7+9+24		7+7+18+18		7+9+9+24		9+12+12+12	
7+7+7+24					7+12+12+12			9+12+12+18	
					7+12+12+18				
Five IDU									
7+7+7+7+7			7+7+7+9+9			7+7+9+9+9		7+9+9+9+9	
7+7+7+7+9			7+7+7+9+12			7+7+9+9+12		7+9+9+9+12	
7+7+7+7+12			7+7+7+9+18			7+7+9+9+18		7+9+9+9+18	
7+7+7+7+18			7+7+7+9+24			7+7+9+12+12		7+9+9+12+12	
7+7+7+7+24			7+7+7+12+12			7+7+9+12+18		7+9+12+12+12	
			7+7+7+12+18			7+7+12+12+12			

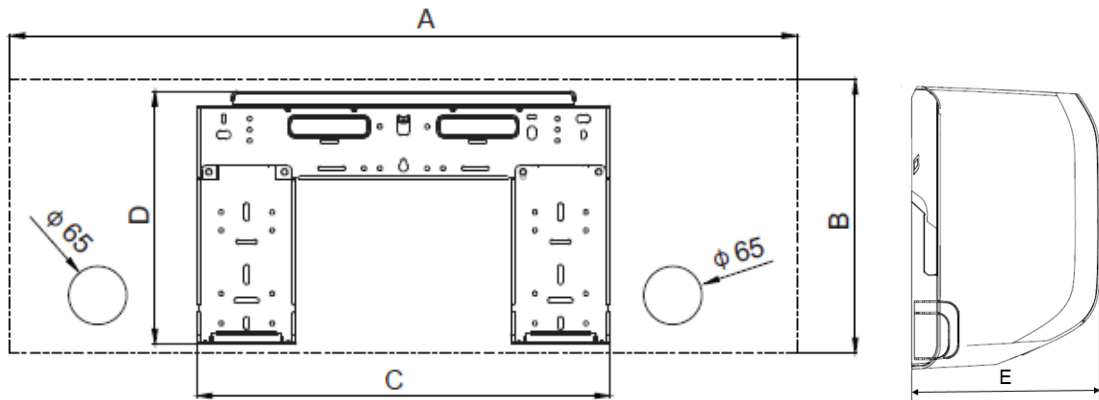
4. Dimensions

4.1 Outdoor unit



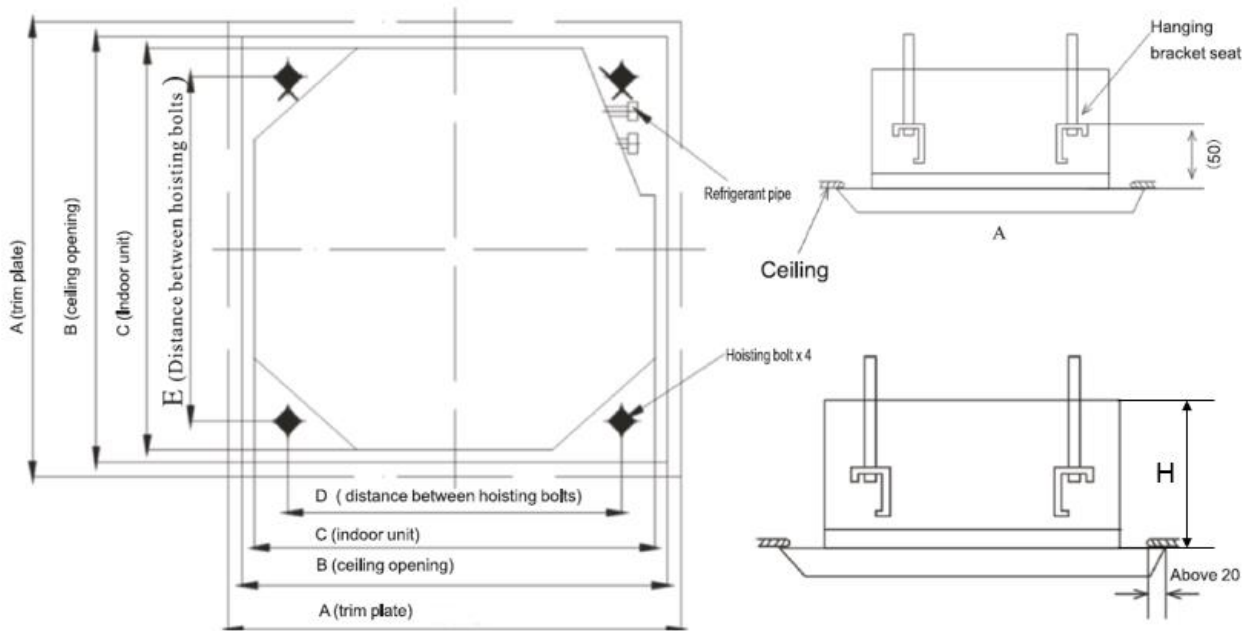
	Outdoor unit dimension/mm		Mounting dimension/mm	
	L1*H1*W1		L2	W2
14/18K	880*555*345		508	314
21/27K	938*702*382		544	353
28/36/42K	1035*808*445		670	399

4.2 Wall mounted unit



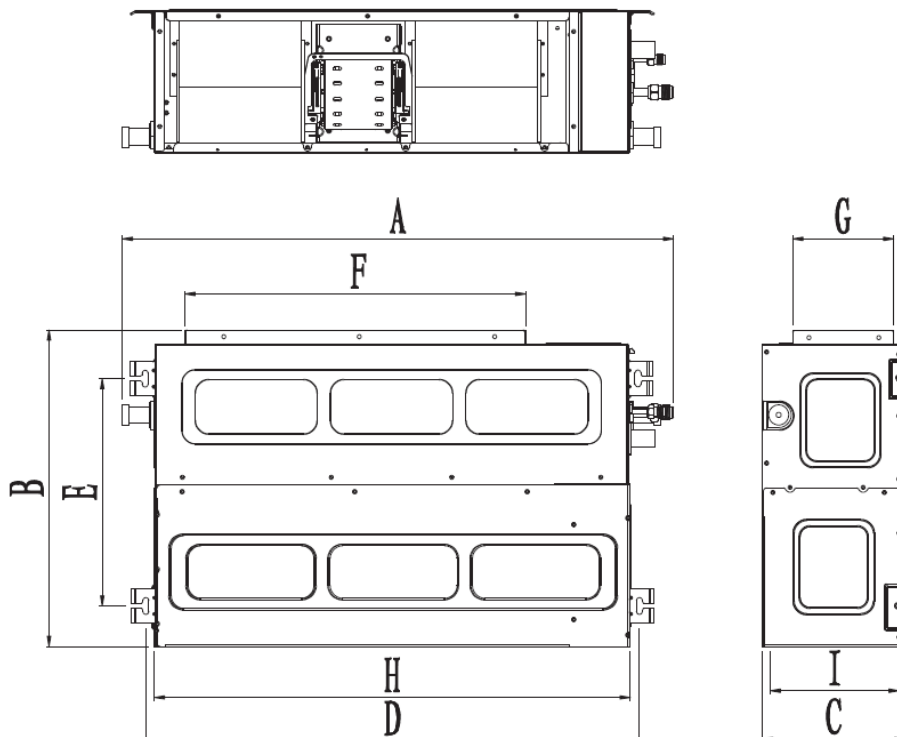
	A	B	C	D	E
07/09K	715	295	396	272	198
12K	865	300	453	277	200
18/24K	972	320	619	294	215

4.3 Cassette unit



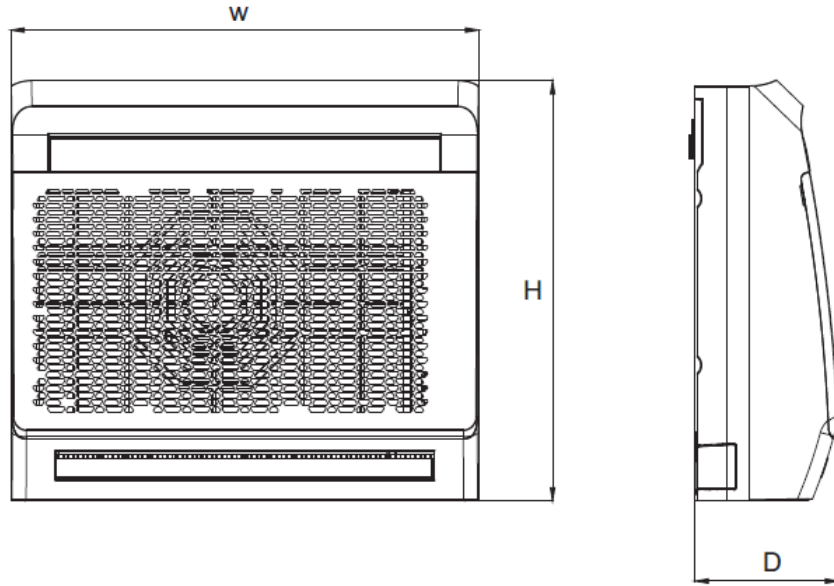
	A	B	C	D	E	H
7/9/12/18k	650	610	565	528	528	267

4.4 Ducted unit



	Body size			Installation size		Air outlet size		Air inlet size	
	A	B	C	D	E	F	G	H	I
7/9/12K	814	467	210	728	335	503	150	611	200
18K	1010	467	210	928	335	705	150	811	200

4.5 Console unit

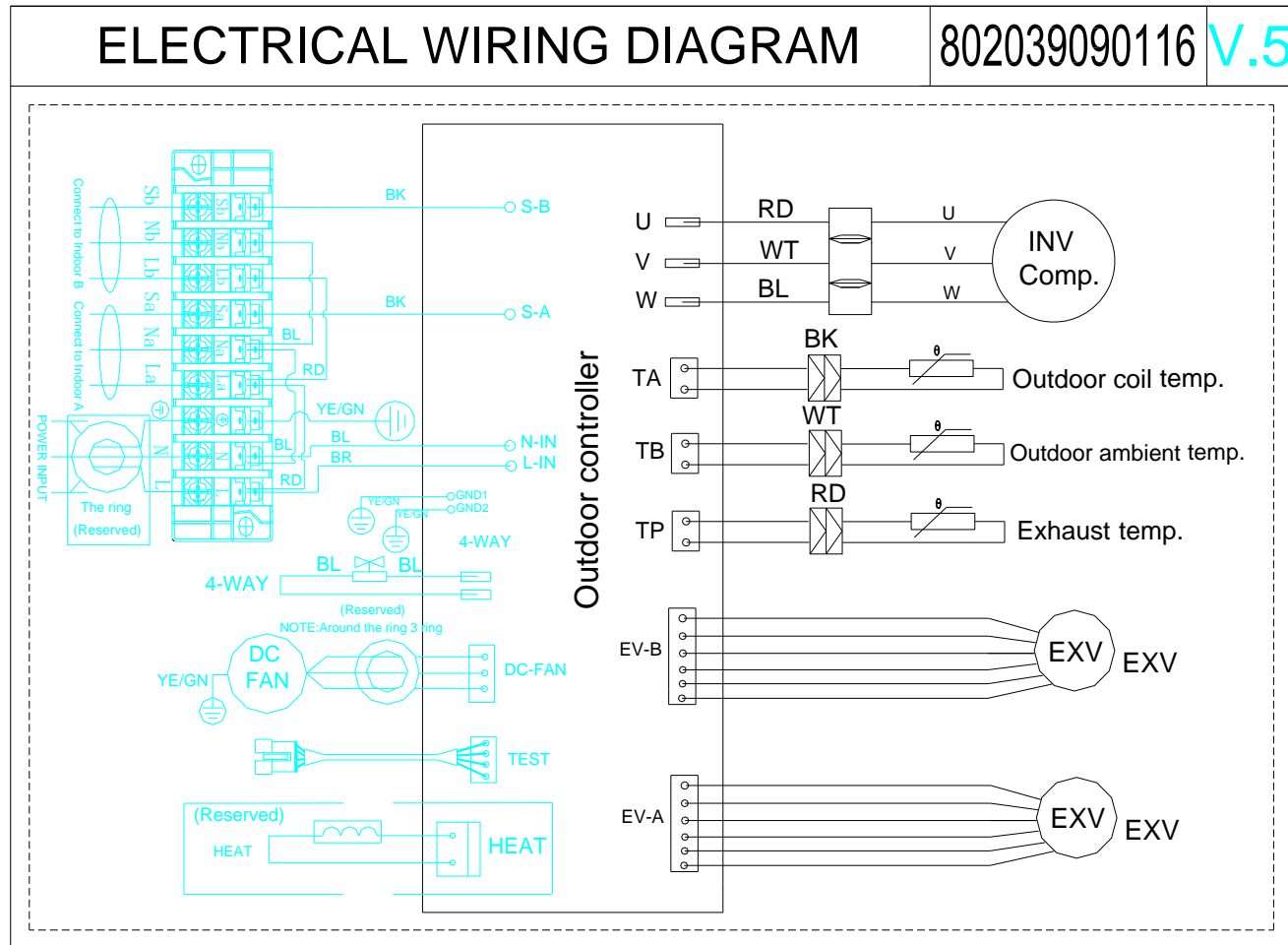


	W	D	H
9/12/18K	700	215	630

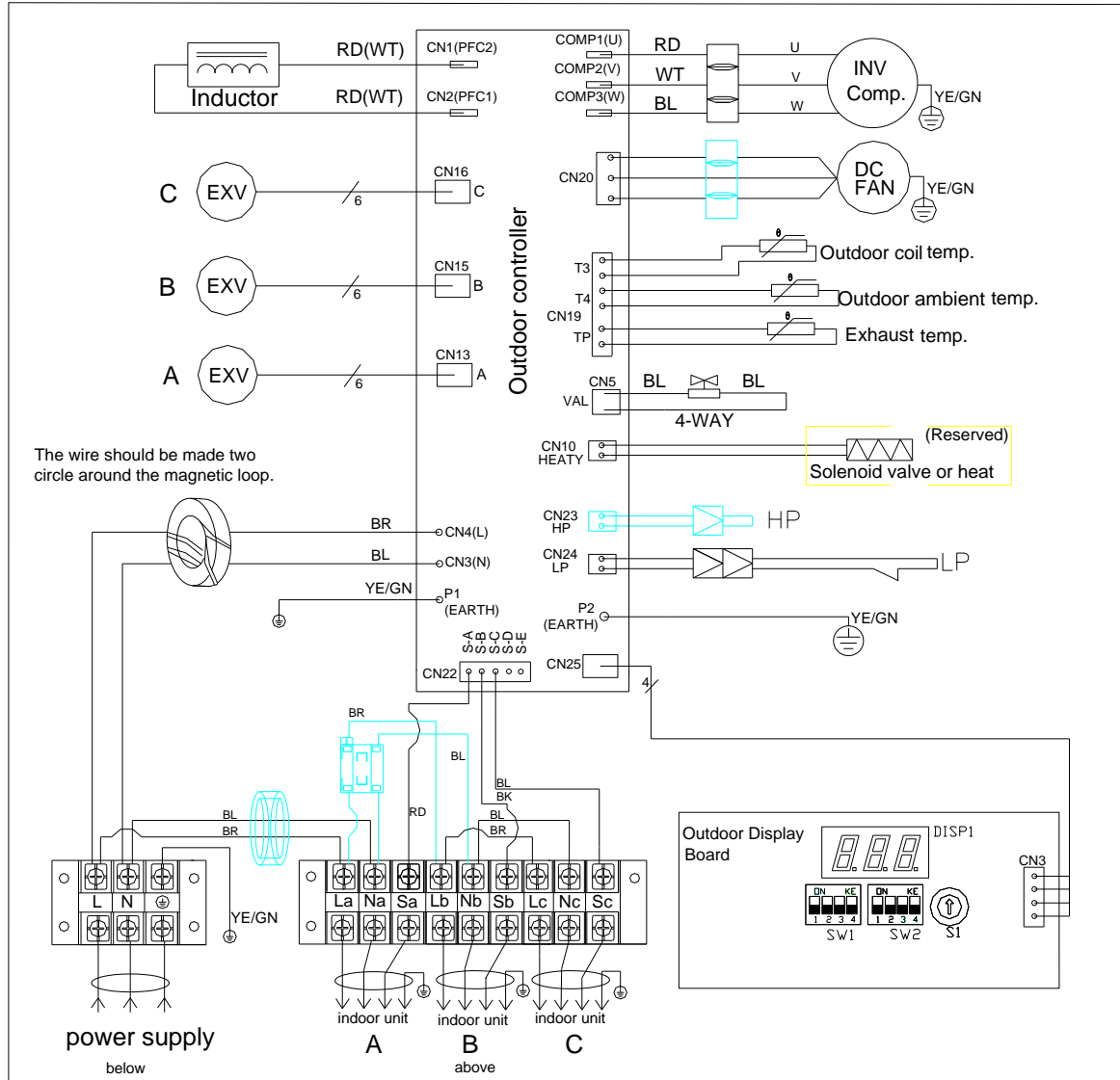
5. Wiring diagram

5.1 Outdoor unit

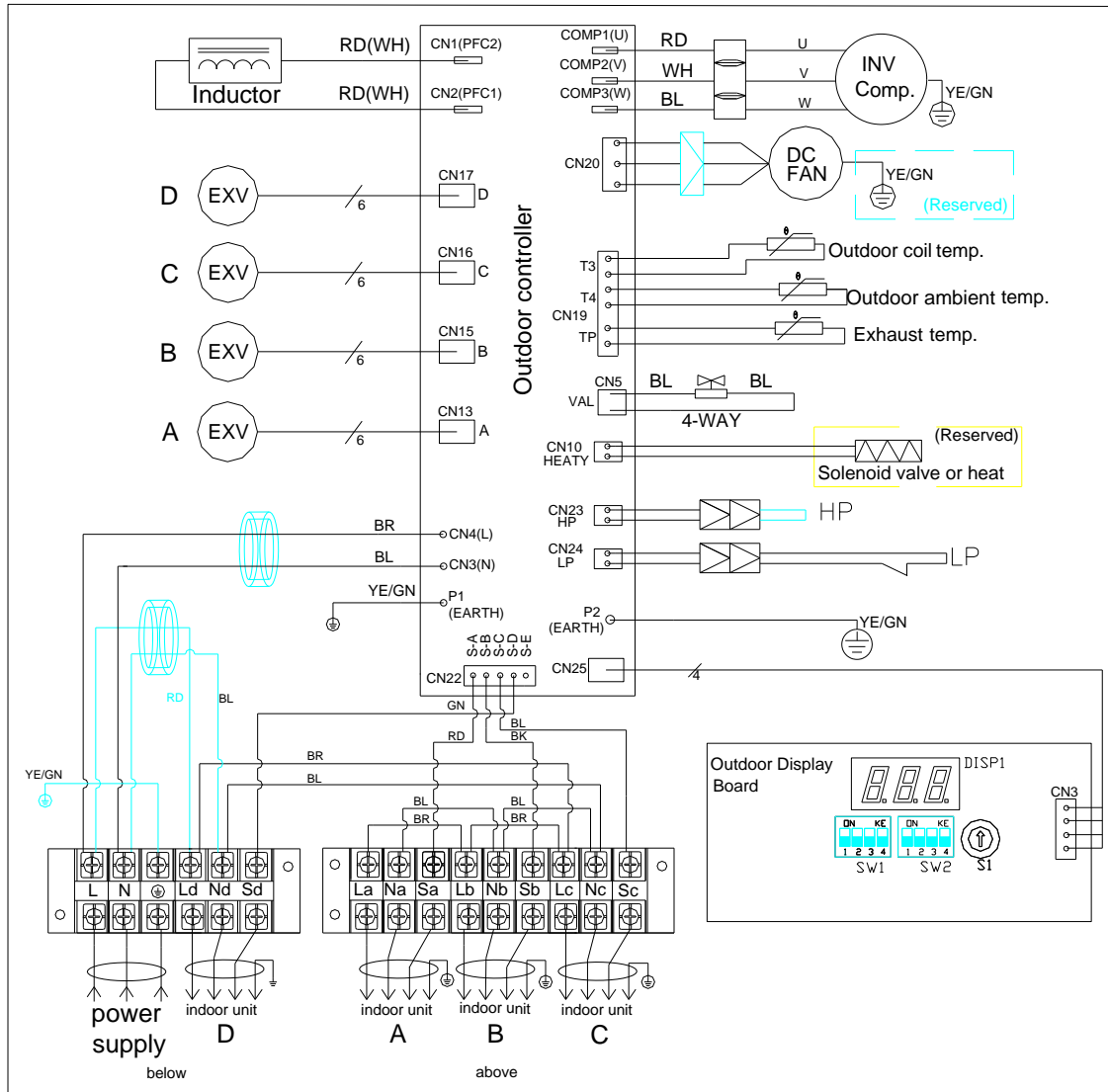
14/18K ODU



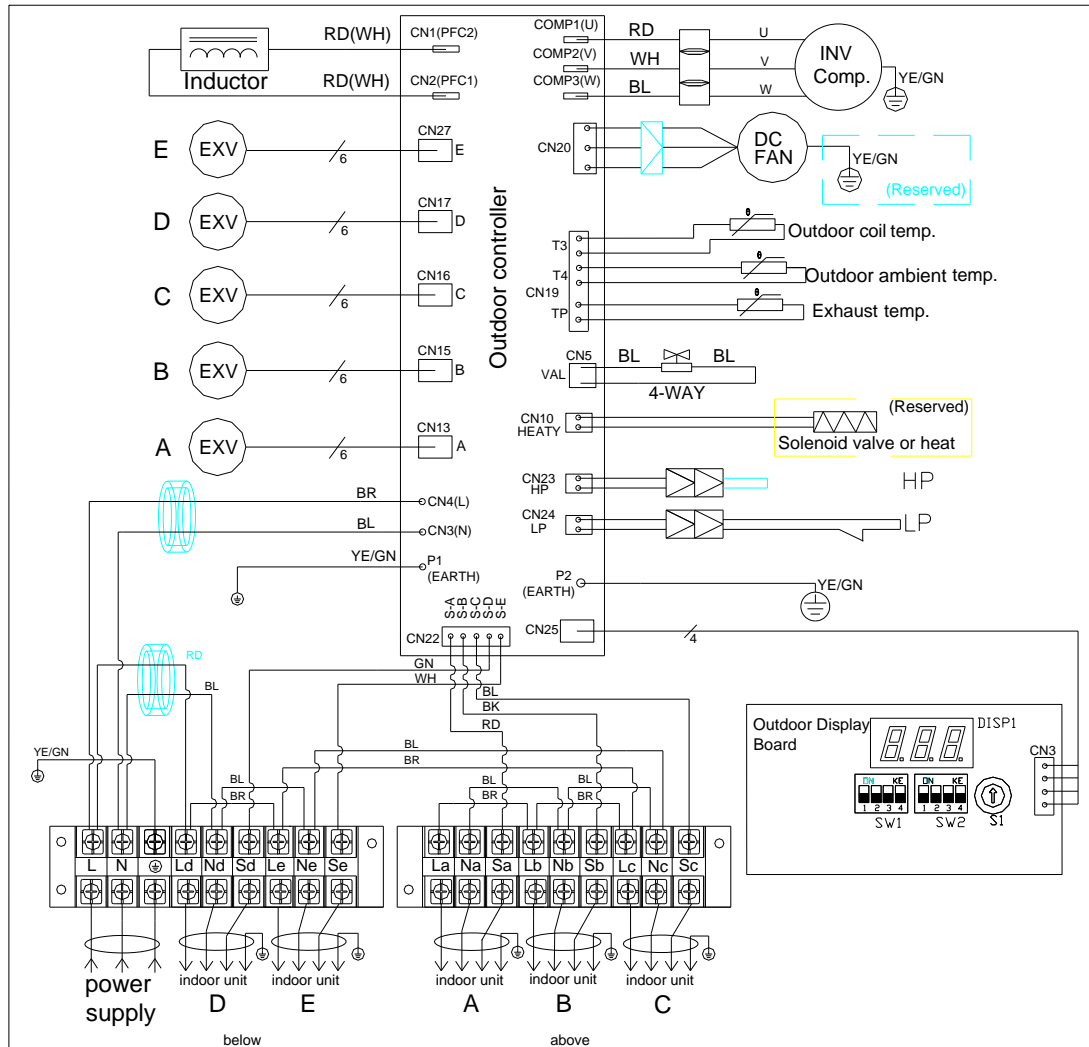
21/27K ODU



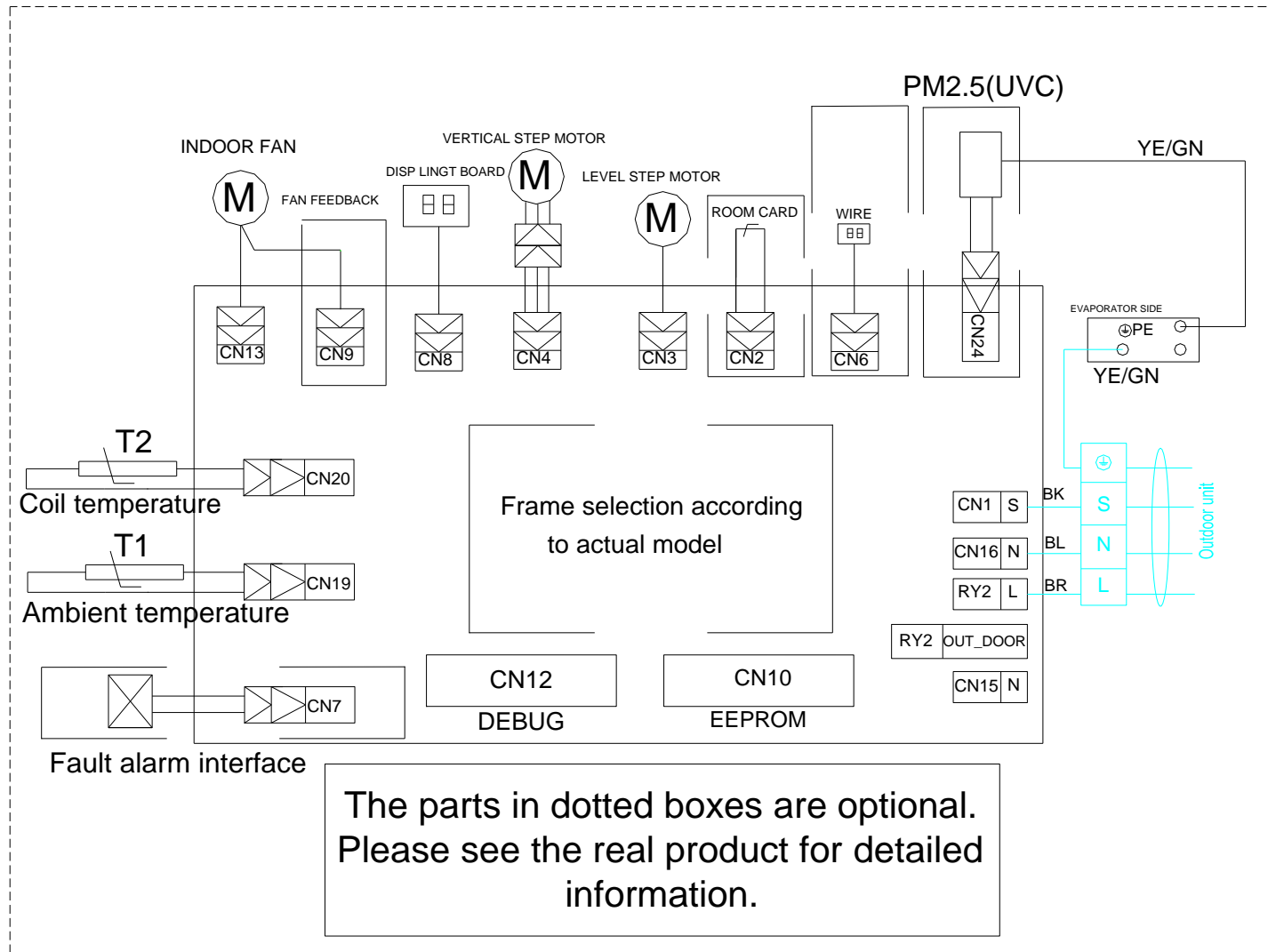
28/36K ODU



42K ODU



5.2 Wall mounted unit



5.3 Cassette unit

802040090187 V.2

Electrical wiring diagram

Indoor models Select bits	
SW2 NO.1,2	Indoor models
ON <input type="checkbox"/>	Small Ceiling cassette unit
OFF <input type="checkbox"/>	Ceiling cassette unit
ON <input type="checkbox"/>	360° Ceiling cassette unit
OFF <input type="checkbox"/>	Floor&Ceiling Unit

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

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

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

SW2 NO.6	Reserved
SW2 NO.7	Reserved

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

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	1.7	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	47	53	70	80	90	105	125	140	150	160	180	Reserved
POWER	Reserved	7K	9K	12K	16K	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:

ON

OFF 1

That DIP to ON

ON

OFF 1

That DIP to OFF

FACTORY DEFAULT

SW2

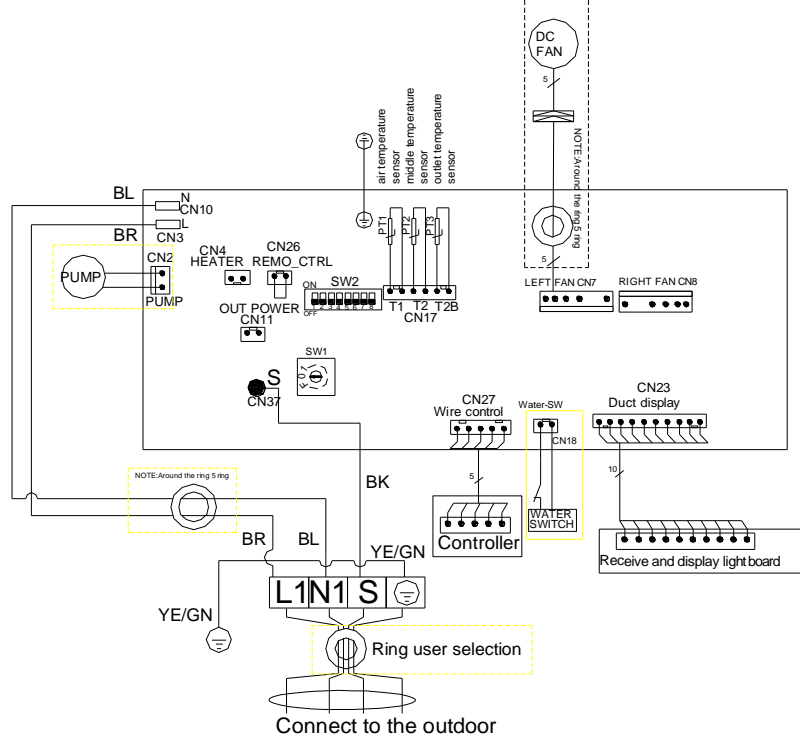
ON

OFF

5.4 Ducted unit

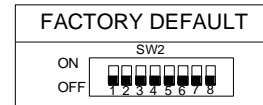
Electrical wiring diagram

802039190061 V.0



NOTE:

- ON That DIP to ON
- OFF 1
- ON That DIP to OFF
- OFF



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

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

SW2 NO.4	Display light board
ON	LED
OFF	Digital tube

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

SW2 NO.6	Reserved
SW2 NO.7	Reserved

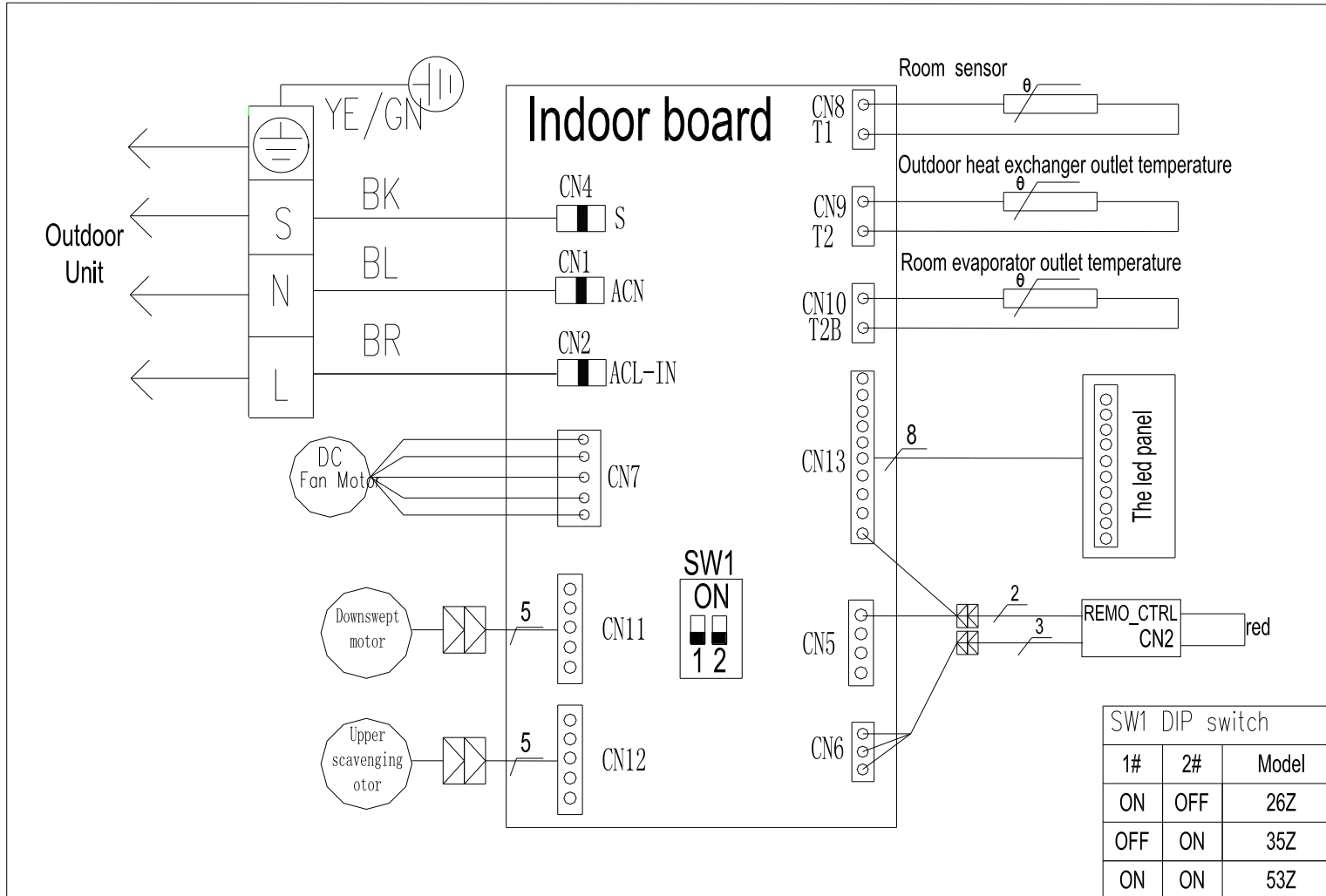
SW2 NO.8	Room temp. sensor T1 for
ON	Electric control panel
OFF	Wire controller

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	1.7	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	47	53	70	80	90	105	125	140	150	160	180	Reserved	
POWER	Reserved	7K	9K	12K	16K	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

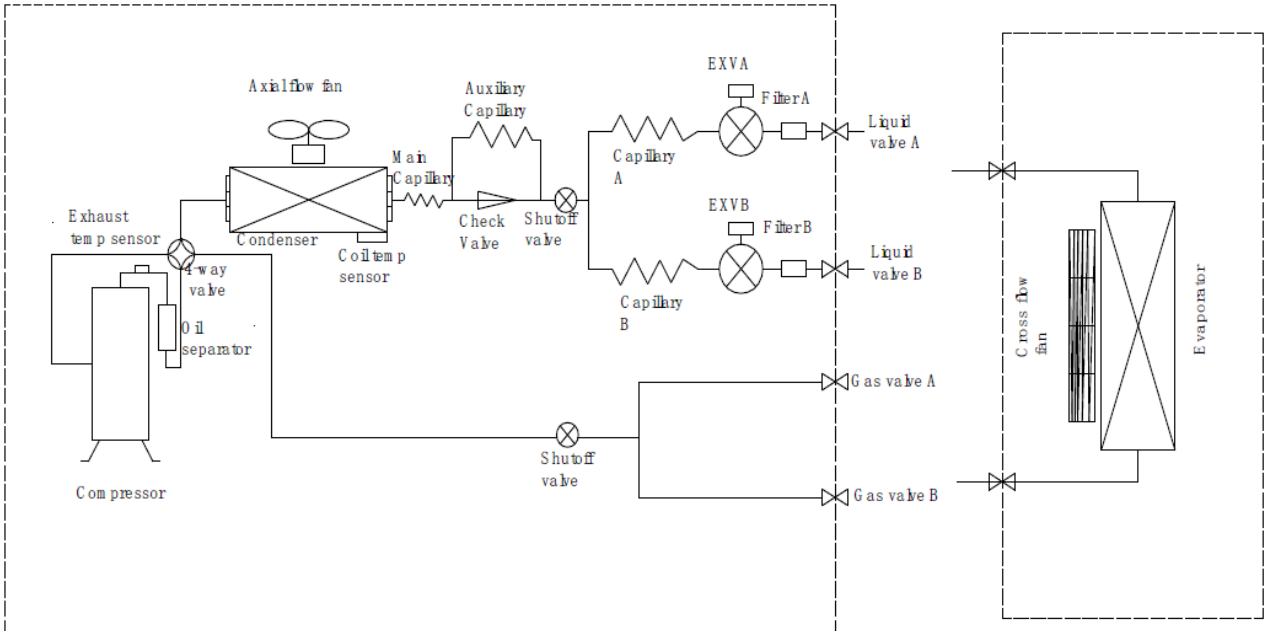
NOTE: 1. Without the pump type water level switch output cables short circuit.

5.5 Console unit

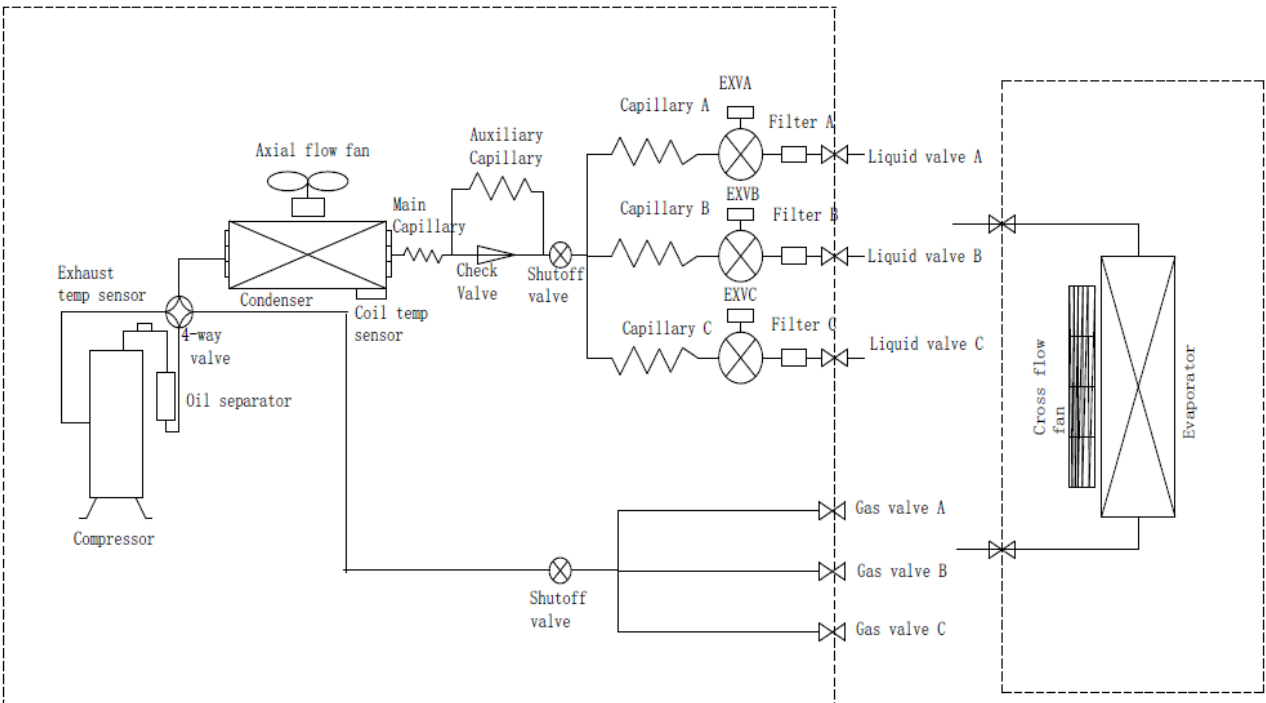


6. Refrigerant cycle diagram

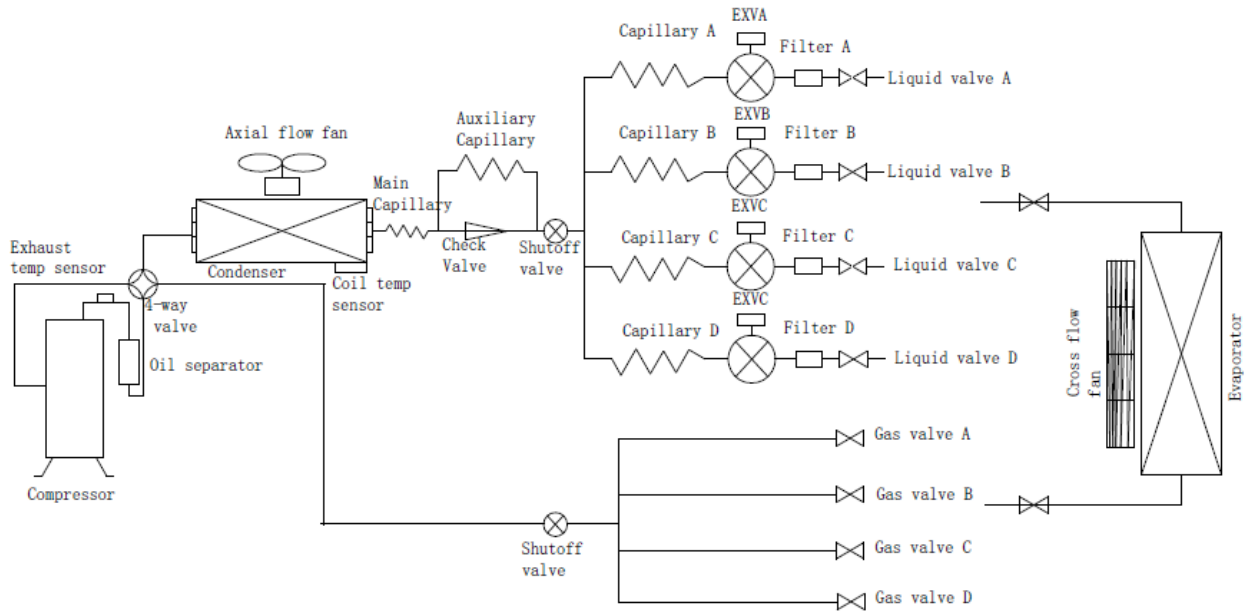
C2OU-D14HR4-A01, C2OU-D18HR4-A01



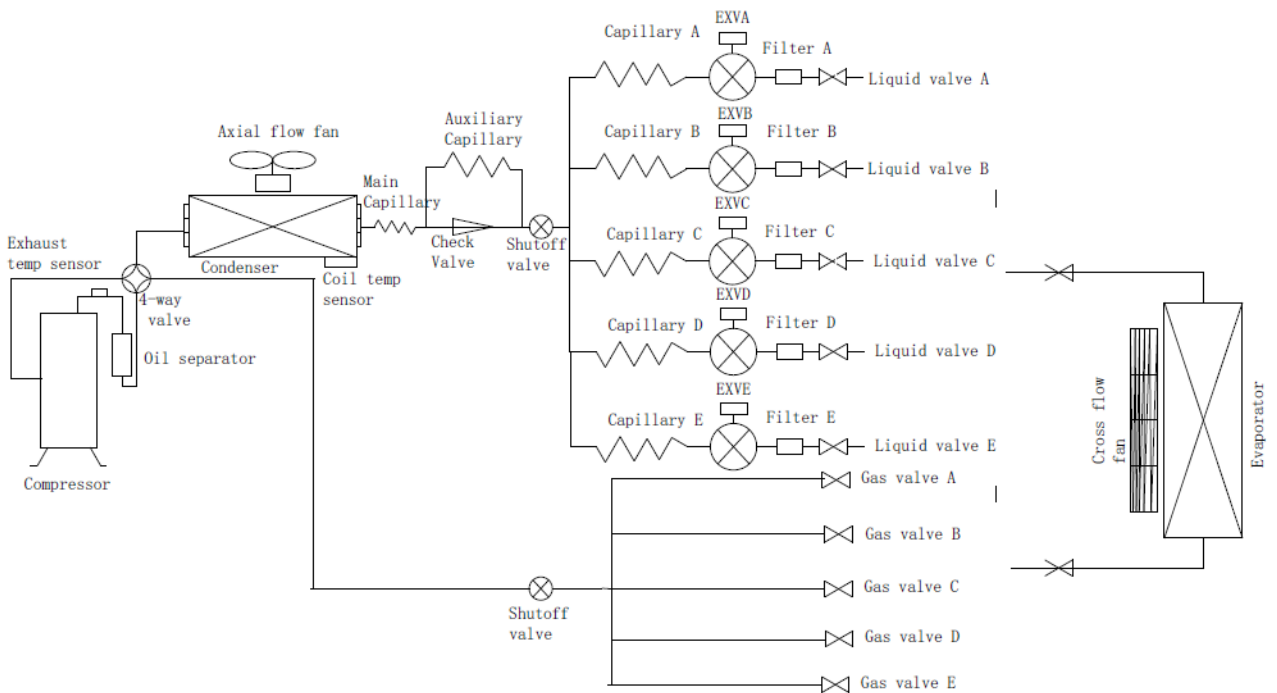
C3OU-D21HR4-C01, C3OU-D27HR4-C01



C4OU-D28HR4-D01, C4OU-D36HR4-D01



C5OU-D42HR4-D01

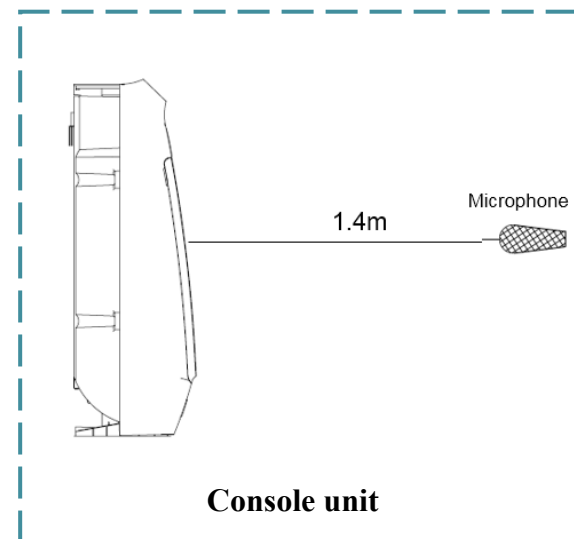
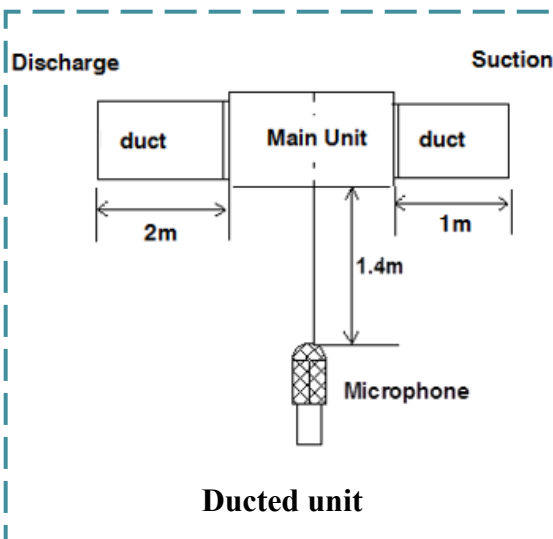
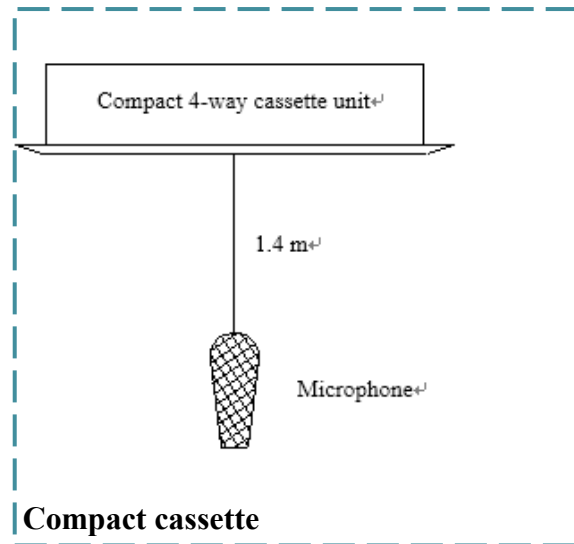
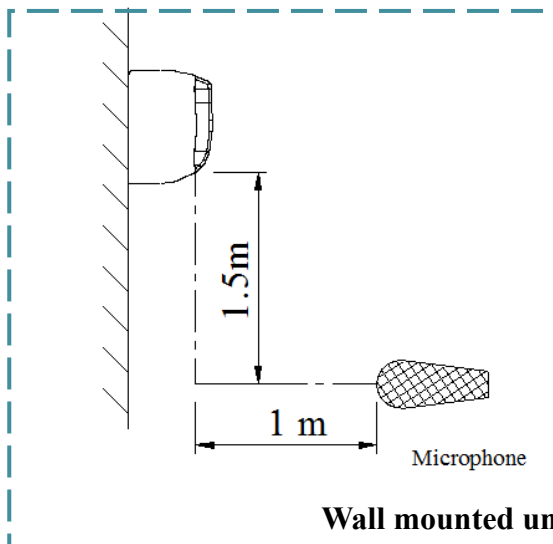
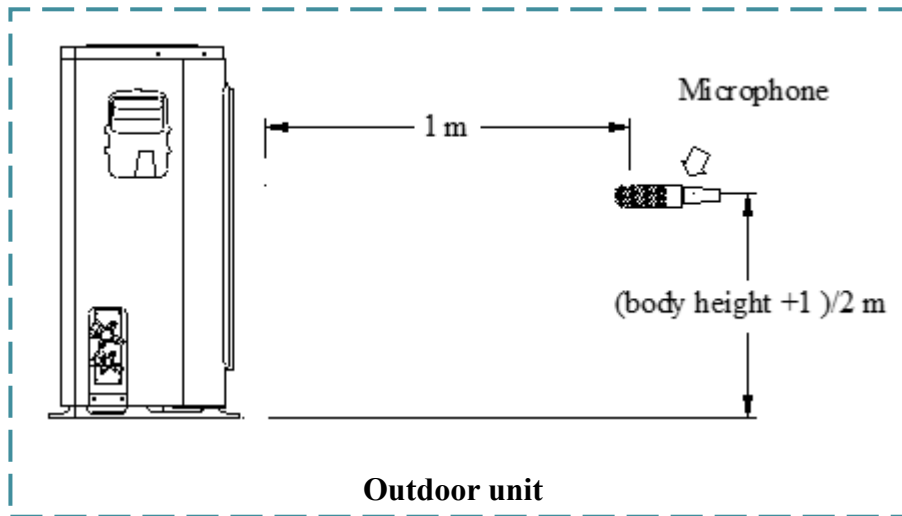


Model	Pipe size		Max. piping length		Max. piping height		Additional refrigerant
	Gas side	Liquid	Single	Total	IDU & OUD	Between IDUs	
C2OU-D14HR4-A01	9.52*2	6.35*2	15m	30m	10m	5m	ForΦ 6.35(Pipe length-5)*15g/m, forΦ 9.52(Pipe length-5)*20g/m
C2OU-D18HR4-A01							
C3OU-D21HR4-C01	9.52*3	6.35*3	22.5	45			
C3OU-D27HR4-C01							
C4OU-D28HR4-D01	9.52*4	6.35*4	30	60			
C4OU-D36HR4-D01							
C5OU-D42HR4-D01	9.52*5	6.35*5	37.5	75			

Indoor unit connection pipe diameter

Indoor unit capacity	Liquid side	Gas side	Accessories
7/9/12K	Φ6.35	Φ9.52	/
18K	Φ6.35	Φ12.7	One adapter
24K	Φ9.52	Φ15.88	Two adapters

7. Sound level



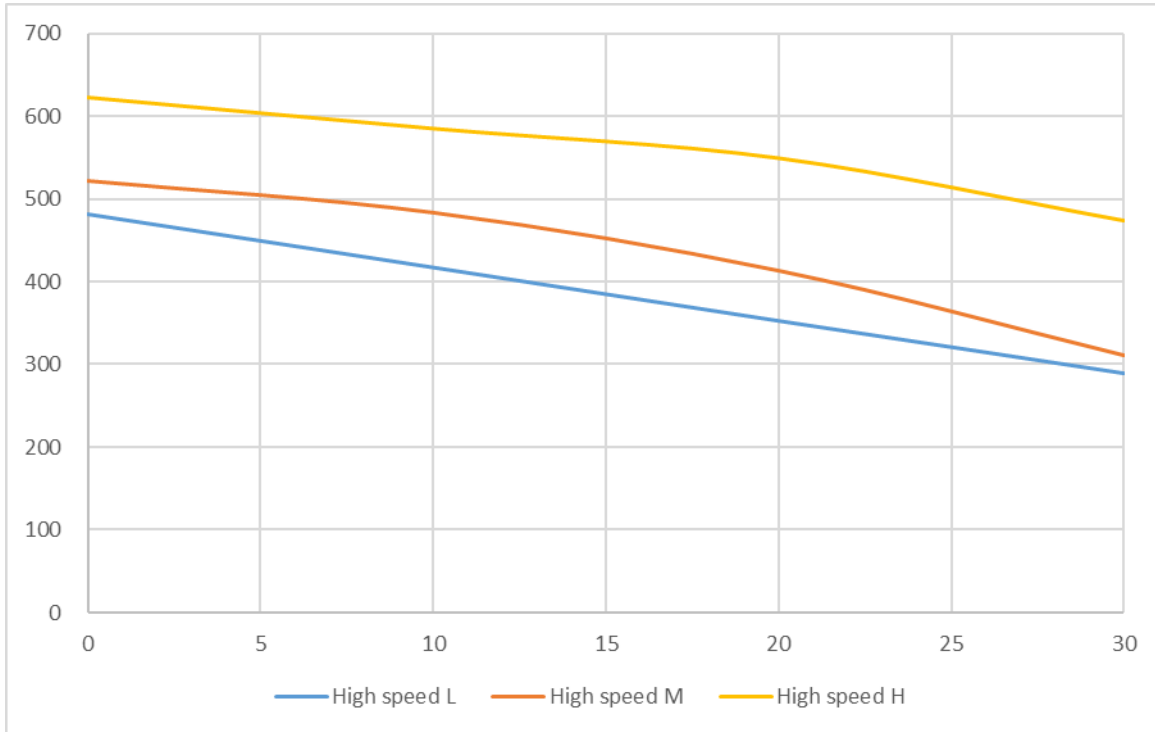
Type	Model	Sound power noise/dB(A)	Sound pressure noise/dB(A)
Outdoor unit	C2OU-D14HR4-A01	65	55
	C2OU-D18HR4-A01	65	55
	C3OU-D21HR4-C01	66	56
	C3OU-D27HR4-C01	66	56
	C4OU-D28HR4-D01	68	58
	C4OU-D36HR4-D01	68	58
	C5OU-D42HR4-D01	68	58
Wall mounted unit	CCG-V07HR4-GSA-S40	50	40/38/30/21/19
	CCG-V09HR4-GSA-S40	50	40/38/30/21/19
	CCG-V12HR4-GSB-S40	50	40/39/32/22/19
	CCG-D18HR4-GSC-S40	53	43/41/34/24/22
	CCG-D24HR4-GSC-S40	55	44/43/35/27/24
Compact cassette	CCB-D07HR4-Q402	50	39/36/33
	CCB-D09HR4-Q402	50	39/36/33
	CCB-D12HR4-Q402	54	40/37/34
	CCB-D18HR4-Q402	55	44/41/38
Ducted unit	CTA-D07HR4-F101	47	30/26/23
	CTA-D09HR4-F101	47	30/26/23
	CTA-D12HR4-F101	47	30/26/23
	CTA-D18HR4-F102	58	38/33/29
Console unit	CZA-D09HR4-ZA	50/48/46	39/37/35
	CZA-D12HR4-ZA	52/50/48	41/39/37
	CZA-D18HR4-ZA	54/52/50	43/41/39

8. Electric Characteristics

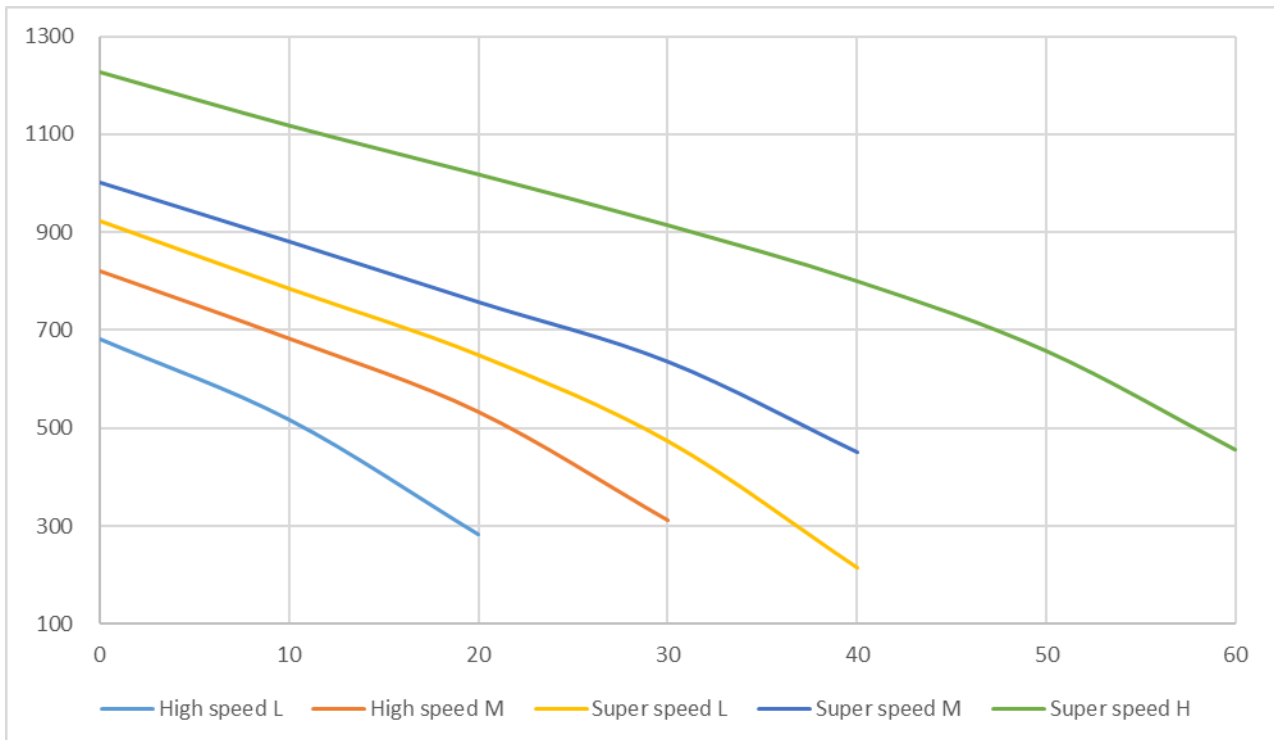
Model	Power supply	Max. current	Power cable	Wires between IDU & ODU
C2OU-D14HR4-A01	220~240V/1Ph/50Hz	11.4A	2.5mm ² *3	1 mm ² *4
C2OU-D18HR4-A01	220~240V/1Ph/50Hz	13.2A	2.5mm ² *3	1 mm ² *4
C3OU-D21HR4-C01	220~240V/1Ph/50Hz	14.2A	4mm ² *3	1 mm ² *4
C3OU-D27HR4-C01	220~240V/1Ph/50Hz	17.2A	4mm ² *3	1 mm ² *4
C4OU-D28HR4-D01	220~240V/1Ph/50Hz	19A	6mm ² *3	1 mm ² *4
C4OU-D36HR4-D01	220~240V/1Ph/50Hz	27A	6mm ² *3	1 mm ² *4
C5OU-D42HR4-D01	220~240V/1Ph/50Hz	28A	6mm ² *3	1 mm ² *4

9. Static pressure

9.1 7K/9K/12K ducted unit



9.2 18K ducted unit



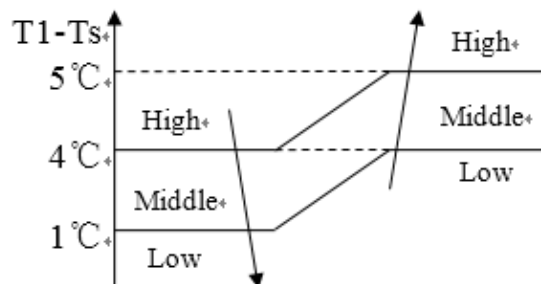
10. Functions

10.1 Abbreviation

Abbreviation	Element
T1	IDU room temperature
T2	IDU evaporator coil temperature
T3	ODU condenser coil temperature
T4	ODU ambient temperature
T5/TP	Discharge temperature
Ts	Setting temperature

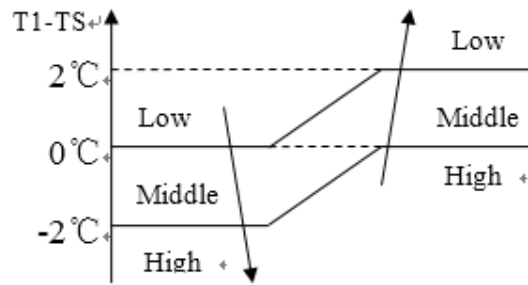
10.2 Cooling mode

- In cooling mode, when turn off the indoor unit, indoor fan motor will run at the original fan speed for 30 seconds and then stop.
- Auto fan speed in cooling mode



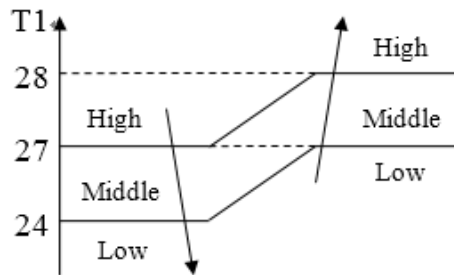
10.3 Heating mode

- Anti-cold-wind protection: When turn on the unit in heating mode, only when T2 temperature is higher than a certain temperature, the fan motor runs. Otherwise, the fan motor stops and DEFROST light is ON.
- In heating mode, when turn off the indoor unit, indoor fan motor will run at the original fan speed for 45 seconds and then stop. Or when T2 temperature is lower than 30 degrees, fan motor will stop directly.
- Auto fan speed in heating mode:



10.4 Ventilation mode

- Auto fan speed in ventilation mode



10.5 TURBO mode

- When press TURBO in wireless controller, the fan motor will work at high fan speed.

10.6 Sleep mode

- The setting temperature will increase in cooling mode or decrease in heating mode by 1 degree per hour and will not change after two hours.
- The fan speed will set to low fan speed automatically and it can be changed.
- After 8 hours, unit will exit sleep mode directly. Or turn off by remote controller.

10.7 Power-down memory function

- It can be set in indoor unit PCB.
- The content of power-down memory: on/off status, mode, fan speed, setting temperature, louver position, swing status.
- After the unit is powered on again, if the setting command has not been received, the memory content will take effect after 30S; if the setting command is received before this time, the memory content will not be read.

10.8 Forced cooling mode

- Press the button in LED display panel, the unit will enter forced cooling mode. At this time, run and protect light will flash.
- The unit will run at a certain frequency and fan speed.

- After repowering on, or pressing this button again, or running for one hour, the unit will exit forced cooling mode.

10.9 ECO mode

- Press ECO button in remote controller to enter this mode.
- The fan speed is set to low and the setting temperature is 26 degrees.

10.10 AUTO mode

- In AUTO mode, the default setting temperature is 25 degrees and it can be adjusted by remote controller.
- In auto mode, the running mode depends on the temperature difference between room temperature (T1) and setting temperature (Ts).

For wall mounted unit:

T1-Ts	Running mode
$T1-Ts > 2^{\circ}\text{C}$	Cooling mode
$-3^{\circ}\text{C} < T1-Ts \leq +2^{\circ}\text{C}$	Ventilation mode
$T1-Ts \leq -3^{\circ}\text{C}$	Heating mode

For other indoor units:

T1-Ts	Running mode
$T1-Ts > 2^{\circ}\text{C}$	Cooling mode
$-1^{\circ}\text{C} < T1-Ts \leq +2^{\circ}\text{C}$	Ventilation mode
$T1-Ts \leq -3^{\circ}\text{C}$	Heating mode

- After compressor stop working for 15min, unit will select running mode again according to room temperature and setting temperature.

10.11 Room temperature detected by wired controller

- The room temperature is detected by temperature sensor in indoor unit by default.
- When indoor unit is connected to wired controller, after setting SW2-8 DIP switch to ON position, the room temperature is detected by wired controller.

10.12 Room card function

- When the Remo_ctrl port in indoor unit PCB is connected, the indoor unit can be turned on and off normally. All functions are available.

- When this port is disconnected, the unit will automatically shut down. After the room card is plugged in, it will automatically recover.
- If room card function is not needed, please add a short circuit in this port.

10.13 Alarm output function

- When the AC has a fault, the remote alarm port will output a high level voltage; when the fault disappears, the remote alarm port output a low level.





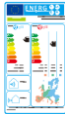
10.14 Timer function

- The maximum range of the timing is 24 hours, the remote control set time accuracy is 1 hour; the wire control sets the time accuracy of 0.5 hours.
- Timer on function: Turn off indoor unit first, and then set the timer on time. The unit will turn on automatically after the setting time.
- Timer off function: Turn on indoor unit first, and then set the timer off time. The unit will shut down automatically after the setting time.
- The timer function is executed once.
- When timer function is activated, the timer light is ON.

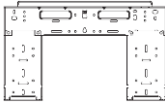


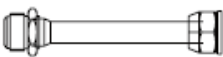
II. Installation

1. Accessories

1.1 Outdoor unit

Name	Shape	Quantity
Drain joint		1
Hole plug		1
User manual		1
Wired controller manual		1
Energy label		1

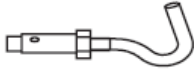




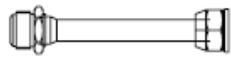
1.2 Wall mounted unit

Name	Shape	Quantity
Mounting plate		1
Clip anchor		5
Mounting plate fixing screw ST3.9 X 25		5
Transfer connector (φ9.52-φ 12.7)		1 (in some models)





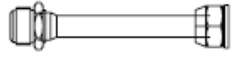
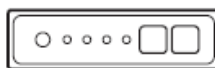
Transfer connector (φ6.53-φ9.52)		1 (in some models)
Transfer connector (φ9.52-φ15.88)		1 (in some models)
Remote controller		1
Fixing screw for remote controller holder ST2.9 x 10		2 (customized)
Remote controller holder		1 (customized)
Dry battery (1.5V 7#)		2
Drain Pipe		1
Drain joint		1
Hole plug		1
Installation manual		1

1.3 Compact cassette unit

Name	Shape	Quantity
Suspension bolt		4
Drain Pipe		1
Outlet pipe clasp		2

Ceiling hook		4
Remote controller		1
Dry battery (1.5V 7#)		2
Installation manual		1
Insulation pipe		2
Transfer connector (φ9.52-φ12.7)		1 (in some models)

1.4 Ducted unit

Name	Shape	Quantity
Remote controller		1
Dry battery (1.5V 7#)		2
Installation manual		1
Insulation pipe		2
Transfer connector (φ9.52-φ12.7)		1 (in some models)
Display board		1

2. Selecting installation place

■ Indoor unit

- Do not expose the indoor unit to heat or steam.
- Select a place where there are no obstacles in front or around the unit.
- Make sure that condensation drainage can be conveniently routed away.
- Do not install near a doorway.
- Ensure that the space on the left and right of the unit is more than 15cm.
- Use a stud finder to locate studs to prevent unnecessary damage to the wall.
- The indoor unit should be installed on the wall at a height of 2.0 meters or more from the floor.
- The indoor unit should be installed allowing a minimum clearance of 15cm from the ceiling.
- Any variations in pipe length will/may require adjustment to refrigerant charge.
- There should not be any direct sunlight. Otherwise, the sun will fade the plastic cabinet and affect its appearance. If unavoidable, sunlight prevention should be taken into consideration.

■ Outdoor unit

- If an awning is built over the outdoor unit to prevent direct sunlight or rain exposure, make sure that heat radiation from the condenser is not restricted.
- Ensure that the clearance around the back of the unit is more than 30cm and left side is more than 30cm. The front of the unit should have more than 200cm of clearance and the connection side (right side) should have more than 60cm of clearance.
- Do not place animals and plants in the path of the air inlet or outlet.
- Take the air conditioner weight into account and select a place where noise and vibration will not be an issue.

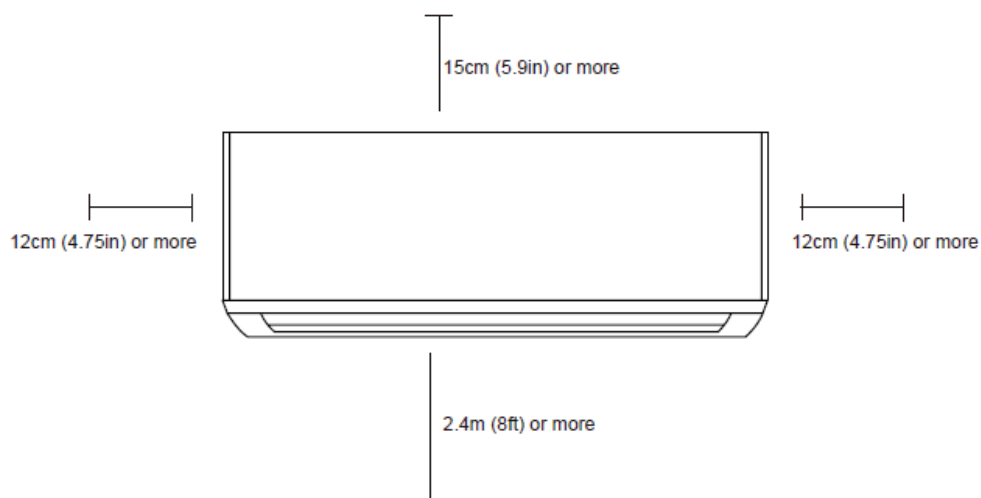
Select a place so that the warm air and noise from the air conditioner do not disturb neighbors.

3. Rooftop installation

- If the outdoor unit is installed on a roof structure, be sure to level the unit.
- Ensure the roof structure and anchoring method are adequate for the unit location.
- Consult local codes regarding rooftop mounting.
- If the outdoor unit is installed on roof structures or external walls, this may result in excessive noise and vibration, and may also be classed as a non-serviceable installation.

4. Installation of wall mounted unit

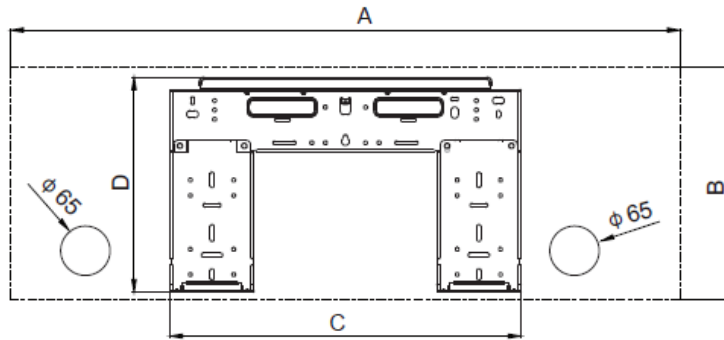
4.1 Space required for installation



4.2 Attach mounting plate to wall

The mounting plate is the device on which you will mount the indoor unit.

1. Remove the screw that attaches the mounting plate to the back of the indoor unit.
2. Place the mounting plate against the wall in a location. (Mounting Plate Dimensions as the following picture)
3. Drill holes for mounting screws in places that:
 - 1) have studs and can support the weight of the unit.
 - 2) correspond to screw holes in the mounting
4. Secure the mounting plate to the wall with the screws provided.
5. Make sure that mounting plate is flat against the wall.



	A	B	C	D	E
07/09K	715	295	396	272	198
12K	865	300	453	277	200
18/24K	972	320	619	294	215

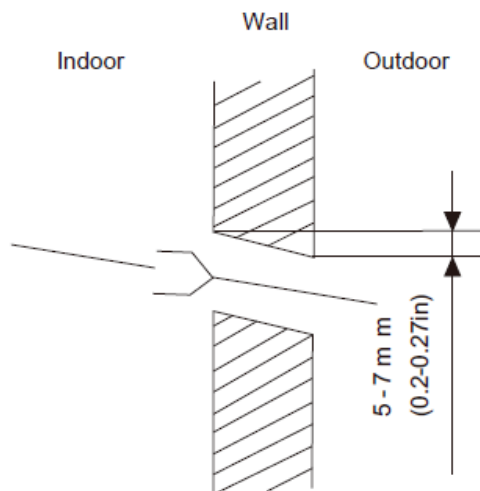
4.3 Drill wall hole for connective piping

Note for Concrete or Brick Walls:

If the wall is made of brick, concrete, or similar material, drill 5mm-diameter (0.2in-diameter) holes in the wall and insert the sleeve anchors provided. Then secure the mounting plate to the wall by tightening the screws directly into the clip anchors.

You must drill a hole in the wall for refrigerant piping, the drainage pipe, and the signal cable that will connect the indoor and outdoor units.

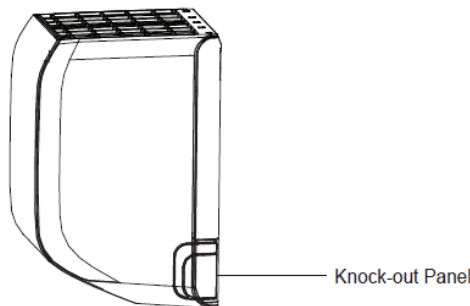
1. Determine the location of the wall hole based on the position of the mounting plate. Refer to above Mounting Plate Dimensions to help you determine the optimal position. The wall hole should have a 65mm diameter at least, and at a slightly lower angle to facilitate drainage.
2. Using a 65mm or 90mm (depending on models) core drill, drill a hole in the wall. Make sure that the hole is drilled at a slight downward angle, so that the outdoor end of the hole is lower than the indoor end by about 5mm to 7mm. This will ensure proper water drainage. (See picture below)
3. Place the protective wall cuff in the hole. This protects the edges of the hole and will help seal it when you finish the installation process.



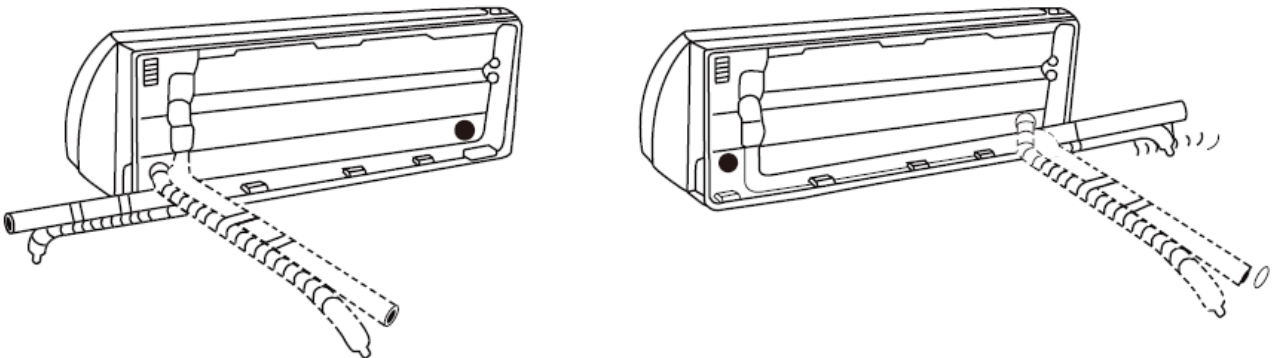
4.4 Prepare refrigerant piping

The refrigerant piping is inside an insulating sleeve attached to the back of the unit. You must prepare the piping before passing it through the hole in the wall.

1. Based on the position of the wall hole relative to the mounting plate, choose the side from which the piping will exit the unit.
2. If the wall hole is behind the unit, keep the knock-out panel in place. If the wall hole is to the side of the indoor unit, remove the plastic knock-out panel from that side of the unit. (See picture below). This will create a slot through which your piping can exit the unit. Use needle nose pliers if the plastic panel is too difficult to remove by hand.



3. Use scissors to cut down the length of the insulating sleeve to reveal about 15cm of the refrigerant piping. This serves two purposes:
 - 1) To facilitate the Refrigerant Piping Connection process
 - 2) To facilitate Gas Leak Checks and enable you to check for dents
4. If existing connective piping is already embedded in the wall, proceed directly to the Connect Drain Hose step. If there is no embedded piping, connect the indoor unit's refrigerant piping to the connective piping that will join the indoor and outdoor units.
5. Based on the position of the wall hole relative to the mounting plate, determine the necessary angle of your piping.
6. Grip the refrigerant piping at the base of the bend.
7. Slowly, with even pressure, bend the piping towards the hole. Do not dent or damage the piping during the process.



4.5 Connect drain hose

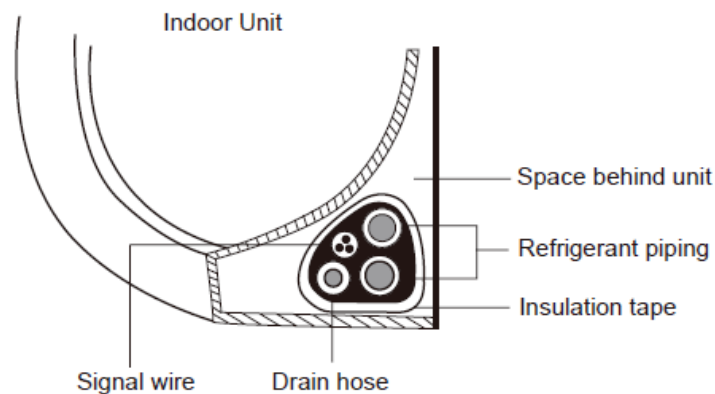
By default, the drain hose is attached to the left-hand side of unit (when you're facing the back of the unit). However, it can also be attached to the right-hand side.

1. To ensure proper drainage, attach the drain hose on the same side that your refrigerant piping exits the unit.
2. Attach drain hose extension (purchased separately) to the end of drain hose.
3. Wrap the connection point firmly with Teflon tape to ensure a good seal and to prevent leaks.
4. For the portion of the drain hose that will remain indoors, wrap it with foam pipe insulation to prevent condensation.
5. Remove the air filter and pour a small amount of water into the drain pan to make sure that water flows from the unit smoothly.

4.6 Wrap piping and cables

Before passing the piping, drain hose, and the signal cable through the wall hole, you must bundle them together to save space, protect them, and insulate them.

1. Bundle the drain hose, refrigerant pipes, and signal cable according to picture below.



2. Using adhesive vinyl tape, attach the drain hose to the underside of the refrigerant pipes.
3. Using insulation tape, wrap the signal wire, refrigerant pipes, and drain hose tightly together.

Note:

- Drain hose must be on bottom

Make sure that the drain hose is at the bottom of the bundle. Putting the drain hose at the top of the bundle can cause the drain pan to overflow, which can lead to fire or water damage.

- Do not intertwine signal cable with other wires

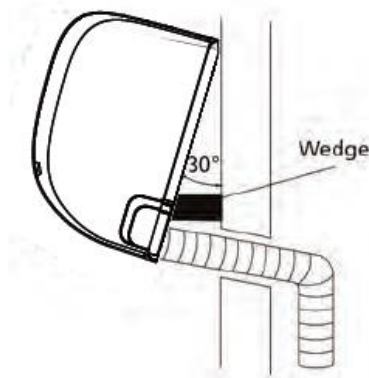
While bundling these items together, do not intertwine or cross the signal cable with any other wiring.

- Do not wrap ends of piping

When wrapping the bundle, keep the ends of the piping unwrapped. You need to access them to test for leaks at the end of the installation process.

4.7 Mount indoor unit

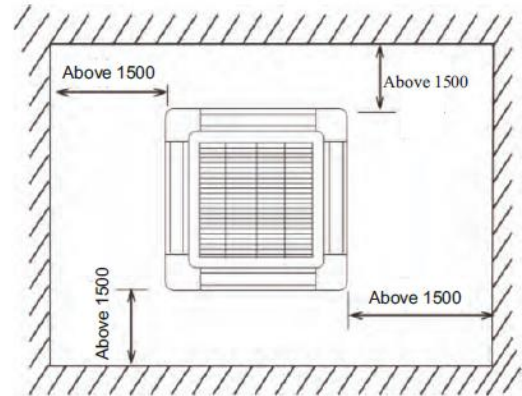
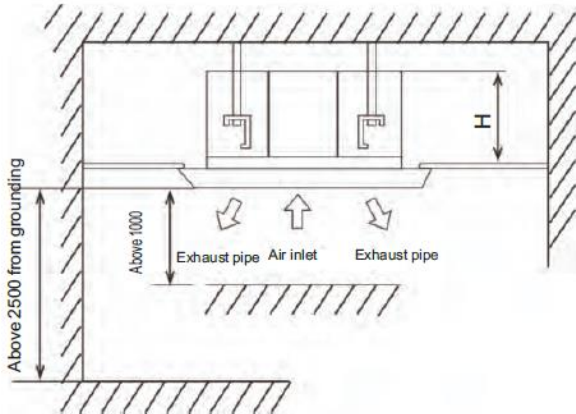
- If you installed new connective piping to the outdoor unit, do the following:
 1. If you have already passed the refrigerant piping through the hole in the wall, proceed to Step 4.
 2. Otherwise, double-check that the ends of the refrigerant pipes are sealed to prevent dirt or foreign materials from entering the pipes.
 3. Slowly pass the wrapped bundle of refrigerant pipes, drain hose, and signal wire through the hole in the wall.
 4. Hook the top of the indoor unit on the upper hook of the mounting plate.
 5. Check that unit is hooked firmly on mounting by applying slight pressure to the left and right-hand sides of the unit. The unit should not jiggle or shift.
 6. Using even pressure, push down on the bottom half of the unit. Keep pushing down until the unit snaps onto the hooks along the bottom of the mounting plate.
 7. Again, check that the unit is firmly mounted by applying slight pressure to the left and the right-hand sides of the unit.
- If refrigerant piping is already embedded in the wall, do the following:
 1. Hook the top of the indoor unit on the upper hook of the mounting plate.
 2. Use a bracket or wedge to prop up the unit, giving you enough room to connect the refrigerant piping, signal cable, and drain hose. Refer to picture below.



3. Connect drain hose and refrigerant piping
4. Keep pipe connection point exposed to perform the leak test
5. After the leak test, wrap the connection point with insulation tape.
6. Remove the bracket or wedge that is propping up the unit.
7. Using even pressure, push down on the bottom half of the unit. Keep pushing down until the unit snaps onto the hooks along the bottom of the mounting plate.

5. Installation of cassette unit

5.1 Space required for installation



Model	Height
7K/9K/12K/18K	267mm

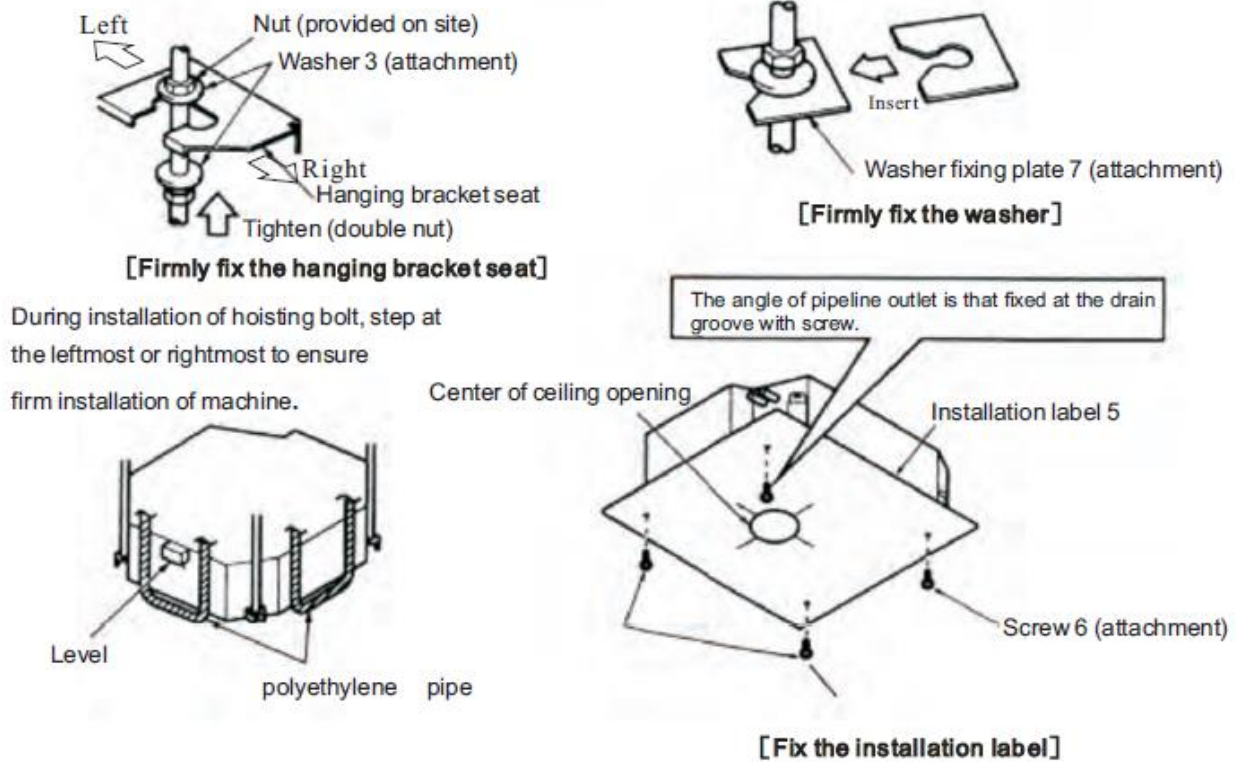
5.2 Installation

5.3.1 When there is no installation position on the ceiling

- 1) Attach the hanging bracket seat to the hoisting bolt; be sure to use bolt and nut separately at upper and lower head of the hanging bracket seat to firmly fix the hanging bracket seat; use locating plate 7 to avoid the washer coming-off.
- 2) The dimensions of ceiling opening please refer to installation picture above. The details refer to the building agent or carpenter. The indoor unit center is marked on the attached installation drawing. As shown in the figure below, the screws 6 (3 pcs) mount the installation label on the unit; fix the angle of drain channel at pipeline outlet with screw.
- 3) Adjust the unit to correct installation positions.
- 4) Check whether the unit is level. The indoor unit is equipped with embedded drain and float switch. Check whether the four angles of unit are level with level or polyethylene pipe filled with water one by one (if the condensation water flow of unit inclines towards reverse direction, the float switch may be unable to work, which may lead to drip)
- 5) Remove the washer fixing plate 7 to avoid drop-off of waterproof washer and tighten the upper nut.
- 6) Remove the installation label.

5.3.2 When there is installation position on the ceiling

- 1) Temporarily install the indoor unit Attach the hanging bracket on the hoisting bolts. Be sure to use bolt and nut separately at upper and lower head of the hanging bracket seat to firmly fix the hanging bracket seat; use locating plate 7 to avoid the washer coming-off.
- 2) Adjust the height and position of unit.



5.3 Panel installation

A. Install the panel

Do not face the panel downward; do not lean against the wall or onto the protruding object.

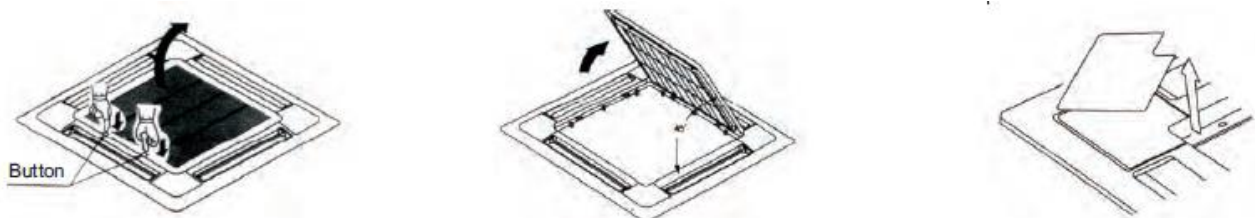
Do not knock or extrude the swinging baffle. (Otherwise it may lead to failure)

Take down the air return grating from the trim panel

1) First pull down the air return grating and then pull up the other end of button. (See the figure below)

2) Pull up the grating for about 45 degrees and take down the air return grating on trim panel. (See the figure below)

Take down the seal cover on angle (pull out the seal cover, as shown in figure below)



B. Install the panel on indoor unit

As shown in the figure below, align the position of swinging baffle motor on trim panel with the pipe opening position of indoor unit for ease of installation of trim panel onto the indoor unit.

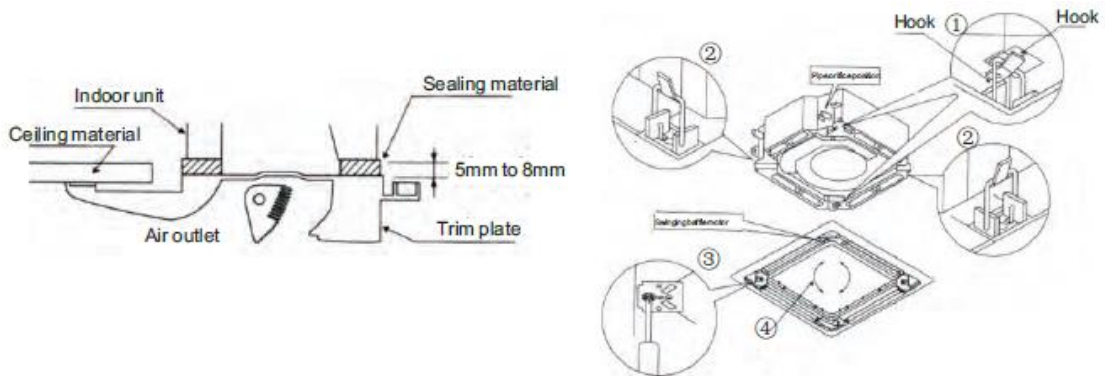
a. Temporarily install the trim panel onto the indoor unit; during installation, hang the buckle on reverse

position of swinging baffle motor of trim panel onto the hook of indoor unit (notice not winding the swinging motor conductor into sealing materials)

b. Temporarily hang the other 2 buckles onto the hook of indoor unit. (Notice not winding the swinging motor conductor into sealing materials.)

c. Screw 4 hexagon bolts under the hook in for about 5mm. (The panel will lift)

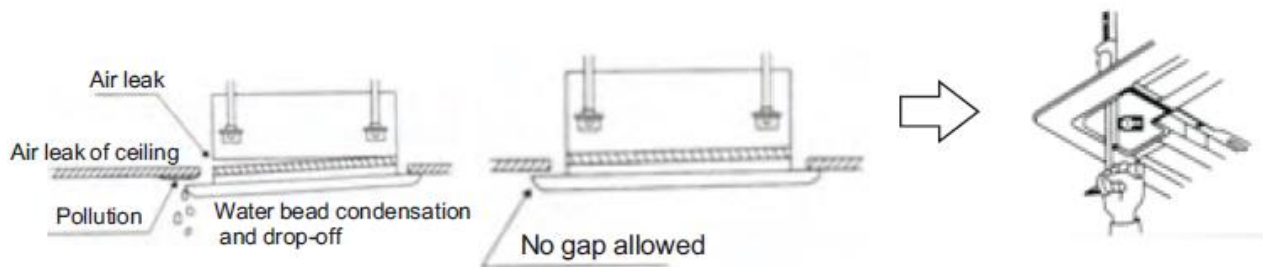
d. Tighten the screw till the thickness of sealing materials between trim panel and indoor unit decreases to 5-8mm.



The improper tightening of screw may lead to the failure as shown in the figure below. Re-tighten the screw to the specification requirements.

After tightening the screw, if there is still gap between ceiling and trim panel, please re-adjust the height of indoor unit.

Place the indoor unit at level state; it is possible to adjust the indoor unit height through the corner core on trim panel when the water drain pipe does not discharge the water.



C. Hoisting height of indoor unit

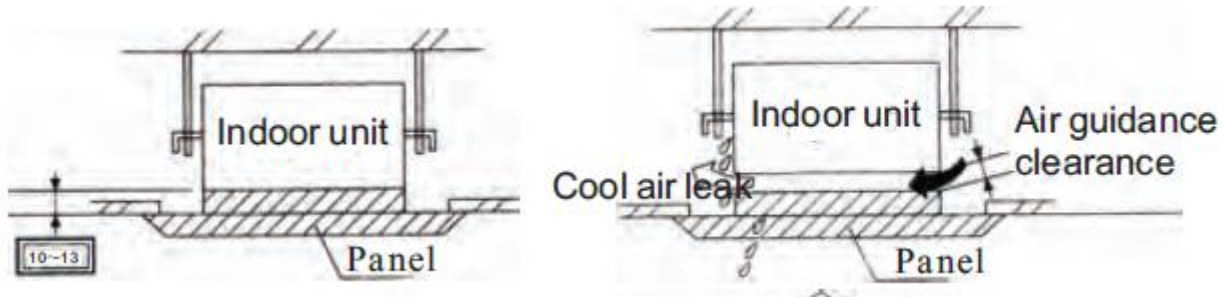
Please adjust the hoisting height of indoor unit to make the dimensions of indoor unit under the ceiling as shown in below figure.

When there is gap between indoor unit and panel, the condensation may occur.

a. Connect the joint of swinging baffle motor conductor (on the panel).

b. If not connecting the joint, the swinging baffle will not action. Properly connect the joint.

c. Confirm the conductor of swinging baffle motor is not clamped between indoor unit and trim panel.



6. Installation of ducted unit

6.1 Installation of main body

6.1.1 Installation of Lifting Bolt with $\phi 10$

- 1) Please use the lifting Bolt with $\phi 10$.
- 2) Removal of Ceiling: For the difference of the building structure, please consult with the indoor decoration personnel for the details.
 - a. Treatment of Ceiling: In order to ensure the levelness of the ceiling and prevent the ceiling from the vibration, it is necessary to reinforce the framework of the ceiling.
 - b. Cut off and remove the framework of the ceiling.
 - c. Reinforce the end face after the ceiling is removed, and reinforce the framework that is used to fix the ceiling at both ends further.
 - d. After the main body is lifted, it is necessary to carry out the piping and wiring operation in the ceiling. Determine the route direction of the piping after the installation site is selected. Especially on the occasion with existing ceiling, pull the refrigerant piping, drain pipe, indoor and outdoor connection cable and line control line to the connection location.

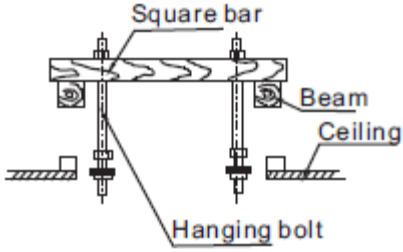
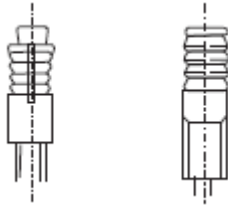
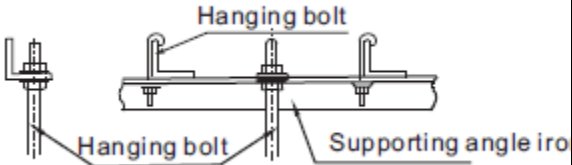

6.1.2 Lifting of Indoor Unit

- 1) Lift the indoor unit to the lifting bolt by the pulley.
- 2) Install the indoor unit with certain levelness by the level meter. It may cause the water leakage if the levelness can not meet the requirement.

6.2 Installation Method of Lifting Bolt

For the installation situation of the lifting bolt, refer to the table below.

Wooden with steel skeleton	Occasions with original concrete billet
The square bar by lifting hanging bolt is arranged on the beam.	Set with inlay appliances, embedded bolts.

 <p>Square bar Beam Ceiling Hanging bolt</p>	
<p>Occasions with steel skeleton</p>	<p>Occasions with new concrete billet</p>
<p>Set and directly use supporting angle iron.</p>  <p>Hanging bolt Supporting angle iron Hanging bolt</p>	<p>Set with inlay appliances, embedded bolts.</p>  <p>Knife-type inserts Sliding inserts Steel bar Buried bolt (bury bolt into pipe)</p>

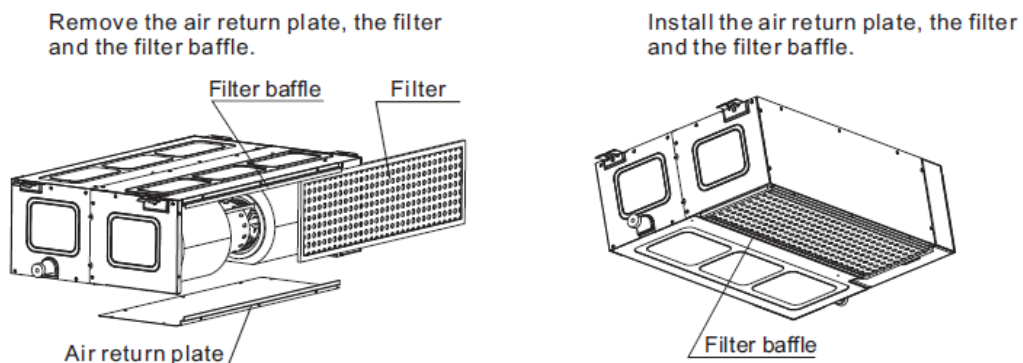
Note:

- Bolt material is made of high quality carbon steel (surface is galvanized or has been undergone other anti-corrosive treatments) or stainless steel.
- Ceiling is different in different building. The detailed information should be consulted with the decoration engineers.
- Fix hanging bolts base on specific circumstance. Make sure to be solid and reliable.

6.3 Adjustment of air return box

The air return box of the short ducted unit is as standard, but the filter is optional. There are two air return modes. The one is air return from back, which is the factory default, and the other is the air return from below, which shall be adjusted in the field. For the adjustment method, refer to the table below.

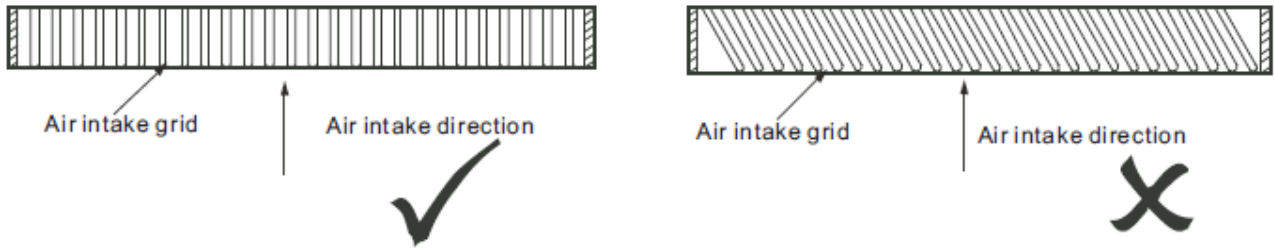
For the adjustment method, refer to the pictures below.



6.4 Air Intake Panel of Air Return Box

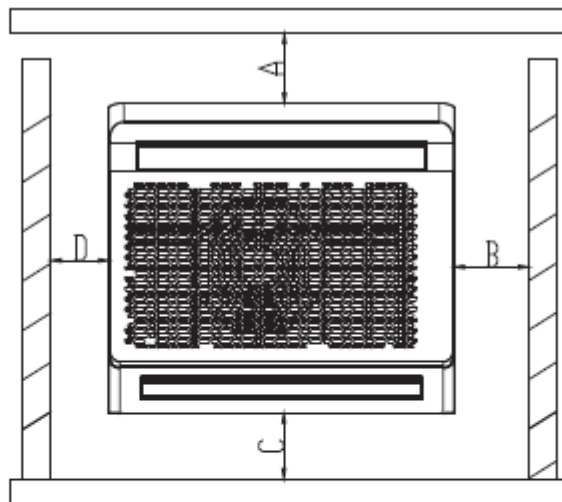
1) Pay attention to maintain the parallelism between the air grid angle and the air intake direction when you make the air intake panel of the air return box.

2) There shall not any angle between the air grid angle and the air intake direction. Otherwise, it may increase the noise. Right picture is the incorrect making method of the air intake grid.



7. Installation of console

7.1 Space required for installation

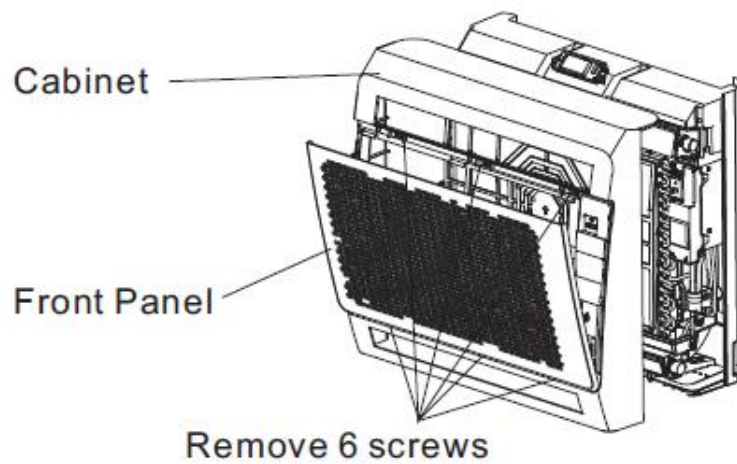


MINIMUM INDOOR CLEARANCE (mm)

A	B	C	D
1524	610	152	610

7.2 Installation of main body

Begin the console indoor unit installation by removing the front panel and cabinet section to gain access to the unit mounting holes. Remove the front cabinet from the unit casing. Locate and remove 6 mounting screws. Refer to figure below.



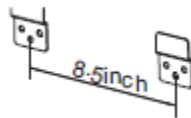
7.2.1 Lay out installation points

1) Drill holes for both wall hooks and insert anchors (field supplied). Secure unit mounting hooks to the wall.

It is recommended to install screw anchors for sheet rock concrete block, brick and such type of walls.

2) Verify the location

- Lift and set the console on the 2 wall hooks. The wall hooks should catch metal mounting bracket on the rear of the console.



- Verify the unit mount holes align with wall holes.
- Verify refrigerant piping and condensate drain pipe locations are valid for the unit.
- Verify unit is level right to left.

3) Remove indoor unit from anchor bolts in order to begin making piping connections.

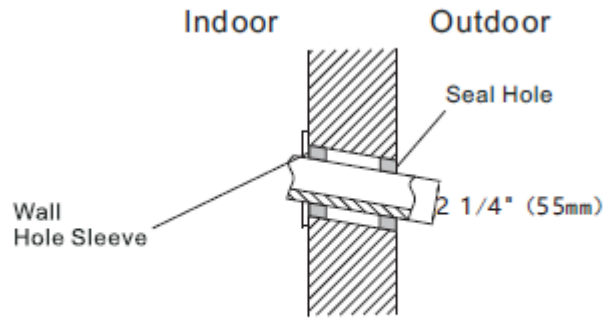
7.2.2 Drill holes in wall

1) Carefully remove indoor unit from wall mounting hooks.

2) Cut the wall hole with a 5° to 10° downward slant to the outdoors.

3). Insert a wall sleeve (factory supplied) into hole to prevent damage to refrigerant pipes, insulation, condensate drain pipe and wiring.

4). Proper weather proofing of the wall surface and wall sleeve is essential to assure a trouble-free installation. Apply sealant, caulking or equivalent weather proofing material around the perimeter of the wall sleeve (interior & exterior) to eliminate outdoor air and water leaks into the indoor space.



Wall Hole Diagram

7.2.3 Mounting indoor unit

Carefully lift and set the unit on the 2 wall hooks. The wall hooks should catch metal mounting bracket on the rear of the unit.

8. Refrigerant pipe connection

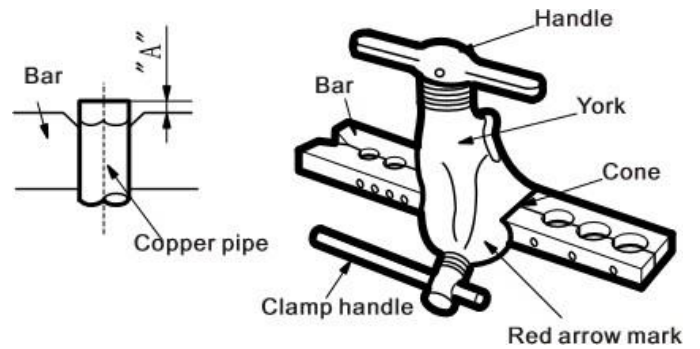
8.1 Flaring work

- Main cause for refrigerant leakage is due to defect in the flaring work. Carry out correct flaring work using the following procedure:
 - Cut the pipes and the cable
 1. Use the piping kit accessory or pipes purchased locally.
 2. Measure the distance between the indoor and the outdoor unit.
 3. Cut the pipes a little longer than the measured distance.
 4. Cut the cable 1.5m longer than the pipe length.
 - Burr removal
 1. Completely remove all burrs from the cut cross section of pipe/tube.
 2. Put the end of the copper tube/pipe in a downward direction as you remove burrs in order to avoid dropping burrs into the tubing.
 - Putting nut on

Remove flare nuts attached to indoor and outdoor unit, then put them on pipe/tube having completed burr removal. (not possible to put them on after flaring work).

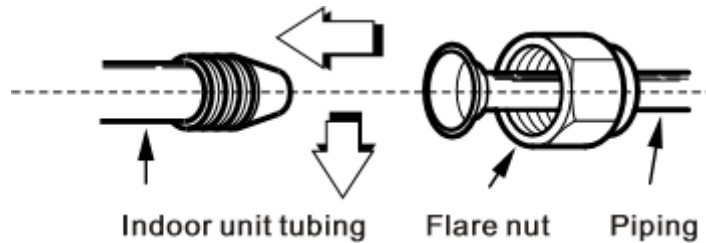
● Flaring work

Outer diam. (mm)	A(mm)	
	Max.	Min.
φ6.35	1.3	0.7
φ9.52	1.6	1.0
φ12.7	1.8	1.0
φ15.88	2.0	1.2

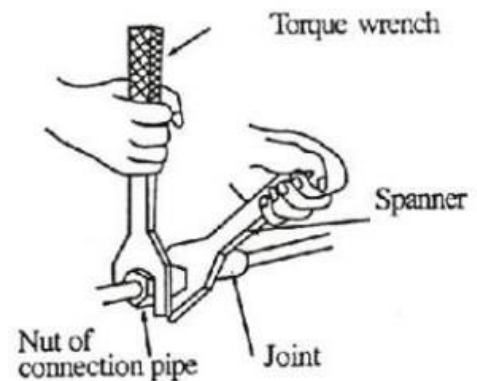


8.2 Tightening Connection

- Align the center of the pipes.
- Sufficiently tighten the flare nut with fingers, and then tighten it with a spanner and torque wrench.



Outer diam. (mm)	Tightening torque (N.cm)	Additional tightening torque (N.cm)
φ6.35	1000	1200
φ9.52	1500	1800
φ12.7	2000	2300
φ15.88	2800	3200



Caution: Excessive torque can break nut depending on installation conditions.

8.3 Piping length and height difference

One IDU	Length	Max.15m
Dual split	Total length	Max.30m
	Difference in height between indoor and outdoor units	Max.10m

	Difference in height between indoor units	Max. 5m
Triple split	Total length	Max.45m
	Difference in height between indoor and outdoor units	Max.10m
	Difference in height between indoor units	Max. 5m
Quadruple split	Total length	Max.60m
	Difference in height between indoor and outdoor units	Max.10m
	Difference in height between indoor units	Max. 5m
Quintuple split	Total length	Max.75m
	Difference in height between indoor and outdoor units	Max.10m
	Difference in height between indoor units	Max. 5m

8.4 Connection pipe diameter

Indoor unit	Liquid	Gas	Accessories
7K/9K/12K	φ6.35	φ9.52	/
18K	φ6.35	φ12.7	Adapter
24K	φ9.52	φ15.88	Adapter component

1. For 7K/9K/12K indoor unit:

(1) For one 7K/9K/12K indoor unit gas/liquid pipe, it should connect to the same group gas/liquid pipe.

eg. Connect to Group A gas/liquid pipe together, as figure shown below.

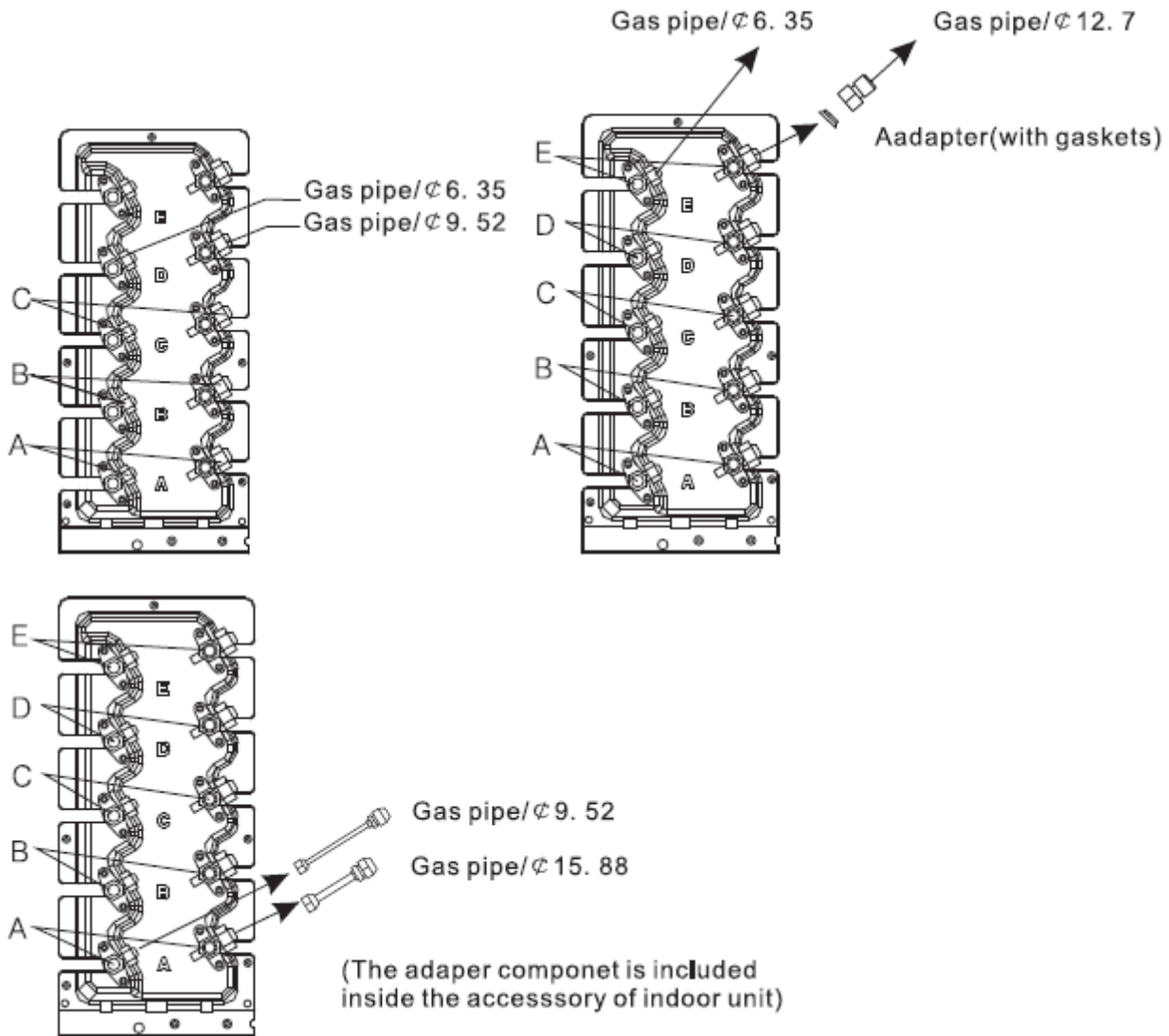
(2) The Group number of copper pipe, it should be the same as communication wire group number.

2. For 18K indoor unit:

For gas pipe connection, adapter and sealed copper gasket should be used, change the pipe connector diameter of outdoor unit from 9.52mm to 12.7mm, and connector diameter of indoor unit is 12.7mm.

3. For 24K indoor unit:

- (1). For gas pipe connection, adapter component should be used, change the pipe connector diameter of outdoor unit from 9.52mm to 15.8mm, and connector diameter of indoor unit is 15.88mm.
- (2) For liquid pipe connection, adapter component should be used, change the pipe connector diameter of outdoor unit from 6.35mm to 9.52mm, and connector diameter of indoor unit is 9.52mm.
- (3) The adapter component is included inside the accessory of indoor unit.



9. Wiring connection

9.1 Electrical safety regulations for the initial installation

1. If there is serious safety problem about the power supply, the technicians should refuse to install the air conditioner and explain to the client until the problem is solved.
2. Power voltage should be in the range of 90%-110%of rated voltage.
3. The creepage protector and main power switch with a 1.5 times capacity of Max. Current of the unit should be installed in power circuit.

4. Ensure the air conditioner is grounded well.
5. According to the attached Electrical Connection Diagram located on the panel of the outdoor unit to connect the wire.
6. All wiring must comply with local and national electrical codes and be installed
7. An individual branch circuit and single receptacle used only for this air conditioner must be available.
8. Electrical work must be done by qualified and skilled electricians.

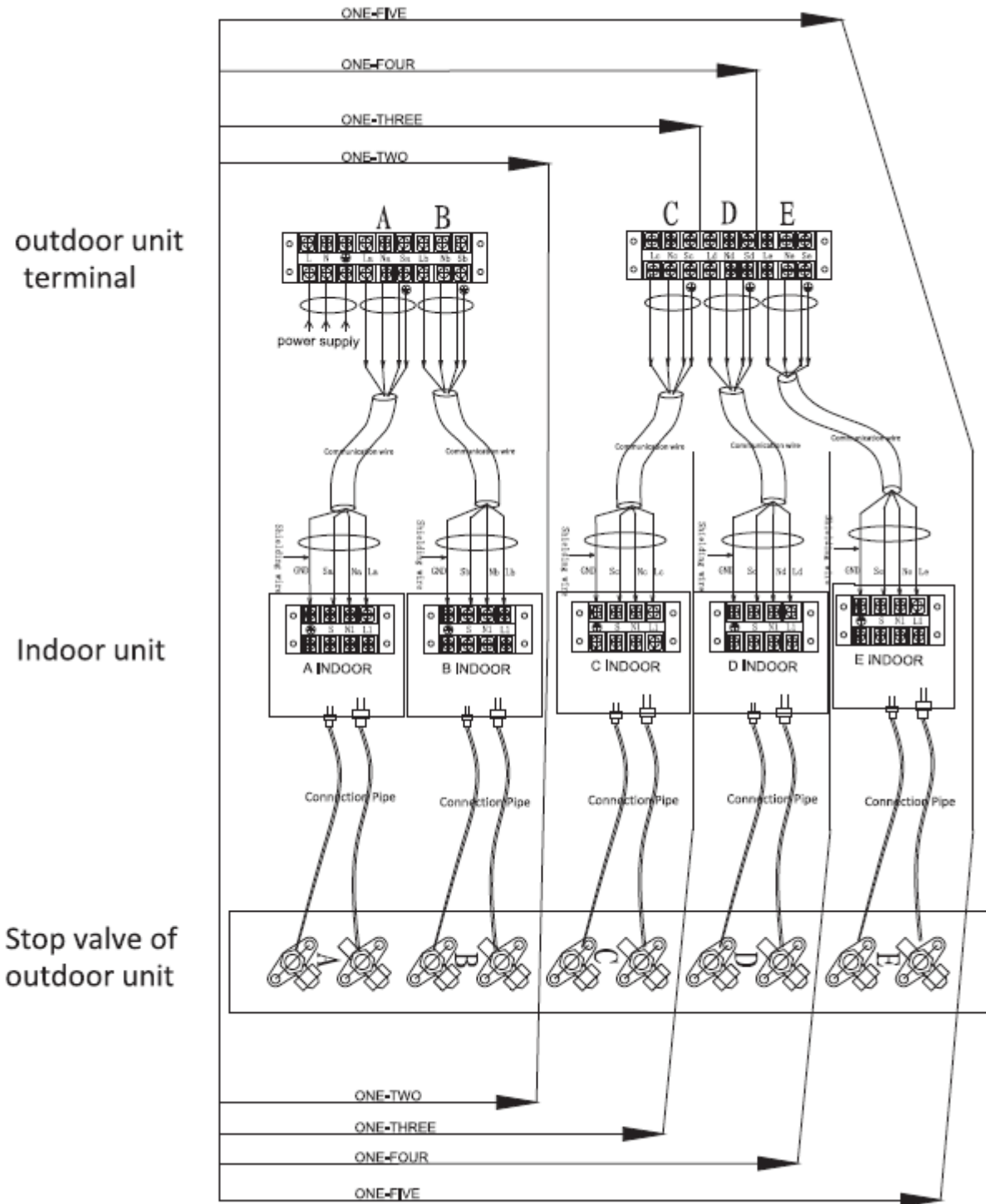
9.2 Wiring connection

NOTE: Before performing any electrical work, turn off the main power to the system.

Main power cable of ODU	Nominal cross-sectional area
14/18K	2.5mm ² *3
21/27K	4mm ² *3
28/36/42K	6mm ² *3

Connection wire between ODU and each IDU	1mm ² *4
--	---------------------

The power is supplied from the Outdoor Unit. The Indoor units are connected with a signal wires or power cords are connected reliably and correctly, or the air conditioner could not run normally.



10. Air purging

Air and moisture in the refrigerant system have undesirable effects as indicated below:

- Pressure in the system rises.
- Operating current rises.
- Cooling or heating efficiency drops.
- Moisture in the refrigerant circuit may freeze and block capillary tubing.

- Water may lead to corrosion of parts in the refrigeration system.

Therefore, the indoor unit and tubing between the indoor and outdoor unit must be leak tested and evacuated to remove any non-condensable and moisture from the system.

Air purging with vacuum pump

- Preparation

Check that each tube (both liquid and gas side tubes) between the indoor and outdoor units have been properly connected and all wiring for the test run has been completed. Remove the service valve caps from both the gas and the liquid side on the outdoor unit. Note that both the liquid and the gas side service valves on the outdoor unit are kept closed at this stage.

- Pipe length and refrigerant amount:

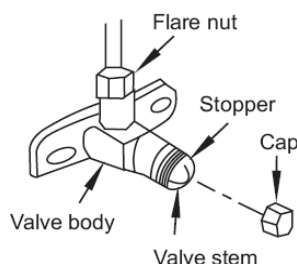
Connective pipe length	Air purging method	Additional amount of refrigerant to be charged
Less than 5m	Use vacuum pump.	-----
More than 5m	Use vacuum pump.	R32: (Pipe length-5m)×15g/m forφ6.35 R32: (Pipe length-5m)×20g/m forφ9.52

Note: Pipe length means the liquid side of each indoor unit.

- When relocate the unit to another place perform evacuation using vacuum pump.
- Make sure the refrigerant added into the air-conditioners liquid form in any case.

Caution in handling the stop valve

- Open the valve stem until it hits against the stopper. Do not try to open it further.
- Securely tighten the valve stem cap with a spanner or the like.
- Valve stem cap tightening torque.



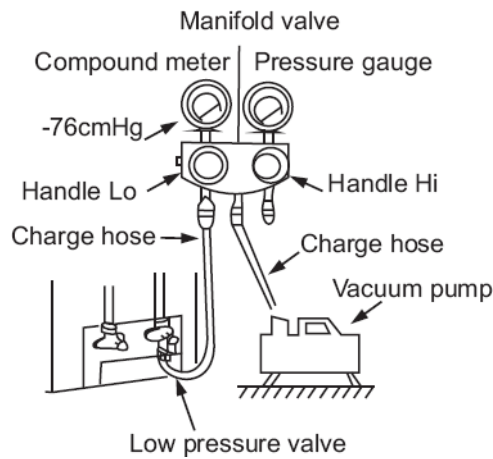
When using the vacuum pump

- Preparation

(For method of using a manifold valve, refer to its operation manual.)

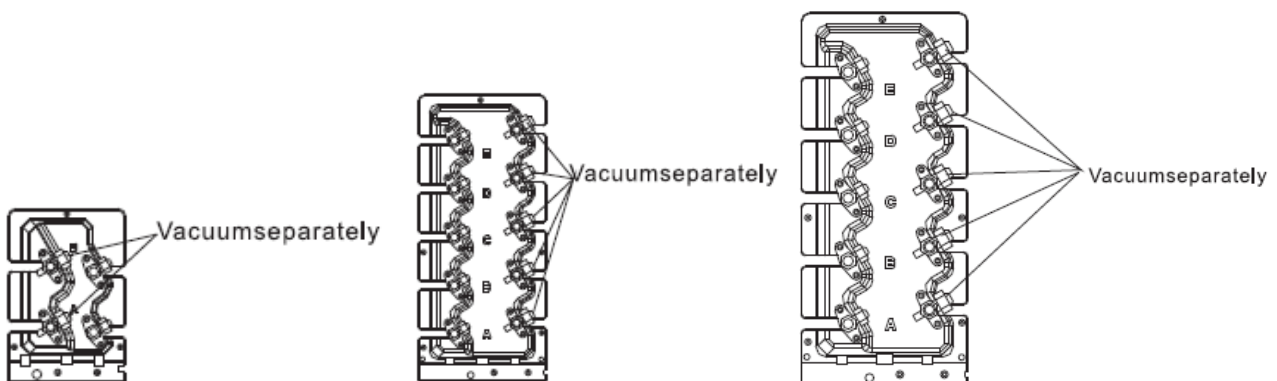
1. Completely tighten the flare nuts, A, B, C, D, connect the manifold Valve charge hose to a charge port of the low-pressure valve on the gas pipe side.
2. Connect the charge hose connection to the vacuum pump.

3. Fully open the handle Lo of the manifold valve.
4. Operate the vacuum pump to evacuate. After starting evacuation, Slightly loose the flare nut of the Lo valve on the gas pipe side and check that the air is entering (Operation noise of the vacuum pump changes and a compound meter indicates 0 instead of minus)
5. after the evacuation is complete, fully close the handle Lo of the manifold valve and stop the operation of the vacuum pump. Make evacuation for 15 minutes or more and check that the compound meter indicates -76cmHg (-1x105Pa).
6. Turn the stem of the packed valve B about 45° counterclockwise for 6~7 seconds after the gas coming out, then tighten the flare nut again. Make sure the pressure display in the pressure indicator is a little higher than the atmosphere pressure.
7. Remove the charge hose from the Low pressure charge hose.
8. Fully open the packed valve stems B and A.
9. Securely tighten the cap of the packed valve.



Vacuum

Vacuum for indoor units separately.



11. Safety and leakage check

11.1 Electrical safety check

Perform the electric safe check after completing installation:

1. Insulated resistance

The insulated resistance must be more than $2M\Omega$.

2. Grounding work

After finishing grounding work, measure the grounding resistance by visual detection and grounding resistance tester. Make sure the grounding resistance is less than 4Ω .

3. Electrical leakage check (performing during test running)

During test operation after finishing installation, the serviceman can use the electroprobe and multimeter to perform the electrical leakage check. Turn off the unit immediately if leakage happens. Check and find out the solution ways till the unit operate properly.

11.2 Gas leak check

- Soap water method:

Apply a soap water or a liquid neutral detergent on the indoor unit connections and outdoor unit connections by a soft brush to check for leakage of the connecting points of the piping. If bubbles come out, the pipes have leakage.

- Leak detector

Use the leak detector to check for leakage.

12. Water drainage

Gradient and Supporting

- 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.
- 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

3) Precautions

- The diameter of drainpipe should meet the drainage requirement at least.
- The drainpipe should be heat-insulated to prevent atomization.
- 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.
- All connection should be firm.
- Wipe color on PVC pipe to note connection.
- Climbing, horizontal and bending conditions are prohibited.
- The dimension of drainpipe can't less than the connecting dimension of indoor drainpipe.

- Heat-insulation should be done well to prevent condensation.
- Indoor units with different drainage type can't share one convergent drainpipe.

13. Insulation work

Insulation material and thickness

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)

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

Refrigerant pipe insulation

1) Work Procedure

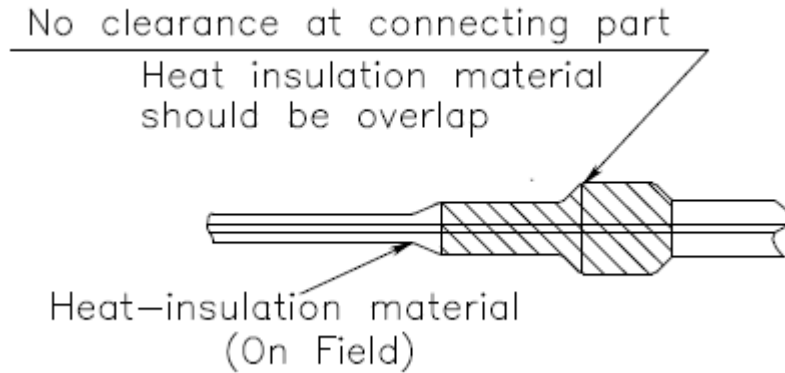
- Before laying the pipes, the non-jointing parts and non-connection parts should be heat insulated.
- When the gas proof test is eligible, the jointing area, expanding area and the flange area should be heat insulated.

2) Insulation for non-jointing parts and non-connection parts.

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.

3) Insulate for the jointing area, expanding area and the flange area

- Insulate for the jointing area, expanding area and the flange area should be done after checking leakage of the pipes.
- Make sure there's no clearance in the joining part of the accessorial insulation material and local preparative insulation material.



Drainage pipe insulation

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

Note

- 1) The jointing area, expanding area and the flange area should be heat insulated after passing the pressure test.
- 2) The gas and liquid pipe should be heat insulated individually, the connecting part should be heat insulated individually.
- 3) Use the attached heat-insulation material to insulate the pipe connections (pipes' tie-in, expand nut) of the indoor unit.

14. 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) Test operation
 - a. Open both the liquid and gas stop valves.
 - b. Turn on the main power switch and allow the unit to warm up.
 - c. Set the air conditioner to COOL mode, 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 work 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.

4) Drainage test

- a. Ensure the drainpipe flows smoothly. New buildings should perform this test before finishing the ceiling.
- b. Remove the test cover. Add 2000ml of water to the tank through the attached tube.
- c. Turn on the main power switch and run the air conditioner in COOL mode.
- d. Listen to the sound of the drain pump to see if it makes any unusual noises.
- e. Check to see that the water is discharged. It may take up to one minute before the unit begins to drain depending on the drainpipe.
- f. Make sure that there are no leaks in any of the piping.
- g. Stop the air conditioner. Turn off the main power switch and reinstall the test cover.

III. Troubleshooting

1. Error code list

1.1 Indoor unit

Digital display	LED display	Error
E2	Timer light flashes	Room temperature (T1) sensor fault
E3	Defrost, running, alarm light flashes	Evaporator temperature (T2) sensor fault
E4	Defrost light flashes	Evaporator outlet temperature (T2B) sensor fault
EE	Alarm light flashes	Water over protection
E9	Running, defrost light flashes	Communication failure between IDU and wired controller
E7	Running, timer light flashes	Indoor unit EEPROM error
E8	Defrost, timer light flashes	Indoor unit fan motor stall protection
F4	Defrost, alarm light flashes	Ambient temperature (T4) sensor fault
F5		Discharge temperature (T5) sensor fault
P9		Outdoor unit fan motor protection
E5		Other outdoor unit errors
FE		Outdoor unit EEPROM error
F6		Condenser temperature (T3) sensor fault
P5		High condenser temperature protection
PA		Anti-typhoon protection
L1		DC bus low voltage protection
PE		Secondary over-current protection
EF		Mode conflict
P6		IPM protection
H6		Three times high discharge temperature protection
H5		Three times low pressure protection

E1	Timer, alarm light flashes	Communication error between IDU and ODU
P1	Running, defrost, timer light flashes	High pressure protection
P2	Defrost, timer, alarm light flashes	Low pressure protection
P4	Running, timer, alarm light flashes	Over-high discharge temperature protection
E0	Running, defrost, timer, alarm light flashes	Three-phase power phase sequence fault
HC	/	Room card port disconnected
HE	/	Refrigerant leakage protection

1.2 One drive two outdoor unit

Read error codes from maintenance controller.

Error code	Description
E01	Communication fault between IDU and ODU
E02	Zero cross detection fault of IDU
E03	stall fault of indoor fan
E04	T2B (indoor coil outlet temp.) sensor fault
E08	Mode conflict
E09	ODU EEPROM error
E0E	IDU EEPROM error
E11	IDU T1 (room temperature) sensor fault
E12	IDU T2 (indoor coil middle temp.) sensor fault
E13	ODU T3 (outdoor coil outlet temp.) sensor fault
E14	ODU T4 (ambient temp.) sensor fault
E15	ODU discharge temp. sensor fault
E16	IPM temp. sensor fault
E17	Suction temp. sensor fault
E18	TZA sensor fault
E19	TZB sensor fault
E2x	Fan motor fault
POC	Current protection

P1x	Bus voltage protection
P21	Low temperature dehumidification fault
P22	High and low temp. protection of evaporator
P23	High temp. protection of condenser
P24	High and low temp. protection of environment
P25	High discharge temperature of compressor
P28	Abnormal discharge in commodity inspection mode (compressor reversal)
P29	T3 abnormal in commodity inspection heating mode (System exception, 4-way valve disconnected)
P30	High pressure protection
P31	Low pressure protection
H1x	Compressor fault
H3x	PFC fault
L01	Lower frequency because of voltage limit
L02	Lower frequency because of high or low temp. limit of evaporator
L03	Lower frequency because of high temp. limit of condenser
L05	Lower frequency because of high discharge temp. of compressor
L06	Lower frequency because of IPM temperature limit
L0C	Lower frequency because of current limit

1.3 One drive three/four/five outdoor unit

Error code	Description
E2	Communication error between IDU and ODU
E4	Environment temperature (T4) sensor fault
E5	Discharge temperature sensor fault
E6	Condenser temperature sensor fault
E9	AC overcurrent/undercurrent protection
E10	EEPROM error
H0	Communication error between main chip and DSP

H4	Three times P6 protection in 30 minutes
H5	Three times P2 protection in 30 minutes
H6	Three times P4 protection in 100 minutes
H10	Three times P3 protection in 60 minutes
P1	High pressure protection
P2	Low pressure protection
P3	AC/DC over-current protection
P4	Over-high discharge temperature protection
P5	High condenser temperature protection
P6	IPM module protection

2. Spot check

2.1 Wall mounted unit

- Method 1: After powering on 5s, long press the button in indoor unit PCB for 5s, to enter spot check. And then short press this button to read more parameters.
- Method 2: After powering on, press “up & down swing” and “left & right swing” button alternately 5 times within 10 seconds to enter spot check. Press “up & down swing” and “left & right swing” button to read more parameters.
- Spot check table:

No.	Content
0-	Setting temperature
1-	Indoor temperature (T1),
2-	Indoor unit evaporator temperature (T2 or T2B)
3-	EEPROM code
4-	Software code
5-	Outdoor unit error code
6-	Outdoor unit running frequency
7-	Outdoor unit condenser temperature (T3)
8-	Outdoor ambient temperature (T4)
9-	Indoor unit fan speed (f0 means 1500rpm, a1 means 1010rpm)

2.2 Wired controller

Long press “CHECK” button then press “UP” or “DOWN” button to check parameters.

No.	Description	Remark
1	Indoor unit capacity	Capacity= display data*10
2	Indoor unit demanded capacity	
3	Amended demanded capacity by T4	
4	Amended demanded capacity by T2	
5	T1 room temperature	
6	T2 evaporator temperature	
7	T2B evaporator outlet temperature	
8	T3 condenser temperature	
9	T4 ambient temperature	
10	T5/TP discharge temperature	
11	EXV opening degree	Opening degree= display data*4
12	Compressor running frequency	
13	AC voltage	Voltage=display data*4

2.3 One drive two outdoor unit

Press “Query” and “+” or “-” to turn to the page to find following information:



Code	Description	Remark
Fr	Running frequency	

FT	Target frequency	
T1	Unit A T1	
T2	Unit A T2	
Sr	IDU A fan speed	
Tb	IDUA T2B	Only multi split
AL	DU A EXV opening degree	Only multi split
An	Capacity demand of IDU A	Only multi split
Hn	Amended total capacity demand	Only multi split
b1	Unit B T1	Only multi split
b2	Unit B T2	Only multi split
bb	Unit B T2B	Only multi split
bS	Unit B fan speed	Only multi split
bL	Unit B EXV opening degree	Only multi split
bn	Capacity demand of IDU B	Only multi split
TH	Suction temperature	Only multi split
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	Only multi split
Ud	DC voltage	
dL	Current	
Pr	Outdoor unit fan speed	
Lr	Master EXV opening degree	

2.4 One drive three/four/five outdoor unit

No.	Description	No.	Description
1	Outdoor unit capacity	20	Indoor unit B demanded capacity

2	Running mode (0: shutdown, 1: cooling, 3: heating, 4: forced cooling)	21	T1 room temperature of indoor unit B
3	Indoor unit demanded capacity	22	EXV opening degree of indoor unit B
4	Actual operation ability	23	Indoor unit C demanded capacity
5	Target operation ability	24	T1 room temperature of indoor unit C
6	Fan speed (0~7)	25	EXV opening degree of indoor unit C
7	Average evaporator temperature	26	Indoor unit D demanded capacity
8	T3 condenser temperature	27	T1 room temperature of indoor unit D
9	T4 outdoor ambient temperature	28	EXV opening degree of indoor unit D
10	TP discharge temperature	29	Indoor unit E demanded capacity
11	AC current	30	T1 room temperature of indoor unit E
12	DC current	31	EXV opening degree of indoor unit E
13	AC voltage	32	Average temperature of T2B
14	DC voltage	33	Frequency limit (1: current limit, 2: cooling limit, 4: T5, 8: T3, 16: T2)
15	The quantity of indoor units	34	The reason of T6 protection
16	The quantity of turned on indoor units	35	Software version
17	Indoor unit A demanded capacity	36	EEPROM version
18	T1 room temperature of indoor unit A	37	Last error or protection code
19	EXV opening degree of indoor unit A		

3. Indoor unit errors troubleshooting

Error code	Description	Reasons and solutions
E1	Communication error between ODU & IDU	<ol style="list-style-type: none"> 1. communication wires connect wrongly 2. fire and zero line of IDU and ODU should be one-to-one corresponding 3. There is interference in the lines or damage to the indoor and outdoor PCBs.
E2	T1 temp. sensor fault	<ol style="list-style-type: none"> 1. Check whether the sensor connector is loose, if the plug is loose, reconnect the plug, otherwise proceed to the next inspection;

E3	T2 temp. sensor fault	2. Pull out the sensor plug and measure the resistance of the sensor to see if there is a short circuit or open circuit (the sensor is a 5K temperature sensor). If the sensor is short circuited or open, replace the sensor, otherwise replace the PCB.
E4	T2B temp. sensor fault	
E7	EEPROM error	1. Observe whether the EEPROM has burnt black, weak solder, or poor contact; 2. Pull out the EEPROM and re-insert it; 3. Replace EEPROM or replace the PCB.
E8	Fan motor stall protection	1. Check whether the plug on the IDU PCB is loose, if it is loose, plug it in tightly, otherwise proceed to the next inspection; 2. Check whether the motor coil of the indoor unit is open or short-circuited. Turn the fan blade to see if it is stuck. If so, replace the motor, otherwise replace the PCB.
E9	Wired controller communication error	1. Check whether the connection of wired controller is correct, and whether the wired controller matches the indoor PCB; 2. Check whether the cable of the wired controller is disconnected and whether the connectors are firmly connected; 3. Try to replace the wired controller. If the replacement of the wired controller cannot solve the problem, replace the indoor PCB.
EE	Water over protection	1. Check whether the water level is normal and whether the water level switch is normal; 2. If there is no water pump, check whether the SW port in PCB is short-connected.
EF	Mode conflict	Running modes of indoor units are different.
HC	Remo port disconnected	1. Check whether the REMO port on the internal board is short-circuited, if not, short-circuit it; 2. If the fault still exists after short-circuiting, replace the PCB.
HE	Refrigerant leakage protection	1. Check whether the amount of external refrigerant is sufficient; 2. Check whether the sensor is installed in the correct position;

4. Outdoor unit errors troubleshooting

Error code	Description	Reasons and solutions
E2	Communication error between	1. communication wires connect wrongly 2. fire and zero line of IDU and ODU should be one-to-one

	ODU & IDU	<p>corresponding</p> <p>3. There is interference in the lines or damage to the indoor and outdoor PCBs.</p>
E4	T4 temp. sensor fault	1. Check whether the sensor connector is loose, if the plug is loose, reconnect the plug, otherwise proceed to the next inspection;
E6	T3 temp. sensor fault	2. Pull out the sensor plug and measure the resistance of the sensor to see if there is a short circuit or open circuit (the sensor is a 5k ohm temperature sensor). If the sensor is short circuited or open, replace the sensor, otherwise replace the PCB.
E5	T5 temp. sensor fault	<p>1. Check whether the sensor connector is loose, if the plug is loose, reconnect the plug, otherwise proceed to the next inspection;</p> <p>2. Pull out the sensor plug and measure the resistance of the sensor to see if there is a short circuit or open circuit (the sensor is a 50K ohm temperature sensor). If the sensor is short circuited or open, replace the sensor, otherwise replace the PCB.</p>
E9	AC overcurrent /undercurrent protection	1. Check whether the input power supply is abnormal, whether it is lower than 140V or higher than 270V.
E10	EEPROM error	<p>1. Observe whether the EEPROM has burnt black, weak solder, or poor contact;</p> <p>2. Pull out the EEPROM and re-insert it;</p> <p>3. Replace EEPROM or replace the PCB.</p>
P1	High pressure protection	1. Check whether the high pressure short circuit wire is connected well with PCB.
P2/H5	Low pressure protection	<p>1. Check whether the low pressure switch connector is loose, if the plug is loose, reconnect the plug</p> <p>2. Check whether the low pressure switch is broken. Measure the resistance of switch, if the switch is normal, the value is 0.</p> <p>3. Check whether the outdoor ambient temperature is too low. If yes, stop the unit.</p> <p>4. Check whether the stop valve is opened.</p> <p>5. Check whether the refrigerant is enough.</p>
P3/H10	AC/DC over-current protection	<p>1. Check whether the outdoor ambient temperature is too high.</p> <p>2. Check whether the outdoor unit is bad ventilation or the heat exchanger is dirty.</p> <p>3. Check whether the refrigerant pipe is blocked.</p>
P4/H6	Over-high	1. Restart the outdoor unit first.

	discharge temperature protection	<ol style="list-style-type: none"> 2. Check whether the connection is right between compressor discharge temp. sensor and PCB. 3. Measure the resistance of discharge temperature sensor. The normal value refers to appendix. 4. Check whether the system is blocked and whether the pressure is normal, whether there is refrigerant leakage.
P5	High condenser temperature protection	<ol style="list-style-type: none"> 1. Check whether the outdoor ambient temperature is too high. 2. Check whether the outdoor unit is bad ventilation or the heat exchanger is dirty. 3. Check whether the refrigerant pipe is blocked. 4. Check whether the outdoor fan motor works normally. 5. Measure the resistance of temperature sensor. The normal value refers to appendix.
P6/H4	IPM module protection	<ol style="list-style-type: none"> 1. Check whether the compressor connections are loose. 2. Check whether the compressor is stuck or not; 3. Check whether the system is blocked and the pressure is normal. 4. Check whether the input power supply is abnormal, whether it is lower than 140V or higher than 270V.

Appendix

I. Temperature sensor resistance value table for T1,T2,T3 and T4 (°C – K)

Temperature °C	Resistance (kΩ)	Temperature °C	Resistance (kΩ)	Temperature °C	Resistance (kΩ)
-25	41.99	17	6.729	59	1.615
-24	39.96	18	6.478	60	1.567
-23	38.05	19	6.238	61	1.521
-22	36.24	20	6.008	62	1.476
-21	34.52	21	5.789	63	1.433
-20	32.9	22	5.578	64	1.391
-19	31.37	23	5.377	65	1.351
-18	29.91	24	5.185	66	1.312
-17	28.53	25	5	67	1.274
-16	27.22	26	4.821	68	1.237
-15	25.98	27	4.649	69	1.202
-14	24.52	28	4.485	70	1.168
-13	23.43	29	4.327	71	1.135
-12	22.39	30	4.176	72	1.103
-11	21.41	31	4.031	73	1.072
-10	20.48	32	3.892	74	1.043
-9	19.59	33	3.759	75	1.019
-8	18.74	34	3.631	76	0.9914
-7	17.93	35	3.508	77	0.9642
-6	17.16	36	3.389	78	0.9379
-5	16.431	37	3.275	79	0.9124
-4	15.739	38	3.165	80	0.8877
-3	15.08	39	3.06	81	0.8638
-2	14.454	40	2.959	82	0.8406
-1	13.857	41	2.861	83	0.8181
0	13.29	42	2.768	84	0.7963
1	12.739	43	2.678	85	0.7752
2	12.215	44	2.592	86	0.7547
3	11.717	45	2.509	87	0.7348
4	11.241	46	2.429	88	0.7155
5	10.789	47	2.352	89	0.6968
6	10.357	48	2.278	90	0.6786
7	9.946	49	2.207	91	0.661
8	9.554	50	2.138	92	0.6439
9	9.18	51	2.071	93	0.6272
10	8.823	52	2.006	94	0.6111

11	8.482	53	1.944	95	0.5954
12	8.157	54	1.884	96	0.5802
13	7.846	55	1.826	97	0.5654
14	7.55	56	1.77	98	0.551
15	7.266	57	1.717	99	0.5371
16	6.991	58	1.665	100	0.5235

II. Temperature sensor resistance value table for T5 (°C – K)

Temperature °C	Resistance (kΩ)	Temperature °C	Resistance (kΩ)	Temperature °C	Resistance (kΩ)
0	162.8960	34	34.0197	68	9.2774
1	154.8355	35	32.6330	69	8.9588
2	147.2203	36	31.3098	70	8.6526
3	140.0233	37	30.0471	71	8.3582
4	133.2193	38	28.8416	72	8.0753
5	126.7846	39	27.6906	73	7.8032
6	120.6973	40	26.5914	74	7.5414
7	114.9366	41	25.5413	75	7.2897
8	109.4834	42	24.5379	76	7.0475
9	104.3195	43	23.5789	77	6.8144
10	99.4280	44	22.6622	78	6.5901
11	94.7931	45	21.7857	79	6.3741
12	90.4000	46	20.9473	80	6.1662
13	86.2348	47	20.1454	81	5.9660
14	82.2845	48	19.3781	82	5.7732
15	78.5368	49	18.6438	83	5.5875
16	74.9803	50	17.9409	84	5.4086
17	71.6042	51	17.2679	85	5.2361

18	68.3985	52	16.6234	86	5.0700
19	65.3537	53	16.0061	87	4.9098
20	62.4608	54	15.4147	88	4.7554
21	59.7115	55	14.8480	89	4.6065
22	57.0980	56	14.3048	90	4.4629
23	54.6128	57	13.7840	91	4.3244
24	52.2490	58	13.2847	92	4.1908
25	50.0000	59	12.8059	93	4.0619
26	47.8597	60	12.3466	94	3.9376
27	45.8223	61	11.9059	95	3.8175
28	43.8823	62	11.4830	96	3.7017
29	42.0346	63	11.0771	97	3.5898
30	40.2743	64	10.6875	98	3.4818
31	38.5968	65	10.3133	99	3.3775
32	36.9979	66	9.9540	100	3.2768
33	35.4735	67	9.6089	101	3.1795