Service Manual

Multi Variable Air Conditioners

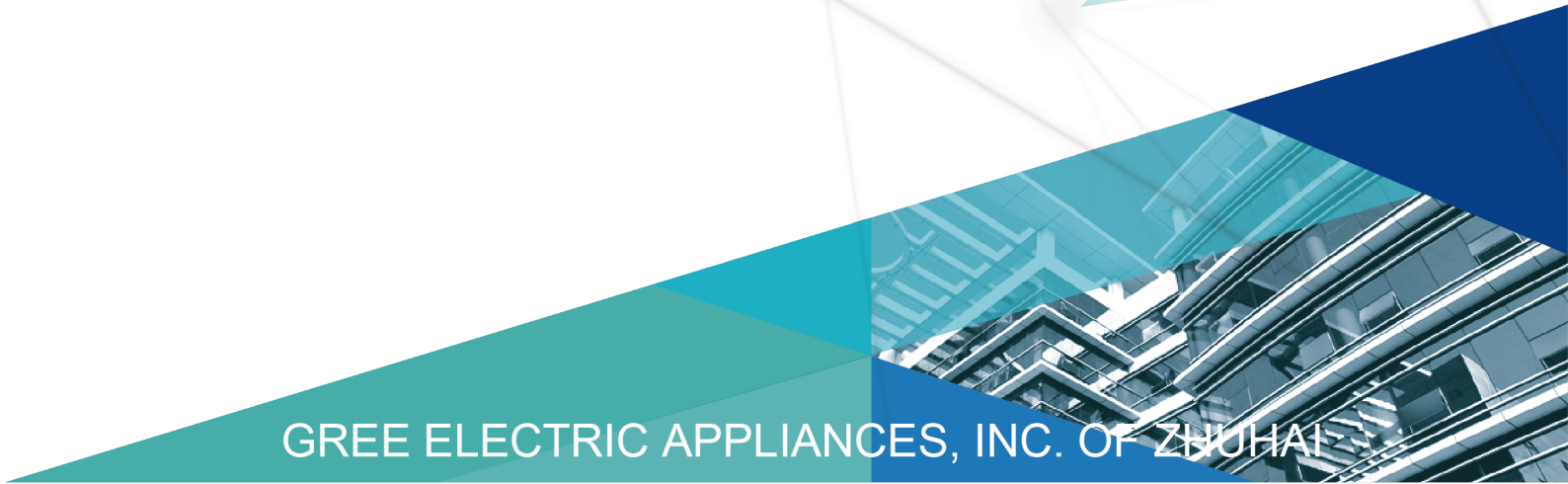
Indoor Units

(GC202603-I I)

Capacity: 1500W~14000W

Rated Frequency: 50/60Hz

Refrigerant Type: R32



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

Foreword

Thank you for choosing Gree air conditioners. In order to correctly install and use our units, and for the satisfactory operation effect, please read this manual carefully.

This manual specifies safe operation requirements from perspectives of product introduction, control, troubleshooting and maintenance, as well as basic principles and implementation methods. Professional operators must abide by relevant national (local) safety requirements and technical specifications set forth in this manual during operations; otherwise, the air conditioning system may fail or be damaged, and personnel safety accident may also occur.

	Appliance filled with flammable gas R32.
	Before install the appliance, read the installation manual first.
	Before use the appliance, read the owner’s manual first.
	Before repair the appliance, read the service manual first.

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Safety Notice on Maintenance

PROHIBITED:

(1) Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

(2) Do not pierce or burn.

(3) Please note that refrigerant may be odorless.

(4) The appliance shall be stored in a room without continuously operating ignition sources (For example: open flames, an operating gas appliance or an operating electric heater).

(5) Indoor unit adopts special joints that can't be detached. The installation method is the same with the common joints. However, because the joint can't be detached, if it is badly connected and causes leakage, it needs to be cut and replaced by a new one through welding.

(6) Using unsuitable parts or tools may lead to electric shock or fire hazard.

(7) If refrigerant leaks during maintenance, please ventilate the room immediately. Heavy leakage may lead to breathing difficulty, severe injury or death.

(8) Disconnect power before disassembling the appliance for maintenance.

(9) The appliance should be maintained and cared by authorized technical personnel with necessary qualifications.

WARNING:

(1) If the working place is more than 2m's high, please wear a safety helmet, gloves and a safety belt.

(2) Never mix any other substances except the specified refrigerant into the refrigerant circuit.

(3) When re-locating the appliance, check whether the new location is strong enough to withstand the weight of the appliance.

(4) If there is refrigerant leak, please fix the leak before charging in the refrigerant. After refrigerant is charged, check for refrigerant leaks. If you cannot spot the leak, stop the maintenance work. Please evacuate the system and close the service valve to prevent refrigerant leaking into the room.

(5) Prepare suitable tools and protectors.

(6) If you need to carry out maintenance or check the electric circuit without cutting off the power, please be careful not to touch the electrical parts.

(7) The appliance should be maintained and cared by authorized technical personnel with necessary qualifications.

(8) LEAK DETECTION SYSTEM installed. Unit must be powered except for service.

(9) Keep any required ventilation openings clear of obstruction.

(10) Precautions shall be taken to avoid excessive vibration or pulsation to refrigerating piping.

(11) Protection devices, piping and fittings shall be protected as far as possible against adverse environmental effects, for example, the danger of water collecting and freezing in relief pipes or the accumulation of dirt and debris.

(12) Provision shall be made for expansion and contraction of long runs of piping.

(13) Piping in refrigerating systems shall be so designed and installed to minimize the likelihood hydraulic shock damaging the system.

(14) Steel pipes and components shall be protected against corrosion with a rustproof coating before applying any insulation.

(15) Only auxiliary devices approved by the appliance manufacturer or declared suitable with the refrigerant shall be installed in connecting ductwork.

NOTICE:

(1) If the appliance is maintained at a humid place, it should be grounded to avoid electric shock.

(2) Never repair the unit with wet hands. Operating the unit with wet hands may lead to electric shock.

(3) If the unit is not correctly grounded, please check and fix it.

(4) Before cleaning the unit, please disconnect power to prevent the inner fan from starting up and running at high speed; Otherwise personal injury may occur.

(5) Measure the insulation resistance after maintenance. The resistance must be 1M or higher. Bad insulation may lead to electric shock.

(6) Welding and cutting work must be done in a well-ventilated place.

(7) Gas appliances, heaters and other fire sources should be kept away from the installation and maintenance site.

(8) Maintenance should be done according to suggestions of the manufacturer.

(9) Maintenance should be done only after the refrigerant is completely reclaimed from the unit.

OBSERVED:

(1) After the maintenance work is done, check the drainage of indoor unit.

(2) Do not tilt the unit, otherwise, water may spill out from the unit and make the floor and furniture wet.

(3) Disassembly of the unit, handling of the refrigerant, oil and accessories should all be done according to applicable local rules and regulations.

Safety Notice on Operation

PROHIBITED:

(1) Never try to modify the unit, otherwise, it may cause electric shock, overheat or fire hazard.

(2) If the power cord or conducting wires are scratched, please replace them.

(3) Never use connected or extended power cord or share the power socket with other appliances.

(4) Prepare a specialized power circuit for the appliance.

WARNING:

(1) If the power plug is dirty, please clean it before inserting it to the power socket. If the power plug is loose, please tighten it up.

(2) Do not damage the power cord. A damaged or refitted power cord may lead to electric shock or fire hazard.

(3) Check frequently whether the appliance is in good condition.

NOTICE:

(1) After changing the batteries of remote control, please discard them to avoid being swallowed by children.

(2) When the unit is working, do not remove the fan cover.

(3) Do not use organic solvents to wipe the controller operating panel.

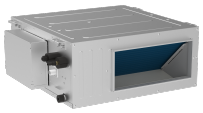
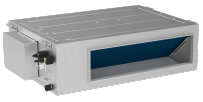
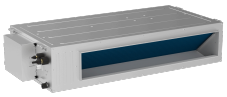
(4) Before cleaning the unit, cut off the power supply.

PRODUCT

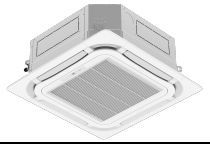
CHAPTER 1 PRODUCT

1 Product List

1.1 High Static Pressure Duct Type

Model	Product Code	Cooling Capacity	Heating Capacity	Power Supply	Refrigerant	Appearance
		kW	kW			
GMV-ND22PHS/NhD-T	CM810N3430	2.2	2.5	220-240V ~ 50Hz 208-230V ~ 60Hz	R32	
GMV-ND25PHS/NhD-T	CM810N3400	2.5	2.8			
GMV-ND28PHS/NhD-T	CM810N3420	2.8	3.2			
GMV-ND32PHS/NhD-T	CM810N3450	3.2	3.6			
GMV-ND36PHS/NhD-T	CM810N3380	3.6	4.0			
GMV-ND40PHS/NhD-T	CM810N3410	4.0	4.5			
GMV-ND45PHS/NhD-T	CM810N3440	4.5	5.0			
GMV-ND50PHS/NhD-T	CM810N3300	5.0	5.6			
GMV-ND56PHS/NhD-T	CM810N3710	5.6	6.3			
GMV-ND63PHS/NhD-T	CM810N3760	6.3	7.1			
GMV-ND71PHS/NhD-T	CM810N3750	7.1	8.0			
GMV-ND80PHS/NhD-T	CM810N3390	8.0	9.0			
GMV-ND90PHS/NhD-T	CM810N3740	9.0	10.0			
GMV-ND100PHS/NhD-T	CM810N3720	10.0	11.2			
GMV-ND112PHS/NhD-T	CM810N3730	11.2	12.5			
GMV-ND125PHS/NhD-T	CM810N3700	12.5	14.0			
GMV-ND140PHS/NhD-T	CM810N3470	14.0	16.0			

1.2 360° Air Discharge Cassette Type Indoor Unit

Model	Product Code	Cooling Capacity	Heating Capacity	Power Supply	Refrigerant	Appearance
		kW	kW			
GMV-ND22T/NhD1-T	CM500N2910	2.2	2.5	220-240V ~ 50Hz 208-230V ~ 60Hz	R32	
GMV-ND28T/NhD1-T	CM500N2930	2.8	3.2			
GMV-ND36T/NhD1-T	CM500N2920	3.6	4.0			
GMV-ND45T/NhD1-T	CM500N2940	4.5	5.0			
GMV-ND50T/NhD1-T	CM500N2870	5.0	5.6			
GMV-ND56T/NhD1-T	CM500N2860	5.6	6.3			
GMV-ND63T/NhD1-T	CM500N2840	6.3	7.1			
GMV-ND71T/NhD1-T	CM500N2850	7.1	8.0			
GMV-ND80T/NhD1-T	CM500N2540	8.0	9.0			
GMV-ND90T/NhD1-T	CM500N3040	9.0	10.0			
GMV-ND100T/NhD1-T	CM500N3020	10.0	11.2			
GMV-ND112T/NhD1-T	CM500N2880	11.2	12.5			
GMV-ND125T/NhD1-T	CM500N3030	12.5	14.0			
GMV-ND140T/NhD1-T	CM500N2900	14.0	16.0			

1.3 360° Air Discharge Compact Cassette Type Indoor Unit

Model	Product Code	Cooling Capacity	Heating Capacity	Power Supply	Refrigerant	Appearance
		kW	kW			
GMV-ND15T/NhE-T	CM500N3010	1.5	1.8	220-240V ~ 50Hz 208-230V ~ 60Hz	R32	
GMV-ND18T/NhE-T	CM500N2990	1.8	2.2			
GMV-ND22T/NhE-T	CM500N2970	2.2	2.5			
GMV-ND28T/NhE-T	CM500N3000	2.8	3.2			
GMV-ND36T/NhE-T	CM500N2780	3.6	4.0			
GMV-ND45T/NhE-T	CM500N2980	4.5	5.0			
GMV-ND50T/NhE-T	CM500N2960	5.0	5.6			
GMV-ND56T/NhE-T	CM500N2610	5.6	6.3			
GMV-ND63T/NhE-T	CM500N2950	6.3	7.1			
GMV-ND71T/NhE-T	CM500N2770	7.1	8.0			

1.4 Wall Mounted Type Indoor Unit

Model	Product Code	Cooling Capacity	Heating Capacity	Power Supply	Refrigerant	Appearance
		kW	kW			
GMV-ND15G/NhA1C-T	CM100N3950	1500	1800	220/240V ~ 50/60Hz	R32	
GMV-ND18G/NhA1C-T	CM100N3910	1800	2200			
GMV-ND22G/NhA1C-T	CM100N3970	2200	2500			
GMV-ND28G/NhA1C-T	CM100N3860	2800	3200			
GMV-ND36G/NhA1C-T	CM100N3940	3600	4000			
GMV-ND45G/NhA1C-T	CM100N3930	4500	5000			
GMV-ND50G/NhA1C-T	CM100N3870	5000	5600			
GMV-ND56G/NhA1C-T	CM100N3920	5600	6300			
GMV-ND63G/NhA1C-T	CM100N3960	6300	7100			
GMV-ND71G/NhA1C-T	CM100N3880	7100	7500			
GMV-ND80G/NhA1C-T	CM100N4100	8000	9000			
GMV-ND90G/NhA1C-T	CM100N4110	9000	10000			
GMV-ND100G/NhA1C-T	CM100N3890	9500	10500			

2 Nomenclature

Nomenclature of Indoor Unit:

GMV	-	N	□	□	□	□	□	/	□	□	-	□	□
1		2	3	4	5	6	7		8	9		10	11

No.	Description	Options
1	Product code	GMV - Gree Multi VRF Units
2	Indoor unit code	Indoor unit - N
3	Motor type	D - DC motor NULL - AC motor
4	Function code	L - cooling only unit X - fresh air W - double thermal source
5	Cooling capacity/air volume code	Indoor unit - norminal cooling capacity /100(W) All heat exchanger - air volume /100(m^3/h)
6	Unit type	PH-high static pressure duct type indoor unit T-360°Air Discharge type indoor unit
7	With water pump or not	With water pump - S (S is not displayed for the cassette unit with water pump)
8	Refrigerant code	Nh-R32
9	Design serial No.	Nominate by A, B, C or expand it by 1, 2, 3…
10	Power	T - 208-230V~,60Hz & 220-240V~,50Hz

3 Specifications

3.1 High Static Pressure Duct Indoor Unit

Model			GMV-ND22PHS/NhD-T	GMV-ND25PHS/NhD-T	GMV-ND28PHS/NhD-T
Capacity	Cooling	kW	2.2	2.5	2.8
	Heating	kW	2.5	2.8	3.2
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	600/500/420	600/500/420	600/500/420
ESP		Pa	60/0-150	60/0-150	60/0-150
Sound pressure level(H/M/L)		dB(A)	31/28/26	31/28/26	31/28/26
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ9.52	Φ9.52	Φ9.52
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25
	Thickness	mm	2.5	2.5	2.5
Dimension (W×D×H)	Outline	mm	700×700×300	700×700×300	700×700×300
	Package	mm	897×808×360	897×808×360	897×808×360
Net weight/Gross weight		kg	32/38	32/38	32/38
Power consumption		W	65	65	65
Rated current	Cooling	A	0.5	0.5	0.5
	Heating	A	0.5	0.5	0.5
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND32PHS/NhD-T	GMV-ND36PHS/NhD-T	GMV-ND40PHS/NhD-T
Capacity	Cooling	kW	3.2	3.6	4.0
	Heating	kW	3.6	4.0	4.5
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	600/500/420	600/500/420	850/700/600
ESP		Pa	60/0-150	60/0-150	60/0-150
Sound pressure level(H/M/L)		dB(A)	31/28/26	31/28/26	36/33/29
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ9.52	Φ9.52	Φ12.7
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25
	Thickness	mm	2.5	2.5	2.5
Dimension (W×D×H)	Outline	mm	700×700×300	700×700×300	700×700×300
	Package	mm	897×808×360	897×808×360	897×808×360
Net weight/Gross weight		kg	32/38	32/38	32/38
Power consumption		W	65	65	85
Rated current	Cooling	A	0.5	0.5	0.7
	Heating	A	0.5	0.5	0.7
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND45PHS/NhD-T	GMV-ND50PHS/NhD-T	GMV-ND56PHS/NhD-T
Capacity	Cooling	kW	4.5	5.0	5.6
	Heating	kW	5.0	5.6	6.3
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	850/700/600	850/700/600	1000/800/700
ESP		Pa	60/0-150	60/0-150	90/0-200
Sound pressure level(H/M/L)		dB(A)	36/33/29	36/33/29	37/34/30
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ12.7	Φ12.7	Φ12.7
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25
	Thickness	mm	2.5	2.5	2.5
Dimension (W×D×H)	Outline	mm	700×700×300	700×700×300	1000×700×300
	Package	mm	897×808×360	897×808×360	1205×813×360
Net weight/Gross weight		kg	32/38	32/38	41.5/49
Power consumption		W	85	85	105
Rated current	Cooling	A	0.7	0.7	0.8
	Heating	A	0.7	0.7	0.8
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND63PHS/NhD-T	GMV-ND71PHS/NhD-T	GMV-ND80PHS/NhD-T
Capacity	Cooling	kW	6.3	7.1	8.0
	Heating	kW	7.1	8.0	9.0
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	1000/800/700	1250/1050/950	1250/1050/950
ESP		Pa	90/0-200	90/0-200	90/0-200
Sound pressure level(H/M/L)		dB(A)	37/34/30	38/35/31	38/35/31
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ12.7	Φ12.7	Φ12.7
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25
	Thickness	mm	2.5	2.5	2.5
Dimension (W×D×H)	Outline	mm	1000×700×300	1000×700×300	1000×700×300
	Package	mm	1205×813×360	1205×813×360	1205×813×360
Net weight/Gross weight		kg	41.5/49	41.5/49	41.5/49
Power consumption		W	105	125	125
Rated current	Cooling	A	0.8	1	1
	Heating	A	0.8	1	1
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND90PHS/NhD-T	GMV-ND100PHS/NhD-T	GMV-ND112PHS/NhD-T
Capacity	Cooling	kW	9.0	10.0	11.2
	Heating	kW	10.0	11.2	12.5
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
ESP		Pa	90/0-200	90/0-200	90/0-200
Sound pressure level(H/M/L)		dB(A)	39/36/32	39/36/32	41/38/36
Connecting pipe	Liquid	mm	Φ9.52	Φ9.52	Φ9.52
	Gas	mm	Φ15.9	Φ15.9	Φ15.9
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25
	Thickness	mm	2.5	2.5	2.5
Dimension (W×D×H)	Outline	mm	1400×700×300	1400×700×300	1400×700×300
	Package	mm	1601×813×365	1601×813×365	1601×813×365
Net weight/Gross weight		kg	55/64	55/64	55/64
Power consumption		W	160	160	160
Rated current	Cooling	A	1.1	1.1	1.3
	Heating	A	1.1	1.1	1.3
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND125PHS/NhD-T	GMV-ND140PHS/NhD-T
Capacity	Cooling	kW	12.5	14.0
	Heating	kW	14.0	16.0
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	2000/1600/1400	2350/1900/1650
ESP		Pa	90/0-200	90/0-200
Sound pressure level(H/M/L)		dB(A)	41/38/36	43/40/37
Connecting pipe	Liquid	mm	Φ9.52	Φ9.52
	Gas	mm	Φ15.9	Φ15.9
Drain pipe	External dia.	mm	Φ25	Φ25
	Thickness	mm	2.5	2.5
Dimension (W×D×H)	Outline	mm	1400×700×300	1400×700×300
	Package	mm	1601×813×365	1601×813×365
Net weight/Gross weight		kg	55/64	55/64
Power consumption		W	160	265
Rated current	Cooling	A	1.3	1.8
	Heating	A	1.3	1.8
Refrigeration Control Device			EXV	EXV
Protection Device			Fuse	Fuse

3.2 360° Air Discharge Cassette Indoor Unit

Model			GMV-ND22T/NhD1-T	GMV-ND28T/NhD1-T	GMV-ND36T/NhD1-T
Capacity	Cooling	kW	2.2	2.8	3.6
	Heating	kW	2.5	3.2	4.0
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	800/700/600	800/700/600	800/700/600
Sound pressure level(H/M/L)		dB(A)	31/29/27	31/29/27	31/29/27
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ9.52	Φ9.52	Φ9.52
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25
	Thickness	mm	2.5	2.5	2.5
Dimension (W×D×H)	Outline	mm	840×840×200	840×840×200	840×840×200
	Package	mm	933×933×255	933×933×255	933×933×255
Net weight/Gross weight		kg	20.5/26.5	20.5/26.5	20.5/26.5
Power consumption		W	23	23	23
Rated current	Cooling	A	0.12	0.12	0.12
	Heating	A	0.12	0.12	0.12
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND45T/NhD1-T	GMV-ND50T/NhD1-T	GMV-ND56T/NhD1-T
Capacity	Cooling	kW	4.5	5.0	5.6
	Heating	kW	5.0	5.6	6.3
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	900/800/700	900/800/700	1100/935/850
Sound pressure level(H/M/L)		dB(A)	33/31/28	33/31/28	35/32/30
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ12.7	Φ12.7	Φ12.7
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25
	Thickness	mm	2.5	2.5	2.5
Dimension (W×D×H)	Outline	mm	840×840×200	840×840×200	840×840×200
	Package	mm	933×933×255	933×933×255	933×933×255
Net weight/Gross weight		kg	20.5/26.5	20.5/26.5	21/27
Power consumption		W	32	32	42
Rated current	Cooling	A	0.16	0.16	0.35
	Heating	A	0.16	0.16	0.35
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND63T/NhD1-T	GMV-ND71T/NhD1-T	GMV-ND80T/NhD1-T
Capacity	Cooling	kW	6.3	7.1	8.0
	Heating	kW	7.1	8.0	9.0
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	1100/935/850	1100/935/850	1400/1000/900
Sound pressure level(H/M/L)		dB(A)	35/32/30	35/32/30	38/34/31
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ12.7	Φ12.7	Φ12.7
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25
	Thickness	mm	2.5	2.5	2.5
Dimension (W×D×H)	Outline	mm	840×840×200	840×840×200	840×840×200
	Package	mm	933×933×255	933×933×255	933×933×255
Net weight/Gross weight		kg	21/27	21/27	21/27
Power consumption		W	42	42	42
Rated current	Cooling	A	0.35	0.35	0.35
	Heating	A	0.35	0.35	0.35
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND90T/NhD1-T	GMV-ND100T/NhD1-T	GMV-ND112T/NhD1-T
Capacity	Cooling	kW	9.0	10.0	11.2
	Heating	kW	10.0	11.2	12.5
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	1400/1000/900	1550/1200/1000	1550/1200/1000
Sound pressure level(H/M/L)		dB(A)	38/34/31	42/37/33	42/37/33
Connecting pipe	Liquid	mm	Φ9.52	Φ9.52	Φ9.52
	Gas	mm	Φ15.9	Φ15.9	Φ15.9
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25
	Thickness	mm	2.5	2.5	2.5
Dimension (W×D×H)	Outline	mm	840×840×240	840×840×240	840×840×240
	Package	mm	933×933×292	933×933×292	933×933×292
Net weight/Gross weight		kg	22/28	22/28	22/28
Power consumption		W	60	90	90
Rated current	Cooling	A	0.60	0.80	0.80
	Heating	A	0.60	0.80	0.80
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND125T/NhD1-T	GMV-ND140T/NhD1-T
Capacity	Cooling	kW	12.5	14.0
	Heating	kW	14.0	16.0
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	1800/1450/1150	1800/1450/1150
Sound pressure level(H/M/L)		dB(A)	43/38/33	43/38/33
Connecting pipe	Liquid	mm	Φ9.52	Φ9.52
	Gas	mm	Φ15.9	Φ15.9
Drain pipe	External dia.	mm	Φ25	Φ25
	Thickness	mm	2.5	2.5
Dimension (W×D×H)	Outline	mm	840×840×290	840×840×290
	Package	mm	933×933×345	933×933×345
Net weight/Gross weight		kg	25/31	25/31
Power consumption		W	100	100
Rated current	Cooling	A	0.90	0.90
	Heating	A	0.90	0.90
Refrigeration Control Device			EXV	EXV
Protection Device			Fuse	Fuse

3.3 360°Air Discharge Compact Cassette Indoor Unit

Model			GMV-ND15T/NhE-T	GMV-ND18T/NhE-T	GMV-ND22T/NhE-T
Capacity	Cooling	kW	1.5	1.8	2.2
	Heating	kW	1.8	2.2	2.5
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	500/460/370	500/460/370	500/460/370
ESP		Pa	0	0	0
Sound pressure level(H/M/L)		dB(A)	31/28/26	31/28/26	31/28/26
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ9.52	Φ9.52	Φ9.52
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25
	Thickness	mm	2.5	2.5	2.5
Dimension (W×D×H)	Outline	mm	570×570×265	570×570×265	570×570×265
	Package	mm	698×653×295	698×653×295	698×653×295
Net weight/Gross weight		kg	17.0/21.5	17.0/21.5	17.0/21.5
Power consumption		W	21	21	21
Rated Current	Cooling	A	0.11	0.11	0.11
	Heating	A	0.11	0.11	0.11
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND28T/NhE-T	GMV-ND36T/NhE-T	GMV-ND45T/NhE-T
Capacity	Cooling	kW	2.8	3.6	4.5
	Heating	kW	3.2	4.0	5.0
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	570/480/420	620/550/480	650/570/500
ESP		Pa	0	0	0
Sound pressure level(H/M/L)		dB(A)	35/33/28	35/33/28	35/33/28
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ9.52	Φ9.52	Φ12.7
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25
	Thickness	mm	2.5	2.5	2.5
Dimension (W×D×H)	Outline	mm	570×570×265	570×570×265	570×570×265
	Package	mm	698×653×295	698×653×295	698×653×295
Net weight/Gross weight		kg	17.0/21.5	17.0/21.5	17.0/21.5
Power consumption		W	28	28	28
Rated Current	Cooling	A	0.15	0.15	0.15
	Heating	A	0.15	0.15	0.15
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND50T/NhE-T	GMV-ND56T/NhE-T	GMV-ND63T/NhE-T
Capacity	Cooling	kW	5.0	5.6	6.3
	Heating	kW	5.6	6.3	7.1
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	730/650/560	730/650/560	800/660/570
ESP		Pa	0	0	0
Sound pressure level(H/M/L)		dB(A)	43/40/38	43/40/38	43/40/38
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ12.7	Φ12.7	Φ12.7
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25
	Thickness	mm	2.5	2.5	2.5
Dimension (W×D×H)	Outline	mm	570×570×265	570×570×265	570×570×265
	Package	mm	698×653×295	698×653×295	698×653×295
Net weight/Gross weight		kg	17.0/21.5	17.0/21.5	17.0/21.5
Power consumption		W	42	42	46
Rated Current	Cooling	A	0.23	0.23	0.25
	Heating	A	0.23	0.23	0.25
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND71T/NhE-T
Capacity	Cooling	kW	7.1
	Heating	kW	8.0
Power supply		V/Ph/Hz	220-240V ~ 50Hz 208-230V ~ 60Hz
Airflow volume(H/M/L)		m^3/h	800/660/570
ESP		Pa	0
Sound pressure level(H/M/L)		dB(A)	43/40/38
Connecting pipe	Liquid	mm	Φ6.35
	Gas	mm	Φ12.7
Drain pipe	External dia.	mm	Φ25
	Thickness	mm	2.5
Dimension (W×D×H)	Outline	mm	570×570×265
	Package	mm	698×653×295
Net weight/Gross weight		kg	17.0/21.5
Power consumption		W	46
Rated Current	Cooling	A	0.25
	Heating	A	0.25
Refrigeration Control Device			EXV
Protection Device			Fuse

3.4 Wall Mounted Type Indoor Unit

Model			GMV-ND15G/NhA1C-T	GMV-ND18G/NhA1C-T	GMV-ND22G/NhA1C-T
Capacity	Cooling	kW	1500	1800	2200
	Heating	kW	1800	2200	2500
Power supply		V/Ph/Hz	220/240V ~ 50/60Hz	220/240V ~ 50/60Hz	220/240V ~ 50/60Hz
Airflow volume(H/M/L)		m^3/h	450/400/350	450/400/350	450/400/350
ESP		Pa	0	0	0
Sound pressure level(H/M/L)		dB(A)	36/34/31	36/34/31	36/34/31
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ9.52	Φ9.52	Φ9.52
Drain pipe		mm	Φ20	Φ20	Φ20
Dimension (W×D×H)	Outline	mm	867×206×276	867×206×276	867×206×276
	Package	mm	1008×349×279	1008×349×279	1008×349×279
Net weight/Gross weight		kg	9/13	9/13	9/13
Power consumption		W	25	25	25
Rated Current	Cooling	A	0.2	0.2	0.2
	Heating	A	0.2	0.2	0.2
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND28G/NhA1C-T	GMV-ND36G/NhA1C-T	GMV-ND45G/NhA1C-T
Capacity	Cooling	kW	2800	3600	4500
	Heating	kW	3200	4000	5000
Power supply		V/Ph/Hz	220/240V ~ 50/60Hz	220/240V ~ 50/60Hz	220/240V ~ 50/60Hz
Airflow volume(H/M/L)		m^3/h	450/400/350	650/600/500	650/600/500
ESP		Pa	0	0	0
Sound pressure level(H/M/L)		dB(A)	36/34/31	42/39/34	42/39/34
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ9.52	Φ12.7	Φ12.7
Drain pipe		mm	Φ20	Φ20	Φ20
Dimension (W×D×H)	Outline	mm	867×206×276	978×248×333	978×248×333
	Package	mm	1008×349×279	1110×414×335	1110×414×335
Net weight/Gross weight		kg	9/13	12.5/18	12.5/18
Power consumption		W	25	35	35
Rated Current	Cooling	A	0.2	0.2	0.2
	Heating	A	0.2	0.2	0.2
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND50G/NhA1C-T	GMV-ND56G/NhA1C-T	GMV-ND63G/NhA1C-T
Capacity	Cooling	kW	5000	5600	6300
	Heating	kW	5600	6300	7100
Power supply		V/Ph/Hz	220/240V ~ 50/60Hz	220/240V ~ 50/60Hz	220/240V ~ 50/60Hz
Airflow volume(H/M/L)		m^3/h	650/600/500	900/820/700	900/820/700
ESP		Pa	0	0	0
Sound pressure level(H/M/L)		dB(A)	42/39/34	44/42/38	44/42/38
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ12.7	Φ12.7	Φ12.7
Drain pipe		mm	Φ20	Φ20	Φ20
Dimension (W×D×H)	Outline	mm	978×248×333	1116×248×333	1116×248×333
	Package	mm	1110×414×335	1254×422×341	1254×422×341
Net weight/Gross weight		kg	12.5/18	15/21	15/21
Power consumption		W	35	60	60
Rated Current	Cooling	A	0.2	0.4	0.4
	Heating	A	0.2	0.4	0.4
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

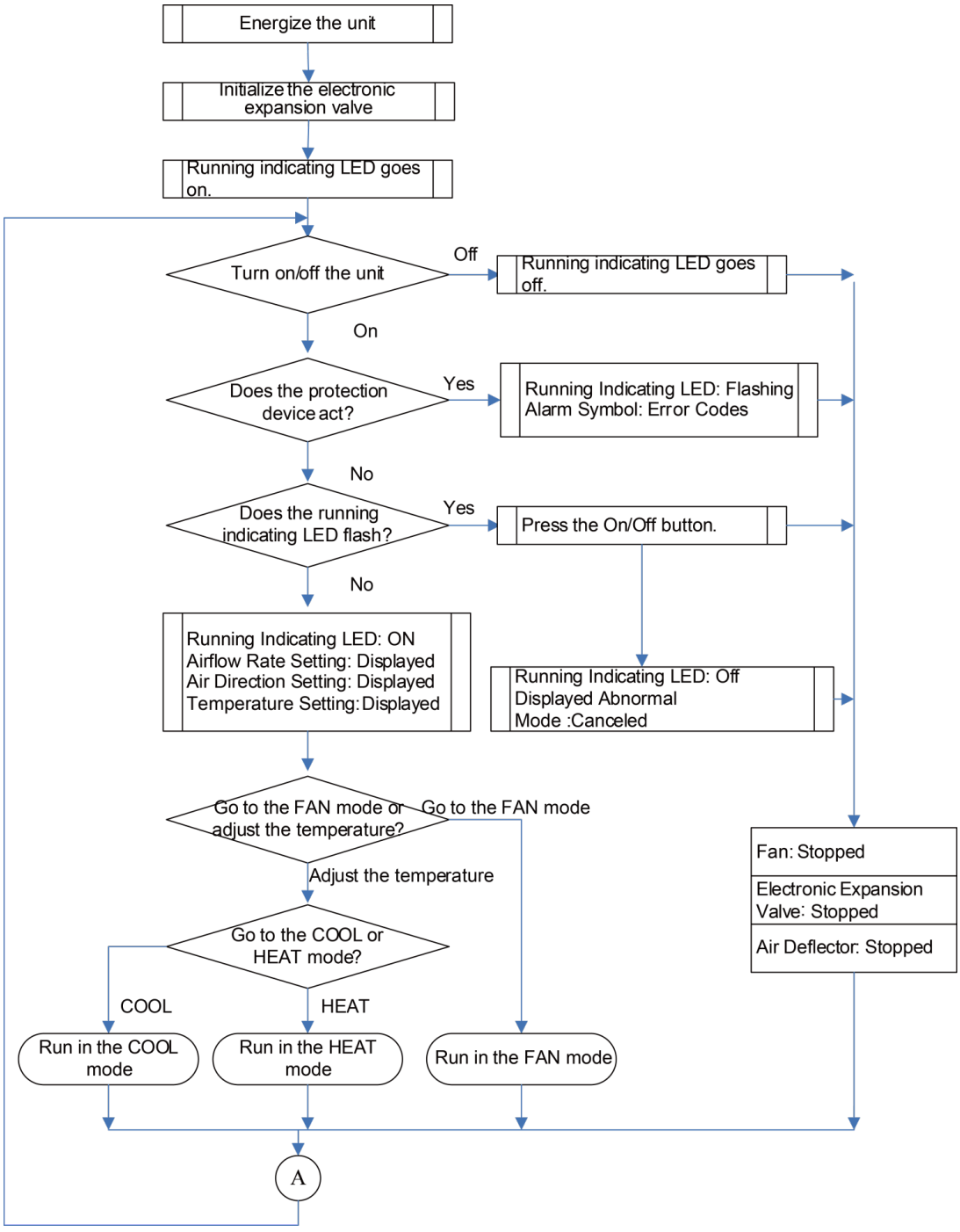
Model			GMV-ND71G/NhA1C-T	GMV-ND80G/NhA1C-T	GMV-ND90G/NhA1C-T
Capacity	Cooling	kW	7100	8000	9000
	Heating	kW	7500	9000	10000
Power supply		V/Ph/Hz	220/240V ~ 50/60Hz	220/240V ~ 50/60Hz	220/240V ~ 50/60Hz
Airflow volume(H/M/L)		m^3/h	900/820/700	1550/1160/860	1550/1160/860
ESP		Pa	0	0	0
Sound pressure level(H/M/L)		dB(A)	44/42/38	50/46/42	50/46/42
Connecting pipe	Liquid	mm	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ12.7	Φ12.7	Φ12.7
Drain pipe		mm	Φ20	Φ20	Φ20
Dimension (W×D×H)	Outline	mm	1116×248×333	1350×253×333	1350×253×333
	Package	mm	1254×422×341	1488×421×355	1488×421×355
Net weight/Gross weight		kg	15/21	20/25	20/25
Power consumption		W	60	86	86
Rated Current	Cooling	A	0.4	0.6	0.6
	Heating	A	0.4	0.6	0.6
Refrigeration Control Device			EXV	EXV	EXV
Protection Device			Fuse	Fuse	Fuse

Model			GMV-ND100G/NhA1C-T
Capacity	Cooling	kW	9500
	Heating	kW	10500
Power supply		V/Ph/Hz	220/240V ~ 50/60Hz
Airflow volume(H/M/L)		m^3/h	1550/1160/860
ESP		Pa	0
Sound pressure level(H/M/L)		dB(A)	50/46/42
Connecting pipe	Liquid	mm	Φ6.35
	Gas	mm	Φ12.7
Drain pipe		mm	Φ20
Dimension (W×D×H)	Outline	mm	1350×253×333
	Package	mm	1488×421×355
Net weight/Gross weight		kg	20/25
Power consumption		W	86
Rated Current	Cooling	A	0.6
	Heating	A	0.6
Refrigeration Control Device			EXV
Protection Device			Fuse

CONTROL

CHAPTER 2 CONTROL

1 Operation Flowchart



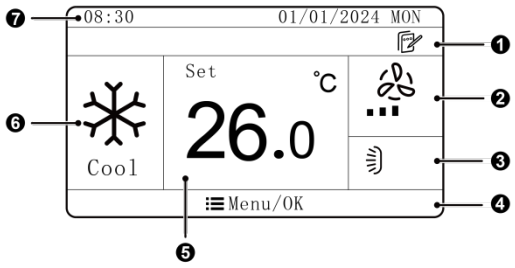
2 Wired Controller

2.1 Control Panel

2.1.1 XE7C-23/H Wired Controller



Appearance of wired controller



LCD graphics of wired controller

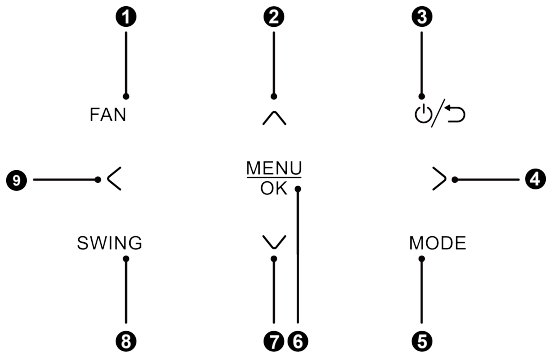
Table LCD display instruction

No.	Name	Instruction
1	Status column	Display the icon of function that is turned on
2	Fan speed	It is for displaying the fan speed
3	Swing	It is for displaying the current swing status
4	Button prompt	Display the function of MENU/OK button at the current page and the settable cursor
5	Temperature display	It shows the value of temperature (If the wired controller is controlling a fresh air indoor unit, it will display FAP).
6	Mode	It shows the operating mode
7	Clock display	It display the date and the time. When it's locating the indoor unit, it displays the project No. of current indoor unit.
NOTE: When wired controller is connected with different indoor units, some functions will be different.		

Table Instruction of Status Column Icon

No.	Symbols	Name	Instructions
1		Air *	Air status(indoor unit optional function)
2		Remove card	The card for access control is removed
3		Clean	Remind to clean the filter
4		Child lock	Child lock status
5		Error	There are errors for the unit
6		Health *	Health function (indoor unit optional function)
7		Defrosting	Defrosting status of outdoor unit
8		Main	Current wired controller connects the main indoor unit.
9		Power off memory	Memory status (when power recovered, indoor unit will resume previous setting status)
10		Absence	Absence is displayed when this function is turned on.

No.	Symbols	Name	Instructions
11		Quiet status	Quiet status (including quiet and auto quiet modes)
12		Energy-saving	Energy-saving status of indoor unit
13		Shield	Shielding status
14		Slave wired controller	Slave wired controller (address of wired controller is 02).
15		Sleep	Sleep status
16		Time	Timer status is displayed
17		X-fan	X-fan is displayed when this function is set.
18		Group control	One wired controller controls multiple indoor units.
19		Valid operation	It's displayed for valid operation
20		WiFi	WiFi status(If the wired controller has no WiFi function, it displays only when the unit connected to "Unit WiFi").
21		Independent swing*	Independent swing status
22		Auto clean *	Auto clean status
23		Setback	Setback function status
24		Warning	Warning status
25	AUX	Aux. Heat*	Aux. Heat is available
26	AUX ON		Aux. Heat operating
NOTE: When wired controller is connected with different indoor units, some functions will be different.			



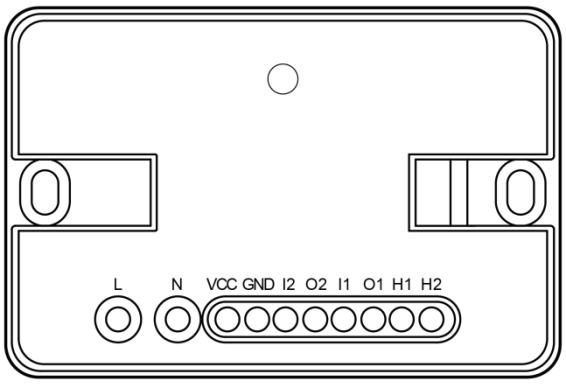
Button graphics

Table function instruction of buttons

No.	Name	Function
1	FAN	Switch fan speeds: auto, low, medium-low, medium, Medium-high and high
2	∧	(1) Set operation temperature for the indoor unit. (2) Move cursor. (3) Set and check parameters.
7	∨	
3	⏻/⮌	On/off button for turn on or turn off the unit; back button for return to previous page.
9	<	(1) Turn pages, and switch and select the target; (2) Move the cursor; (3) Set and check parameters.
4	>	
5	MODE	Switch operating modes: Auto, Cool, Dry, Fan, Heat, etc.
6	MENU/OK	Select mode and confirm parameters.
8	SWING	Set the swing status of central air conditioners.

2.1.2 LE60-24/H1 Linkage Controller

The linkage controller can detect strong or weak electric access control signals as well as passive dry contact signals (window switches, fire alarms, etc.), achieving linkage control of access, windows, fire alarms, etc., to turn off the indoor units and restoring the original on/off state.



Exterior Sketch of Linkage Controller

2.1.2.1 Description of Ports

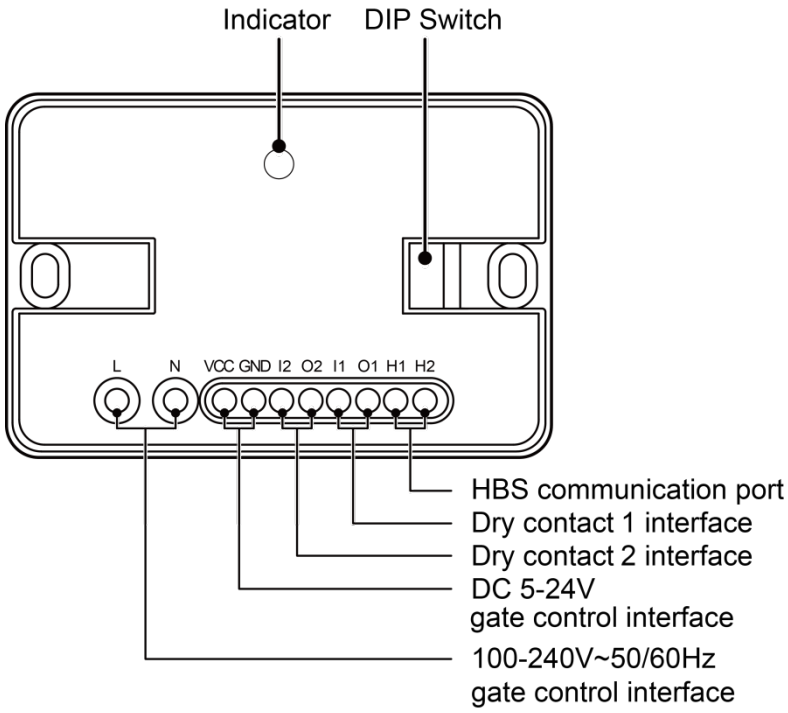


Diagram of Ports

HBS communication port (H1, H2): It is connected to the indoor unit of air conditioner through a 2-core communication wire. It is used for the indoor unit to supply power to linkage controller and communicate with linkage controller.

Dry contact interface (I1 and O1, I2 and O2): Connect the dry contact signal to the I1, O1 (or I2, O2) ports to achieve linkage controller of window switches, fire alarms, etc., for unpowered signals to turn off the indoor units and restoring the original on/off state. Attention to the following items:

(1) When any dry contact detects the following signal changes, linkage controller switches unit off.

1) When the DIP switch function corresponding to the dry contact is set to “Dry contact disconnected for switching unit off”, the dry contact signal is changed from connection to disconnection and lasts for 5 seconds.

2) When the DIP switch function corresponding to the dry contact is set to “Dry contact connected for switching unit off”, the dry contact signal is changed from disconnection to connection and lasts for 5 seconds.

(2) After the unit is switched off in above way, it can be turned on by other devices (such as a wired controller).

(3) After the signal recovers, the original startup or shutdown state of the unit will restore. However, if manual operation for unit startup is done before the signal recovers, the original startup or shutdown state of the unit will not restore after the signal recovers.

Gate control interface (N and L, VCC and GND): The linkage controller has gate control interface, which can be connected with gate control system to achieve access control card removal to turn off the indoor units or access control card insertion to restore the original on/off state. If you want to control indoor unit’s functions through gate control, make sure the 4th lever of the DIP switch is turned to the “1” side, then connect the gate-control terminal to the N and L port or the VCC and GND port. Attention to the following items:

1) The N and L port is the power supply interface of the 100-240V~50/60Hz gate control.
2) The VCC and GND port is the power supply interface of the DC 5-24V gate control.
3) Only one power input can be chosen between the 100-240V ~50/60Hz and the DC 5-24V.

2.1.2.2 LED Indicator

The following table is a detailed description about the LED indicator:

The LED indicator lights up	The linkage controller works.
The LED indicator blinks	The communication between the indoor unit and the linkage controller has malfunction.
The LED indicator lights off	The power supply of linkage controller is cut off.

2.1.2.3 DIP Switch

Notes:

If the setting is changed, it will take effect after the linkage controller is re-energized.

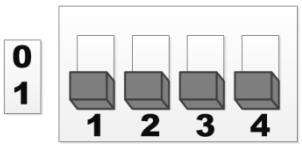


Diagram of DIP Switch

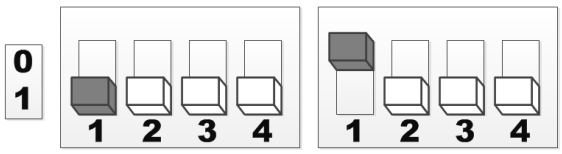
(1) The 1st Lever of DIP Switch –Master/Slave HBS Device Setting

The 1st lever of DIP switch is used for the setting of master/slave HBS device. The factory default setting is slave HBS device.

In an HBS network, if the linkage controller is the only device that is connected to indoor units, it should be set as the master HBS device. Turn the 1st lever of DIP switch to 0.

In an HBS network, if both the wired controller and linkage controller are connected to indoor units, the wired controller should be set as the master HBS device (i.e. master wired controller, please refer to the instruction manual of wired controller for the setting method). So the linkage controller should be set as the slave HBS device. Turn the 1st lever of DIP switch to 1.

Diagram of DIP Switch Setting for Master/Slave HBS Device:



Slave HBS Device | Master HBS Device

(2) The 2nd/3rd Lever of DIP Switch –Dry Contact 1/2 Signal Change Detection Setting

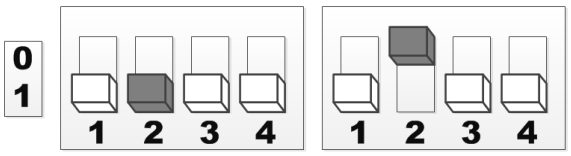
The 2nd/3rd lever of DIP switch is used for the setting of dry contact 1/2 signal change detection respectively. The factory default setting is “dry contact 1/2 disconnected for switching unit off”.

When dry contact 1(I1, O1) signal change detection shall be set to “Dry contact disconnected for switching unit off”, turn the 2nd lever of DIP switch to 1.

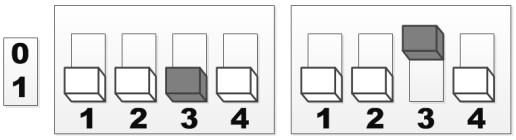
When dry contact 1 signal change detection shall be set to “Dry contact connected for switching unit off”, turn the 2nd lever of DIP switch to 0.

Similarly, the 3rd lever of DIP switch corresponds to dry contact 2(I2, O2) signal change detection. The setting method of dry contact 2 signal change detection is the same as that of dry contact 1 signal change detection.

Diagram of DIP Switch Setting for dry contact 1/2 signal change detection:



Dry contact 1 disconnected for switching unit off | Dry contact 1 connected for switching unit off



Dry contact 2 disconnected for switching unit off | Dry contact 2 connected for switching unit off

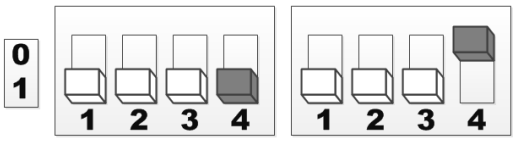
(3) The 4th Lever of DIP Switch –Gate Control System Setting

The 4th lever of DIP switch is used for the setting of Gate Control System. Factory default provided with Gate-control function.

If the gate-control system is involved, turn the 4th lever of DIP switch to 1.

If the gate-control system is not involved, turn the 4th lever of DIP switch to 0.

Diagram of DIP Switch Setting for Gate Control System:

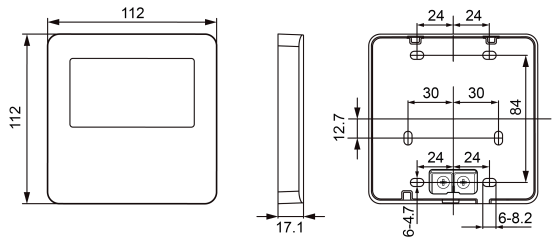


Gate-control system is connected | Gate-control system is not connected

2.2 Installation and Removal

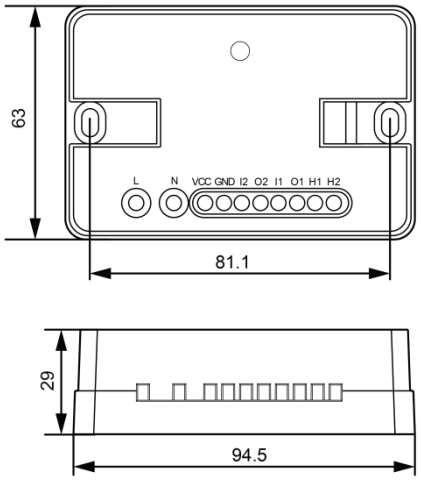
2.2.1 Installation Dimensions

Unit: mm



Dimension of XE7C-23/H

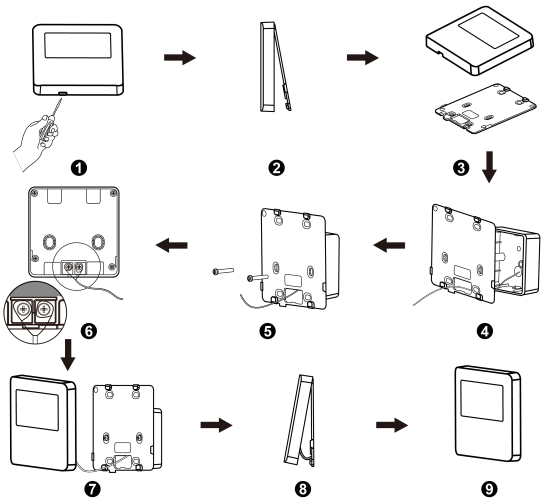
Unit:mm



Dimension of LE60-24/H1

2.2.2 Installation Method

(1) Wired Controller XE7C-23/H Installation Method:



Installation diagram for wired controller XE7C-23/H

The figure shows a simple installation course of wired controller, and the following points should be noted:

① Before installation, please cut off the power supply of indoor unit, it is not allowed to operate with power supply;

② Pull out the 2-core twisted pair inside the installation hole in the wall, and thread the wire through the hole in the back of soleplate of wired controller;

③ Stick the soleplate of wired controller on the wall, and use Self-tapping Screw ST3.9×25 MA or screw M4×25 to fix the soleplate with the installation hole of wall;

④ Connect the 2-core twisted pair to wiring terminal H1 and H2, and then tighten the screw;

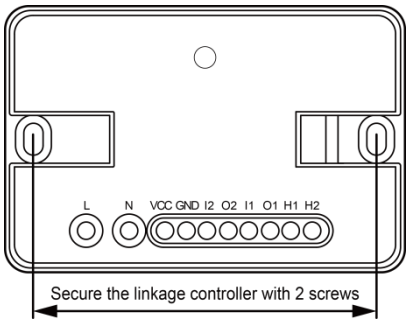
⑤ Arrange the wires in the back of panel, and then buckle the panel of wired controller with the soleplate of wired controller.

⚠WARNING

If caliber of the communication cord is too large, which causes difficulty in leading or sticking the cord according to above point 2 and point 4, strip some of the sheath of the communication cable to meet the installation requirement.

(2) Linkage Controller LE60-24/H1 Installation Method:

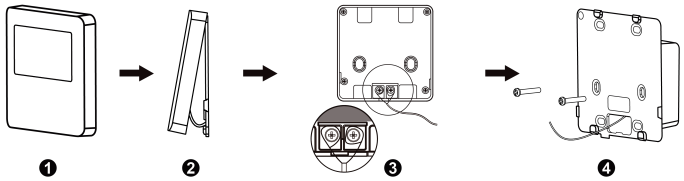
According to actual condition, install the linkage controller in an appropriate place indoors, and secure it with 2 screws. If necessary, push plastic expansion tubes into the wall before secure it with screws.



Installation Means

2.2.3 Removal Method

Wired Controller XE7C-23/H Disassembly diagram:

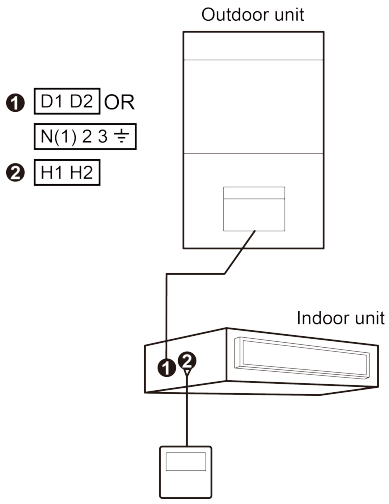


Disassembly diagram of wired controller XE7C-23/H

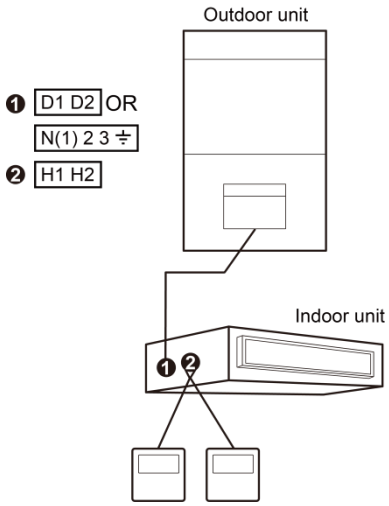
2.2.4 Connection of Communication Cord

There are 2 ways to connect wired controller with indoor units' network.

Each indoor unit has to be connected with a R32 safety system compatible wired controller. These wired controllers have implemented safety measures that will warn the user visually and audibly in case of a leak.

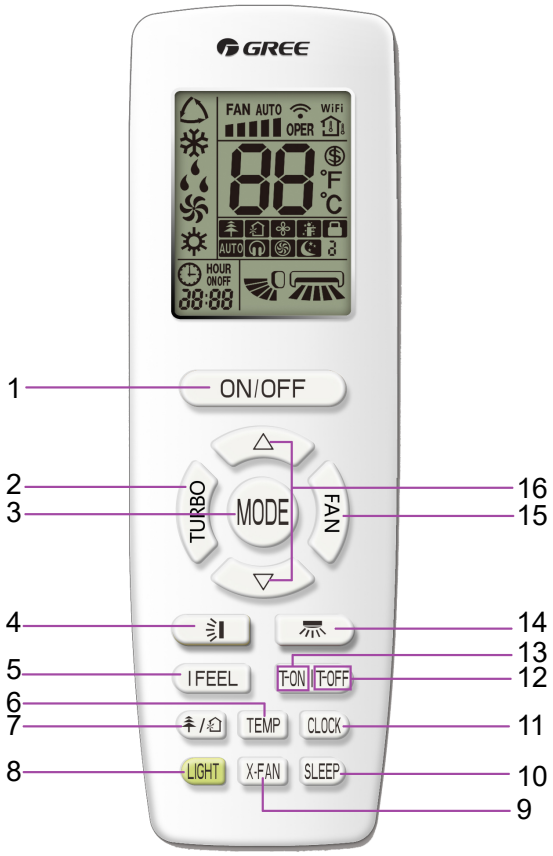


One wired controller control one indoor unit



Two wired controllers controls one indoor unit

3 Remote Controller YAP1F



Button name and function introduction

No.	Button name	Function
1	ON/OFF	Turn on or turn off the unit
2	TURBO	Set turbo function
3	MODE	Set operation mode
4		Set up&down swing status
5	I FEEL	Set I FEEL function
6	TEMP	Switch temperature displaying type on the unit's display
7		Set health function and air function
8	LIGHT	Set light function
9	X-FAN	Set X-FAN function
10	SLEEP	Set sleep function
11	CLOCK	Set clock of the system
12	T-OFF	Set timer off function
13	T-ON	Set timer on function
14		Set left&right swing status
15	FAN	Set fan speed
16	△/▽	Set temperature and time

4 Introduction to Unit Functions

Function Application of IDUs

Indoor unit functions cover user operation functions and engineering application functions. For user operation functions, refer to operating instructions of the IDU, wired controller, and remote controller.

Engineering application functions include:

SN	Function Name
1	Main IDU query and settings
2	Indoor unit project number query and settings
3	Parameter View
4	User parameter settings
6	Project parameter settings

Engineering application functions can be operated through the IDU wired controller XE7C-23/H.

4.1 Engineering Application Functions Operated through the XE7C-23/H Wired Controller

4.1.1 Main IDU Settings

The main IDU can be set through the wired controller or remote controller. The methods for setting the main IDU through the wired controller are as follows:

Under on or off status, press “MENU/OK” button on the homepage to enter into the menu page.

Press “<” or “>” button to select “Set”, and then press “MENU/OK” button to enter into the set page.

Press “∧” or “∨” button to select “Parameter Setting” at the set page. Then press “MENU/OK” button to go into user parameter setting page.

After that, press “∧” or “∨” button to select the item “Main IDU”.

When selecting the parameter, press “<” or “>” button to select the setting value “Yes”. Press “MENU/OK” button to save corresponding setting item. If the setting can’t be confirmed, switching the item can restore the previous setting value.

If the main IDU setting is successful, "" icon will display on the homepage of wired controller .

4.1.2 Main IDU Display

For IDUs connected with wired controllers, "" on the wired controller connected with the main IDU will be on.

For IDUs embedded or connected with LED panels, the operation LED on the LED panel of the main IDU will blink three times.

Notes:

After the main IDU is successfully set, stick the “MASTER” flag to the wired controller or unit panel for convenience of user operation and engineering maintenance. This flag is placed in the package bag of the ODU.

4.1.3 Project Number Query and Settings

(1) IDU Project Number View and Locating

Under on or off status, press “MENU/OK” button on the homepage to enter into the menu page.

Press “<” or “>” button to select “View”, and then press “MENU/OK” button to enter into the view page.

Press "∧" or "∨" button to select "IDU Project No. View and Locating" at the view page. Then press "MENU/OK" button to enter into "IDU Project No. View and Locating" page to see IDU project number. Synchronously, the double-eight digital LED of the IDU embedded displays its own project number. If the current wired controller works in one-to-many mode, you can press the "<" or ">" button to switch indoor unit number, view each indoor unit corresponding project number.

Notes:

It is normal if the buzzer of the IDU operated by the wired controller rings. The purpose of ringing the buzzer is to facilitate engineering commissioning personnel to locate the IDU, especially for the IDU without any LED panel because it cannot display its project number.

(2) View All IDU Project Number

Under on or off status, press "MENU/OK" button on the homepage to enter into the menu page.

Press "<" or ">" button to select "View", and then press "MENU/OK" button to enter into the view page.

Press "∧" or "∨" button to select "View All IDU Project No." at the view page. Then press "<" or ">" button to select turn on or turn off this function. And press "MENU/OK" button to confirm it. When turn on the "View All IDU Project No.", the status column on the homepage of each wired controller in the entire network displays the project number of the corresponding IDU. Synchronously, the double-eight digital LED of each IDU embedded or connected with an LED panel displays its own project number.

Method for quitting query: Press the "⏻/⮌" button on any wired controller in the network.

(3) Project number settings of IDU

Under on or off status, press "MENU/OK" button on the homepage to enter into the menu page.

Press "<" or ">" button to select "Set", and then press "MENU/OK" button to enter into the set page.

Press "∧" or "∨" button to select "Parameter Setting" at the set page. Then press "MENU/OK" button for 5s to go into parameter setting page.

Press "∧" or "∨" button to select "Project Parameter" at the parameter setting page, and then press "MENU/OK" button to enter into the project parameter setting page.

After that, press "∧" or "∨" button to select the item "IDU Project No. Setting". If the current wired controller works in one-to-many mode, you can press the "<" or ">" button to switch indoor unit number.

When selecting the parameter, press "MENU/OK" button to enter into the IDU project No. setting page. Then press "∧" or "∨" or "<" or ">" button to switch the project number. Hold it can switch it quickly. Press "MENU/OK" button to save this setting.

4.1.4 Parameter View

Parameters can be queried in power-on or power-off status.

Press "MENU/OK" button on the homepage to enter into the menu page.

Press "<" or ">" button to select "View", and then press "MENU/OK" button to enter into the view page.

Press "∧" or "∨" button to select "Parameter View" at the view page. Then press "MENU/OK" button to enter into parameter view page.

Press "∧" or "∨" button to switch the items.

When viewing the indoor unit, if the current wired controller works in one-to-many mode, press "<" or ">" button to switch indoor units. Corresponding indoor unit's parameters will be displayed on the page.

When viewing the outdoor unit, if there are multiple outdoor unit, press "<" or ">" button to switch outdoor units. Corresponding outdoor unit's parameters will be displayed on the page.

The parameter view list is as follows:

Parameter View List

Parameter Name	Range	Parameter Name	Range
Wired Controller's Address	1,2	No. of IDUs Wired to Controller	1~16
Main IDU's Project No.	0,1~255	Time Left to Clean Filter	0~416 days
Online IDUs of CAN1	1~100	CAN2 address	1~255
Max Distribution Ratio	110% 135% 150%	Cool & Heat Modes	Cool Only, Heat Only, Cool & Heat, Fan
IDU Error History	5 historical errors	Prior Operation	Yes, No
Indoor Temp	-30°C -139°C	Relative Humidity	0%~100%
Inlet Temp 1	-30°C -139°C	Outlet Temp 1	-30°C -139°C
Inlet Temp 2*	-30°C -139°C	Outlet Temp 2*	-30°C -139°C
IDU Capacity	IDU capacity and capacity after adjustment	IDU EXV Status	0~20
Fresh Air IDU Output Temp*	-30°C -139°C	Indoor Unit Fan Static Pressure	0~999
R32 Refrigerant Concentration	0%~100%	ODU Static Pressure	0~4
ODU Error History	5 historical errors	—	—
The following parameters can only be viewed from the master wired controller, they cannot be viewed from the slave wired controller			
Parameter Name	Range	Parameter Name	Range
Unit Code	0~9, A~Z, a~z, -	Board Code	0~9, A~Z, a~z,-
Outdoor Temp	-30~139°C	Comp1 Operation Freq.	0~200Hz
Comp 2 Operation Freq.	0~200Hz	ODU Fan Operation Freq.	0~100Hz
High Pressure Sat. Temp	-40~70°C	Low Pressure Sat. Temp	-69~38°C
Comp1 Discharge Temp	-30~150°C	Comp 2 Discharge Temp.	-30~150°C
Comp 3 Discharge Temp	-30~150°C	Comp 4 Discharge Temp.	-30~150°C
Comp 5 Discharge Temp	-30~150°C	Comp 6 Discharge Temp.	-30~150°C
Comp 3 Operation Freq.	0~200Hz	ODU Heating EXV1	0~48
ODU Heating EXV2	0~48	Subcooler EXV	0~48
Defrost Temp	-30~139°C	Subcooler Liquid Temp	-30~139°C
Separator Outlet Temp	-30~139°C	Oil Return Temp	-30~139°C
Condenser Inlet Temp	-30~139°C	Condenser Outlet Temp	-30~139°C

Notes:

① Under parameter viewing status, the signal from remote controller is invalid.

② When the parameter is invalid, it will display "--".

4.1.5 User Parameter Settings

User parameters can be set in power-on or power-off status.

Press "MENU/OK" button on the homepage to enter into the menu page.

Press "<" or ">" button to select "Set", and then press "MENU/OK" button to enter into the set page.

Press "∧" or "∨" button to select "Parameter Setting" at the set page. Then press "MENU/OK" button to go into user parameter setting page.

After that, press "∧" or "∨" button to switch the items. Hold it can switch it quickly.

When selecting the parameter, press "<" or ">" to switch the setting value. Press "MENU/OK" button to save corresponding setting items. If the setting can't be confirmed, switching the item can restore the previous setting value.

The user parameter setting list is as follows:

User Parameter Setting List

Item	Settable range	Default	Remarks
Main Wired Controller	Yes, No	Yes	When it is set as no, this wired controller is slave wired controller. Status column of the homepage displays the icon of slave wired controller “” . The wired controller can only activate the main wired controller. It does not have the function of setting parameters for other units.
Main IDU	Yes, No	No	Once it is activated, the current IDU is set to be the main IDU. When the setting is Yes, if the system mode priority is the master-slave mode, the status column in homepage will display the icon of main IDU “”; when the setting is off, master and slave status of the current IDU will not be changed.
Use Remote	Yes, No	Yes	When it is set as no, the wired controller cannot receive the remote control signal. It can only be operated with buttons.
Prior Operation	Yes, No	No	When the power supply is insufficient, it is allowed to turn on the designated IDU as preferential operation; other IDUs should be forced to be off.
High Ceiling Installation*	Yes, No	No	Only applicable to cassette type IDU
Link with Fresh Air IDU*	Yes, No	No	After setting the linkage function, the fresh air IDU will automatically turn on or turn off along with the on and off of general IDU. Meanwhile, users can manually turn on or turn off the unit. It only applicable to fresh air IDU.
PM2.5 Filter*	Yes, No	No	After it is successfully set, adjust the revolving speed to ensure the air volume is close to or the same as the previous air volume. It is only applicable to the unit with PM2.5 filter.
Temp and RH Correction Control	Yes: Temp and humidity correction control No: Ambient temperature control	Refer to indoor unit for the defaulted value	It can be set only when it’s supported by the indoor unit.
Dry Mode Humidity Control	Yes: Humidity control No：Temperature control	No	If select “yes”, set humidity is displayed under dry mode. Otherwise, set temperature is displayed. It can only be set when it’s supported by the indoor unit.
Clear Filter Cleaning Time	Yes, No	No	—
Indoor Fan Static Pressure	1~9	5	—
No. of IDUs Wired to Controller	0: This function is unavailable 1-16: quantity of IDU	1	Set corresponding value according to the connected quantity of IDU.
Angle of Air-return Board*	Angle 1 Angle 2 Angle 3	Angle 2	Only applicable to the model with air-return plate.
Cooling temp of Auto Mode	17°C~30°C	25°C	Cooling temperature of auto mode – heating temperature of auto mode≥1°C.
Heating temp of Auto Mode	16°C ~29°C	20°C	
Resume After Inserting Card	Yes, No	Yes	When it is set as No, it will keep the status after inserting the gate control card. If it is at OFF status when pulling out the card, when inserting the card, it is still at OFF status.

Item	Settable range	Default	Remarks
Time for IDU Cold Air Prevention*	180s, 300s, 420s, 600s	180s	Cold air prevention time is the max waiting time from the time turning on the heating mode to the time blowing out the hot wind. The actual waiting time is related to the outdoor ambient temperature. If there is cold air after turning on the heating mode in the actual operation, please consult the professional person to adjust this parameter.
Set Temp of RH Control Mode	10°C ~30°C	16°C	Note: It's only applicable for the units whose dry mode is with humidity control function.
Auto Clean Mode	01: Normal 02: Quick 03: Deep	1	Note: Only applicable to the unit with auto clean function. If "0" is displayed, this function is not available for this unit.
Cooling Temp of Fresh Air IDU*	16°C ~30°C	18°C	Only applicable to fresh air IDU.
Heating Temp of Fresh Air IDU*	16°C ~30°C	22°C	Only applicable to fresh air IDU.
Setback	Yes, No	No	—
Upper Temp Limit of Setback	20~30°C	26°C	When temperature unit is °C, temperature upper limit – temperature lower limit ≥ 4°C.
Lower Temp Limit of Setback	16~26°C	20°C	
Auto Fan Setting	0: Normal Auto Wind 1: Heating Wind Sensing Wind	0	—
Enable Aux. Heat*	Yes, No	Yes	When Aux heating is available, the home status bar displays the "AUX" icon; when Aux heating is running, the home status bar displays the "AUX ON" icon. Note:This feature is only applicable to high static pressure air handler indoor units.
Setpoint-Space Temperature Differential for Aux. Heat*	1~10	3	When the temperature difference between the ambient temperature and the set temperature exceeds the opening temperature difference, AUX heating is allowed to start. Note:This feature is only applicable to high static pressure air handler indoor units.
Aux. Heat ON Timer *	0min~60mins	2mins	After the heat pump operation meets the start time, AUX heating is allowed to turn on. Note:This feature is only applicable to high static pressure air handler indoor units.
Satisfy Room Temperature with AUX*	Yes, No	No	Note:This feature is only applicable to high static pressure air handler indoor units.

Notes:

In parameter setting status, signals of the remote controller are invalid.

4.1.6 Project Parameter Settings

Engineering parameters can be set in power-on or power-off status.

Press "MENU/OK" button on the homepage to enter into the menu page.

Press "<" or ">" button to select "Set", and then press "MENU/OK" button to enter into the set page.

Press "∧" or "∨" button to select "Parameter Setting" at the set page. Then press "MENU/OK" button

for 5s to go into parameter setting page.

Press "∧" or "∨" button to select "Project Parameter" at the parameter setting page, and then press "MENU/OK" button to enter into the project parameter setting page.

After that, press "∧" or "∨" button to switch the items. Hold it can switch it quickly.

When selecting the parameter, press "<" or ">" to switch the setting value. Press "MENU/OK" button to save corresponding setting items. If the setting can't be confirmed, switching the item can restore the previous setting value.

The project parameter setting list is as follows:

Project Parameter Setting List

Item	Settable range	Default	Remarks
Memory	Yes、No	Yes	No: standby after power-down recovery Yes: restoring the original status after power-down recovery
System Energy-Saving	Yes、No	No	—
Constant Air Volume Debugging*	Yes、No	No	—
IDU Project No. Setting	1-255	—	When the number of online indoor units is greater than 1, press "< " or "> " to switch indoor units, press the "MENU/OK" key to enter the project number setting of the selected indoor unit: press "< " or "> " to increase/decrease the project number by the unit digit. Press "< " or "> " to increase/decrease the project number by the tenth digit.
Prevent Heat Accumulation	Off、10s、20s、30s、40s、50s、60s	Off	It indicates the number of seconds for enabling the low-level fan every 15min.
ODU Quiet Mode	Off、1~12	—	Top discharge outdoor unit defaults to Off, side discharge outdoor unit defaults to 12
Capacity Upper Limit	100%、90%、80%	100%	—
IDU Capacity Adjustment	-40、-30、-20、-10、0、10、20、30、40	0	—
Min Pulse of EXV	Auto、1~500	Auto	Press "<" or ">" to adjust the minimum opening degree. Press and hold "<" or ">" for 5 seconds, the minimum opening degree will increase or decrease by single digit. Press and hold for 5 to 10 seconds, the minimum opening degree will increase or decrease by ten digits. After the default minimum opening degree for heating breakdown is manually modified, the opening degree remains unchanged upon heating breakdown.
Max Defrosting Time	10mins、15mins、20mins	15mins	—
Rapid Defrost Mode*	Standard、Rapid1、Rapid2	Standard	—
Force Defrost	Yes、No	No	—
Defrosting Cycle K1	40mins、50mins、60mins	50mins	—

Item	Settable range	Default	Remarks
Amb Temp Sensor Location	1、2、3、4	3	1：Return Air； 2：Wired Controller； 3：Cool:Return Air, Heat:Wired Controller； 4：Cool:Wired Controller, Heat:Return Air
Amb Temp Sensor Cool Revise	-15°C ~+15°C	Temperature sensor of unit: 0°C; temperature sensor of wired controller: 0°C	—
Amb Temp Sensor Heat Revise	-15°C ~+15°C	Temperature sensor of unit: -2°C; temperature sensor of wired	—
AHRI IDU Fan Speed*	100~1800	—	—
Heating to Temp Fan Status	Stop、Breeze	Breeze	—
Display Ambient Temp on Homepage	Yes、No	No	—
Function Setting of Lifting Panel*	On、Off	Off	Only applicable for 360°air discharge cassette indoor unit.
Cooling to Temp Fan Setting*	Yes、No	No	This feature is only applicable to the indoor units that have this function set.
IDU High and Low Level Status*	None、High、Low	None	—
Control Method of Constant Temp Mode*	Mode1、Mode2	Mode1	—
Fresh Air IDU Static Pressure*	1~13	8	Only applicable to DC Fresh Air Indoor Unit.
Lowest Air Outlet Temperature Can Be Set*	8°C ~16°C	16℃	This setting can only be done when the indoor unit is a fresh air processing indoor unit.
Delayed Startup of Indoor Fan Under Cooling Mode*	0s、20s、40s、60s、80s	0s	This feature is only applicable to the indoor units that have this function set.
Locked Status of Refrigerant Leakage	0、1	0	Default 0, automatically changes to 1 after indoor unit reporting refrigerant leakage protection. Manually set from 1 to 0, clear the indoor unit’s refrigerant leakage protection.
Item with “*” are reserved parameter.			

Notes:

In parameter setting status, signals of the remote controller are invalid.

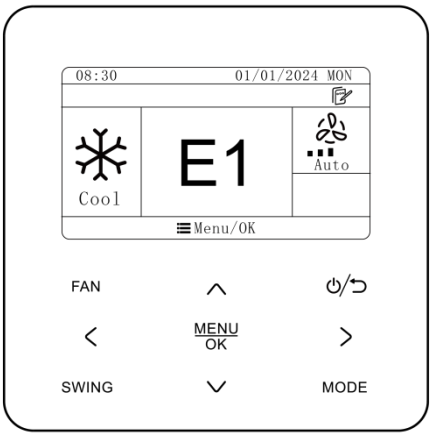
4.1.7 Error Display

When there is error during operation, the temperature display zone on the wired controller will show the error code. If several errors happen at the same time, error codes will show on the display repeatedly.

NOTE:

If error occurs, please turn off the unit and ask for professionals to repair it.

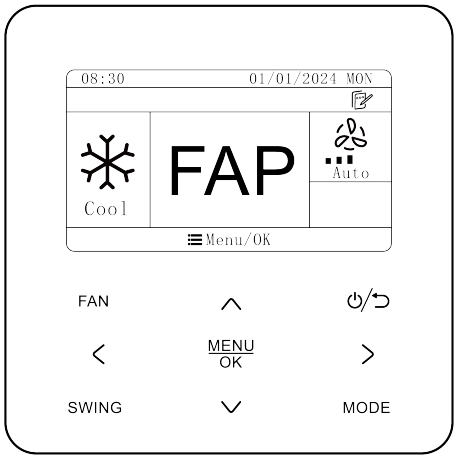
The following figure shows the display of outdoor unit high pressure protection when unit is on.



Display of Outdoor Unit High Pressure Protection

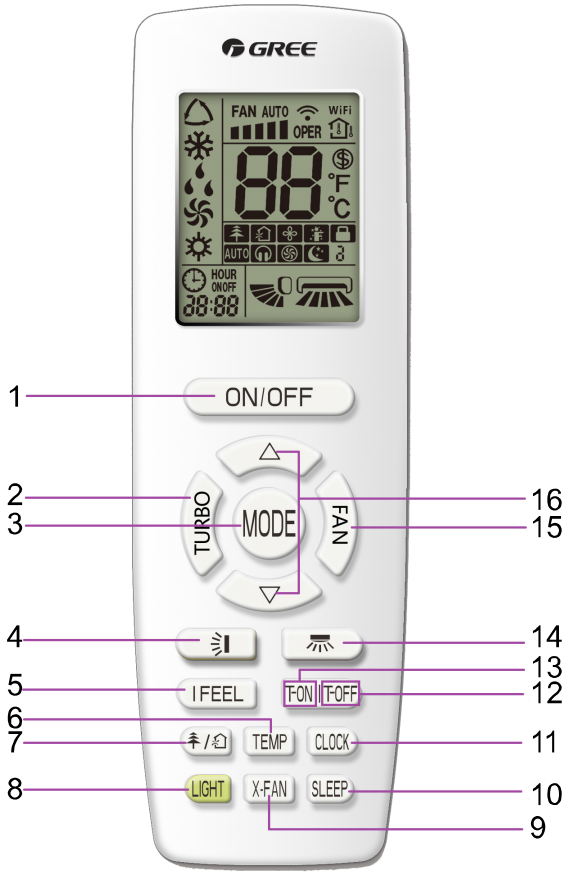
Notes:

When the wired controller is connected with a Fresh Air Indoor Unit, fresh air indoor unit code “FAP” will be displayed as shown below. Setting temperature won’t be displayed and can’t be adjusted via “∧” or “∨” button. The air outlet temperature in cooling or heating can only be set in the parameter setting status.



4.2 Engineering Application Functions Operated through the YAP1F Remote Controller

4.2.1 The method for setting the master IDU through the YAP1F remote controller is as follows



No.	Button name	Function
1	ON/OFF	Turn on or turn off the unit
2	TURBO	Set turbo function
3	MODE	Set operation mode
4		Set up&down swing status
5	I FEEL	Set I FEEL function
6	TEMP	Switch temperature displaying type on the unit's display
7		Set health function and air function
8	LIGHT	Set light function
9	X-FAN	Set X-FAN function
10	SLEEP	Set sleep function
11	CLOCK	Set clock of the system
12	T-OFF	Set timer off function
13	T-ON	Set timer on function
14		Set left&right swing status
15	FAN	Set fan speed
16	△/▽	Set temperature and time

For details about the above figures, refer to the instructions 66174100016.

Perform settings by pressing "▲" and "▼" in air supply mode:

(1) Set the temperature to 30°C.

(2) Press "▼" and then "▲" in five seconds. Repeat this operation for three times.

After successful settings, "UC" is displayed on the receiving indicator panel of the remote controller for five seconds and "↖◯" is displayed on the wired controller.

4.2.2 IDU Project Number Query by Remote Controller YAP1F

(1) Query method for project number of single IDU:

Enter query:

Under fan mode, set temperature in 16°C, press "Light" button for 5 times continuously within 5 seconds and then the IDU light board will display its project number.

Exit query:

1) After entering query status, press "Light" button for 5 times continuously within 5 seconds to exit query status.
2) After 30min, it will exit query status automatically and display normal status.

(2) Query method for project numbers of all IDUs in a single system:

Enter query:

Under fan mode, set temperature in 30°C, press "Light" button for 5 times continuously within 5 seconds and then the light boards of all indoor units will display their project numbers respectively.

Exit query:

1) After entering query status, press "Light" button for 5 times continuously within 5 seconds to exit query status.
2) After 30min, it will exit query status automatically and display normal status.

4.2.3 Refrigerant Leakage Protection Clear by Remote Controller YAP1F

Under fan mode, set temperature in 20° C, press "Light" button for 5 times continuously within 5 seconds and then the refrigerant leakage protection of the indoor unit will be cleared.

INSTALLATION

CHAPTER 3 INSTALLATION

1 Engineering Installation Preparation and Notice

1.1 Installation Notice

All phases of this installation must conform to NATIONAL, STATE AND LOCAL CODES. If it is required for additional information, please contact your local distributor.

Personnel and property safety are highly concerned during the entire installation process. Installation implementation must abide by relevant national safety regulations to ensure personnel and property safety.

All personnel involved in the installation must attend safety education courses and pass corresponding safety examinations before installation. Only qualified personnel can attend the installation. Relevant personnel must be held responsible for any violation of the regulation.

1.2 Installation Key Points and Importance

VRF air conditioning systems use refrigerant, instead of other agent, to directly evaporate to carry out the system heat. High level of pipe cleanness and dryness is required in the system. Since various pipes need to be prepared and laid out onsite, carelessness or maloperation during installation may leave impurities, water, or dust inside refrigerant pipes. If the design fails to meet the requirement, various problems may occur in the system or even lead to system breakdown.

Problems that usually occur during installation are as follows:

No.	Installation Problem	Possible Consequence
1	Dust or impurities enter into the refrigeration system.	Pipes are more likely to be blocked; air conditioning performance is reduced; compressor wear is increased or even hinder the normal operation of the system and burn the compressor.
2	Nitrogen is not filled into the refrigerant pipe or insufficient Nitrogen is filled before welding.	Pipes are more likely to be blocked; air conditioning performance is reduced; compressor wear is increased or even hinder the normal operation of the system and burn the compressor.
3	The vacuum degree in the refrigerant pipe is insufficient.	The refrigeration performance is reduced. The system fails to keep normal operation due to frequent protection measures. When the problem getting serious, compressor and other major components can be damaged.
4	Water enters into the refrigeration system.	Copper plating may appear on the compressor and reduce the compressor efficiency with abnormal noise generated; failures may occur in the system due to ice plug.
5	The refrigerant pipe specifications do not meet the configuration requirements.	Smaller configuration specifications can increase the system pipe resistance and affect the cooling performance; larger configuration specifications are waste of materials and can also reduce the cooling performance.
6	Refrigerant pipe is blocked.	The cooling performance is reduced; in certain cases, it may cause long-term compressor operating under overheat conditions; the lubricating effect can be affected and the compressor may be burnt if impurities were mixed with the lubricating oil.
7	Refrigerant pipe exceeds the limit.	The loss in pipe is considerable and the unit energy efficiency decreases, which are harmful for long-term running of the system.
8	Incorrect amount of refrigerant is filled.	The system cannot correctly control the flow allocation; the compressor may be operating under over-heating environment or running when the refrigerant flows back to the compressor.
9	The refrigerant pipe leaks.	Insufficient refrigerant circulating in the system decreases the cooling performance of the air conditioner. Long-term operation under such circumstance may cause an overheating compressor or even damage the compressor.
10	Water drainage from the condensate water pipe is not smooth.	Residual water in IDUs can affect the normal operation of the system. The possible water leakage can damage the IDU's decoration.

No.	Installation Problem	Possible Consequence
11	The ratio of slop for condensate water pipe is insufficient or the condensate water pipe is incorrectly connected.	Reverse slop or inconsistent connection of condensate water pipe can hinder the smooth drainage and cause leakage of the IDU.
12	The air channel is improperly fixed.	The air channel will deform; vibration and noise occur during unit operating.
13	The guide vane of air channel is not reasonably manufactured.	Uneven air quantity allocation reduces the overall performance of the air conditioner.
14	The refrigerant pipe or condensate water pipe does not meet the insulation requirement.	Water can easily condensate and drip to damage the indoor decoration, or even trigger the protection mode of system due to overheating operation.
15	The installation space for IDU is insufficient.	Since there is a lack of space for maintenance and checking, indoor decoration might need to be damaged during such operation.
16	The IDU or the location of the air outlet or return air inlet is not designed reasonably.	The air outlet or return air inlet may be short-circuited, thus affecting the air conditioning performance.
17	The ODU is improperly installed.	The ODU is difficult to be maintained; unit exhaust is not smooth, which reduces the heat exchanging performance or even prevent the system from normal operation; in addition, the cold and hot air for heat exchange and the noise may annoy people in surrounding areas.
18	Power cables are incorrectly provided.	Unit components may be damaged and potential safety hazard may occur.
19	Control communication cables are incorrectly provided or improperly connected.	The normal communication in the system fails or the control over IDUs and ODUs turn in a mess.
20	Control communication cables are not properly protected.	The communication cables are short-circuited or disconnected, and the unit cannot be started up due to communication failure.

Understand the special requirement (if any) for unit installation before implementation to ensure installation quality. Relevant installers must have corresponding engineering construction qualifications.

Special type operators involved in the engineering implementation, such as welders, electricians, and refrigeration mechanics must have relevant operating licenses and are accredited with vocational qualification certification.

2 Installation Materials Selection

The materials, equipment and instruments used during air conditioning engineering construction must have certifications and test reports. Products with fireproof requirements must be provided with fireproof inspection certificates and must meet national and relevant compulsory standards. If environmentally-friendly materials are to be used as required by customers, all such materials must meet national environmental protection requirement and be provided with relevant certificates.

(1) Only auxiliary devices approved by the appliance manufacturer or declared suitable with the refrigerant shall be installed in connecting ductwork;

(2) Do NOT install operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater) in the duct work.

(3) Air inlet AND outlet are connected directly to the same room by ducting. Do NOT use spaces such as a false ceiling as a duct for the air inlet or outlet.

(4) No auxiliary devices, which may be a potential ignition source, are installed in the duct work (example: hot surfaces with a temperature exceeding 700° C and electric switching device);

2.1 Refrigerant Piping

(1) Material requirement: Dephosphorization drawing copper pipe for air conditioners.

(2) Appearance requirement: The inner and outer surface of pipe should be smooth without pinhole, crack, peeling, blister, inclusion, copper powder, carbon deposition, rust, dirt or severe oxide film, and without obvious scratch, pit, spot and other defects.

(3) Test report: Certifications and quality test reports must be provided.

(4) The tensile strength must be at least 240 kgf/mm².

(5) After the inner part of the copper pipe is cleaned and dried, the inlet and outlet must be sealed tightly by using pipe caps, plugs or adhesive tapes.

2.2 Condensate Water Pipe

(1) Pipes that can be used for air conditioner drainage include: water supplying UPVC pipe, PP-R pipe, PP-C pipe, and HDG steel pipe;

(2) All relevant certificates and quality test reports are provided.

(3) Requirements for specifications and wall thickness.

Water supplying UPVC pipe:

Φ32mm×2mm, Φ40mm×2mm,

Φ50mm×2.5mm.

HDG steel pipe:

Φ25mm×3.25mm, Φ32mm×3.25mm.

Φ40mm×3.5mm, Φ50mm×3.5mm.

2.3 Insulation Material

(1) Rubber foam insulation material.

(2) Flame retardancy level: B1 or higher.

(3) Refractoriness: at least 120°C.

(4) The insulation thickness of condensate water pipe: at least 10mm.

(5) When the diameter of copper pipe is equal to or greater than Φ15.9mm, the thickness of insulation material should be at least 20mm; when the diameter of copper pipe is less than 15.9mm, the thickness of insulation material should be at least 15 mm.

2.4 Communication Cable and Control Cable

Notes：

For air conditioning units installed in places with strong electromagnetic interference, shielded wire must be used as the communication cables of the IDU and wired controller, and shielded twisted pairs must be used as the communication cables between IDUs and between the IDU and ODU.

Communication cable selection for ODU and IDUs

Wire type	Total length of communication wire between indoor unit and indoor unit(outdoor unit) (m)	Wire diameter (mm²)	Wire standard	Remark
Light / ordinary PVC sheathed twisted copper core cord	L≤1000	≥2×0.75	IEC 60227-5:2007	1. If the wire diameter is enlarged to 2×1mm², the total communication length line can reach 1500m. The average length of communication line between units is 12.5 m. 2. The cord shall be Circular cord (the cores shall be twisted together). 3. If unit is installed in places with intense magnetic field or strong interference, it is necessary to use shielded wire.

Communication cable selection for IDU and wired controller

Wire type	Total length of communication wire between indoor unit and wired controller (m)	Wire diameter (mm²)	Wire standard	Remark
Light / ordinary PVC sheathed twisted copper core cord	L≤250	2×0.75 ~2×1.25	IEC 60227-5:2007	1. Total length of communication line can't exceed 250m. The average length of the communication line between indoor unit and wired controller is 15m. The total length of communication wire for different wired controller should refer to the wired controller manual. 2. The cord shall be Circular cord (the cores shall be twisted together). 3. If unit is installed in places with intense magnetic field or strong interference, it is necessary to use shielded wire.

2.5 Power Cable

Only copper conductors can be used as power cables. The copper conductors must meet relevant national standard and satisfy the carrying capacity of unit.

2.6 Hanger Rod and Support

(1) Hanger rod: M8 or M10.

(2) U-steel: 14# or above.

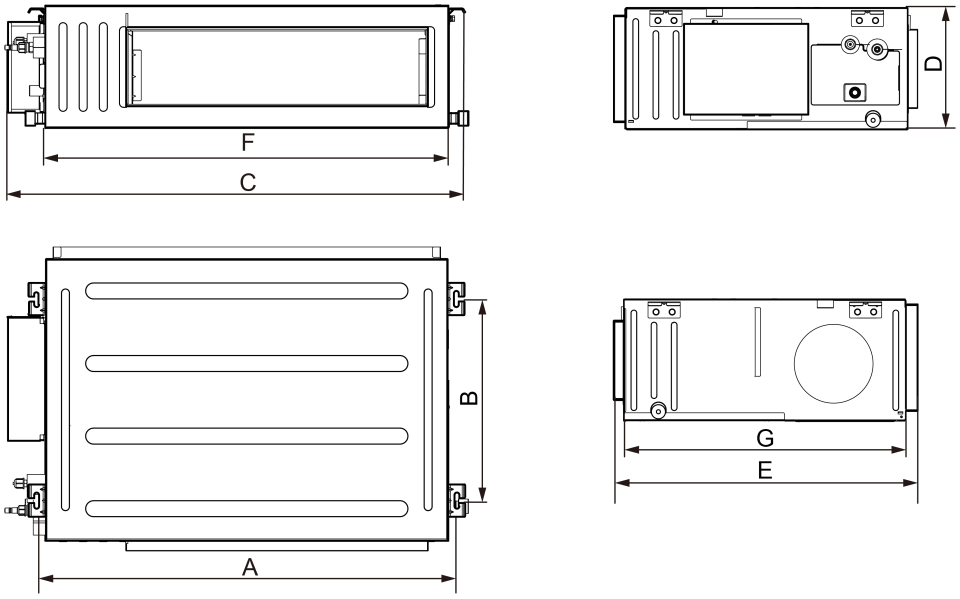
(3) Angle steel: 30mm ×30mm ×3mm or above.

Round steel: Φ10mm or above.

3 Installation of Indoor Unit

3.1 Installation of High Static Pressure Duct Type Indoor Unit

3.1.1 Outline and Installation Dimension



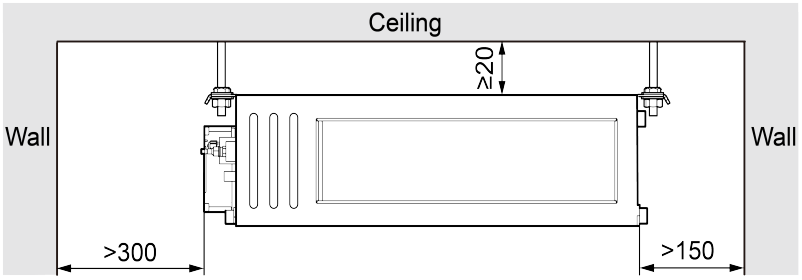
The following table lists the detailed dimensions.

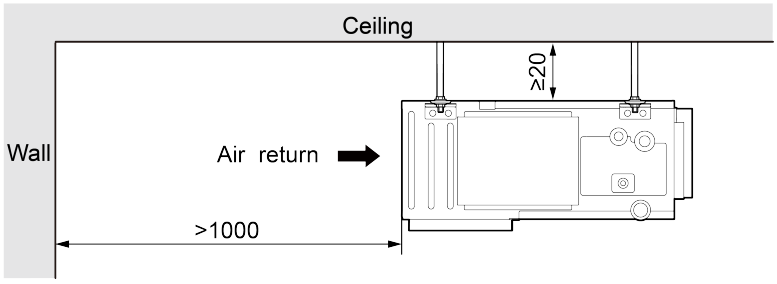
Unit: mm

Model	A	B	C	D	E	F	G
GMV-ND22PHS/NhD-T GMV-ND25PHS/NhD-T GMV-ND28PHS/NhD-T GMV-ND32PHS/NhD-T GMV-ND36PHS/NhD-T GMV-ND40PHS/NhD-T GMV-ND45PHS/NhD-T GMV-ND50PHS/NhD-T	740	500	830	300	754	700	700
GMV-ND56PHS/NhD-T GMV-ND63PHS/NhD-T GMV-ND71PHS/NhD-T GMV-ND80PHS/NhD-T	1040	500	1130	300	754	1000	700
GMV-ND90PHS/NhD-T GMV-ND100PHS/NhD-T GMV-ND112PHS/NhD-T GMV-ND125PHS/NhD-T GMV-ND140PHS/NhD-T	1440	500	1540	300	754	1400	700

3.1.2 Installation Space

Unit: mm



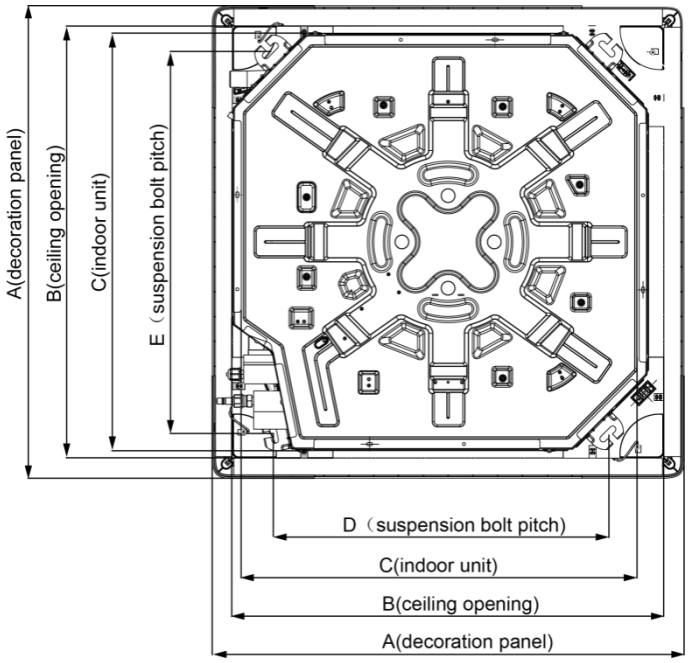


3.1.3 Installation Notice

- Please contact the local Gree appointed service center before installation. Any malfunction caused by the unit that is not installed by the Gree appointed service center would probably not be dealt with on time because of the inconvenience of the business contact.
- It should be guided under the professional personnel when the air conditioner unit is moved to other place.
- Installation of the unit must be in accordance with National Electric Codes and local regulations.
- Improper installation will affect unit’s performance, so do not install the unit by yourself. Please contact local dealer to arrange professional technicians for the installation.
- Do not connect power until all installation work is finished.
- If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.
- Air duct or grille fixed with screws must be installed at the air inlet or the air outlet of duct type unit. After installation, please make sure that human's hands are unable to touch inner parts of the unit. Installation and maintenance of the unit must be carried out by professionals.

3.2 Installation of 360°Air Discharge Cassette Type Indoor Unit

3.2.1 Outline and Installation Dimension



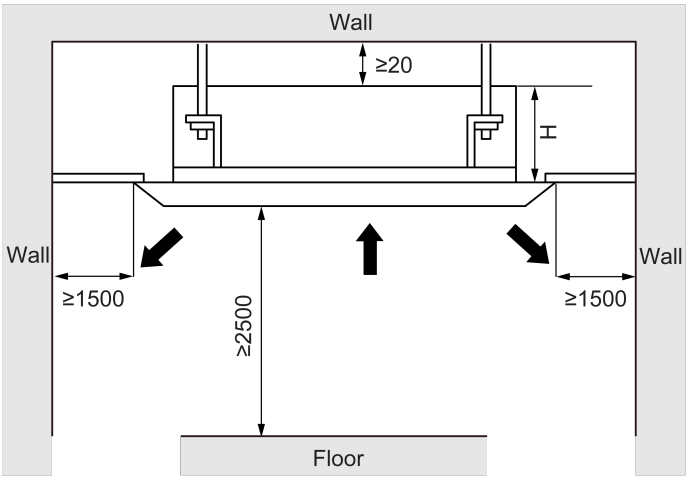
The following table lists the detailed dimensions.

Unit: mm

Model	A	B	C	D	E	Drainage Pipe(Outer Diameter× wall thickness)	Outer Diameter of Connection Pipe	
							Liquid pipe	Gas pipe
GMV-ND22T/NhD1-T	950	890	840	680	780	Φ25×2.5	6.35	9.52
GMV-ND28T/NhD1-T							6.35	9.52
GMV-ND36T/NhD1-T							6.35	9.52
GMV-ND45T/NhD1-T							6.35	12.7
GMV-ND50T/NhD1-T							6.35	12.7
GMV-ND56T/NhD1-T							6.35	12.7
GMV-ND63T/NhD1-T							6.35	12.7
GMV-ND71T/NhD1-T							6.35	12.7
GMV-ND80T/NhD1-T							6.35	12.7
GMV-ND90T/NhD1-T							9.52	15.9
GMV-ND100T/NhD1-T							9.52	15.9
GMV-ND112T/NhD1-T							9.52	15.9
GMV-ND125T/NhD1-T							9.52	15.9
GMV-ND140T/NhD1-T							9.52	15.9

3.2.2 Installation Space

Unit: mm



Unit: mm

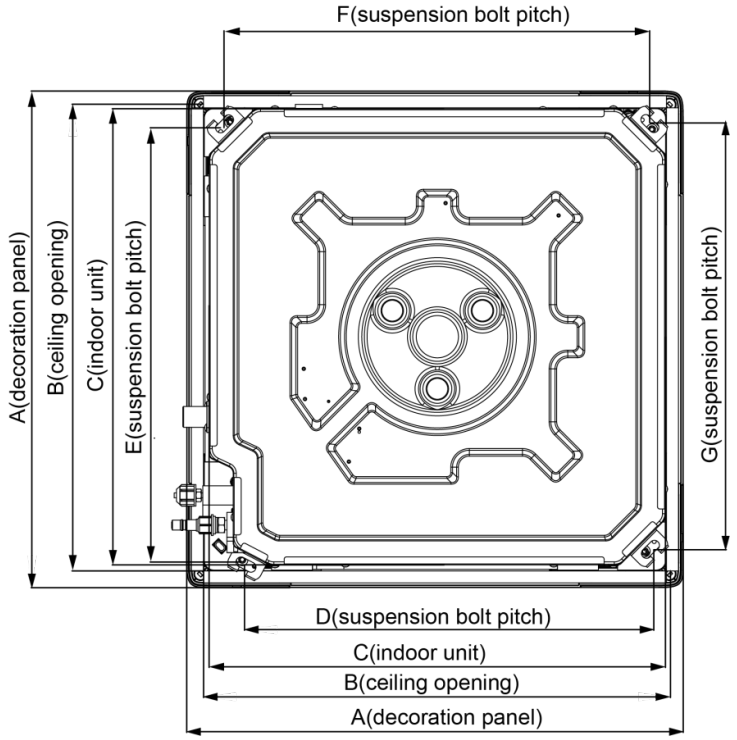
Model	H
GMV-ND22T/NhD1-T GMV-ND28T/NhD1-T GMV-ND36T/NhD1-T GMV-ND45T/NhD1-T GMV-ND50T/NhD1-T GMV-ND56T/NhD1-T GMV-ND63T/NhD1-T GMV-ND71T/NhD1-T GMV-ND80T/NhD1-T	235
GMV-ND90T/NhD1-T GMV-ND100T/NhD1-T GMV-ND112T/NhD1-T	276
GMV-ND125T/NhD1-T GMV-ND140T/NhD1-T	325

3.2.3 Installation Notice

- Please contact the local Gree appointed service center before installation. Any malfunction caused by the unit that is not installed by the Gree appointed service center would probably not be dealt with on time because of the inconvenience of the business contact.
- It should be guided under the professional personnel when the air conditioner unit is moved to other place.
- The unit shall be installed in accordance with national standards or local regulations.
- Only qualified personnel can carry out installation work, please contact with local dealer before installation.
- Make sure all the installation work completed before energizing.

3.3 Installation of 360°Air Discharge Compact Cassette Type Indoor Unit

3.3.1 Outline and Installation Dimension

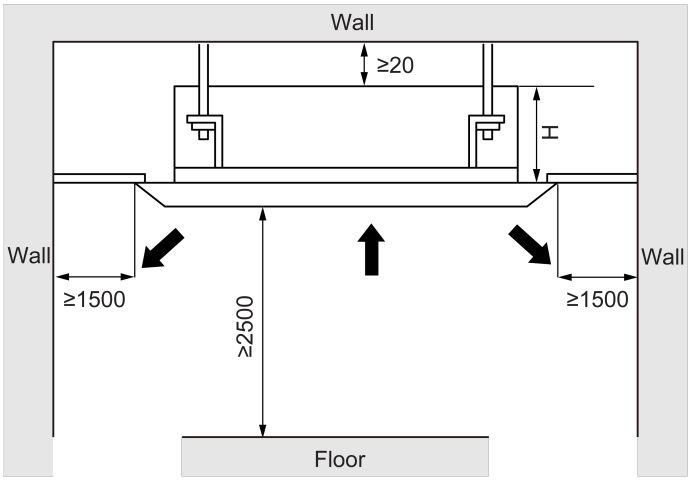


Unit: mm

Model	A	B	C	D	E	F	G
GMV-ND15T/NhE-T GMV-ND18T/NhE-T GMV-ND22T/NhE-T GMV-ND28T/NhE-T GMV-ND36T/NhE-T GMV-ND45T/NhE-T GMV-ND50T/NhE-T GMV-ND56T/NhE-T GMV-ND63T/NhE-T GMV-ND71T/NhE-T	620	580	570	505	550	530	530

3.3.2 Installation Space

Unit: mm



Unit: mm

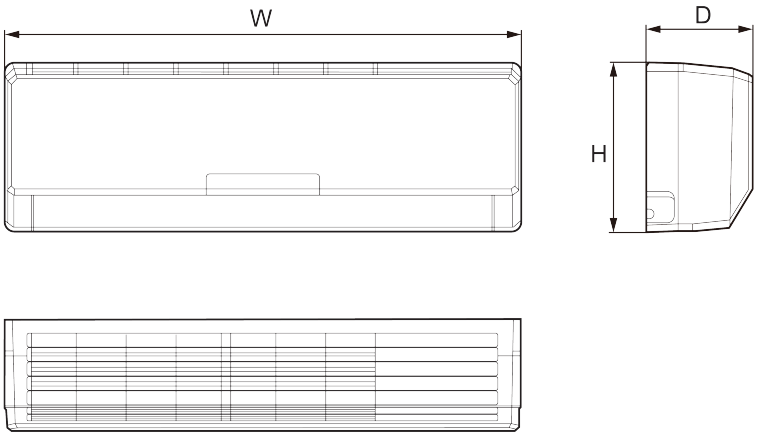
Model	H
GMV-ND15T/NhE-T GMV-ND18T/NhE-T GMV-ND22T/NhE-T GMV-ND28T/NhE-T GMV-ND36T/NhE-T GMV-ND45T/NhE-T GMV-ND50T/NhE-T GMV-ND56T/NhE-T GMV-ND63T/NhE-T GMV-ND71T/NhE-T	305

3.3.3 Installation Notice

- The unit shall be installed by the professional personnel according to this installation instruction to ensure proper use.
- Please contact the local Gree appointed service center before installation. Any malfunction caused by the unit that is not installed by the Gree appointed service center would probably not be dealt with on time because of the inconvenience of the business contact.
- It should be guided under the professional personnel when the air conditioner unit is moved to other place.
- The unit shall be installed in accordance with national standards or local regulations.
- Only qualified personnel can carry out installation work, please contact with local dealer before installation.
- Make sure all the installation work completed before energizing.
- The appliances are not accessible to general public.

3.4 Installation of Wall Mounted Type Indoor Unit

3.4.1 Outline and Installation Dimension



Below are dimensions of W, H, D for different models:

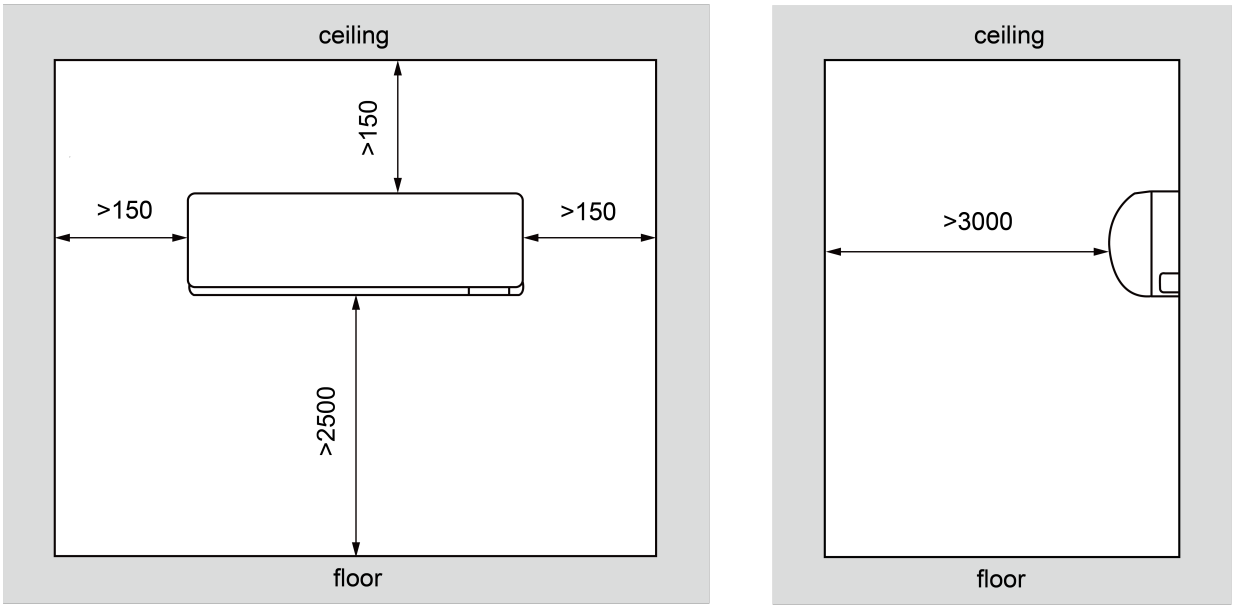
Unit: mm

Item / Model	W	H	D
GMV-ND15G/NhA1C-T GMV-ND18G/NhA1C-T GMV-ND22G/NhA1C-T GMV-ND28G/NhA1C-T	867	276	206

Item / Model	W	H	D
GMV-ND36G/NhA1C-T GMV-ND45G/NhA1C-T GMV-ND50G/NhA1C-T	978	333	248
GMV-ND56G/NhA1C-T GMV-ND63G/NhA1C-T GMV-ND71G/NhA1C-T	1116	333	248
GMV-ND80G/NhA1C-T GMV-ND90G/NhA1C-T GMV-ND100G/NhA1C-T	1350	333	253

3.4.2 Installation Space

Unit: mm



3.4.3 Installation Notice

- The unit shall be installed by the professional personnel according to this installation instruction to ensure proper use.
- Please contact the local Gree appointed service center before installation. Any malfunction caused by the unit that is not installed by the Gree appointed service center would probably not be dealt with on time because of the inconvenience of the business contact.
- It should be guided under the professional personnel when the air conditioner unit is moved to other place.
- Maintenance/service to be done by specialized personnel, mandated by the manufacturer or authorized representative.
- This appliance is intended to be used by expert or trained users in shops, in light industry and on farms or for commercial use by lay persons.
- This unit is a partial unit air conditioner, complying with partial unit requirements of this International standard and must only be connected to other units that have been confirmed as complying to corresponding partial unit requirements of this international standard.
- This unit shall only be connected to an appliance suitable for the same refrigerant.
  Make sure all the installation work completed before energizing.

4 Installation of Connection Pipe

⚠CAUTION	
①	Conform to the following principles during pipe connection: Connection pipe should be as short as possible, so is the height difference between indoor and outdoor units. Keep the number of bends as little as possible. Radius of curvature should be as large as possible.
②	Weld the connection pipe between indoor and outdoor units. Please strictly follow the requirements for welding process. Rosin joint or pin hole is not allowed.
③	When laying the pipe, be careful not to distort it. Radius of bending parts should be over 200mm. Note that pipes cannot be repeatedly bent or stretched; otherwise the material will get harder. Do not bend or stretch the pipe for more than 3 times at the same position.

4.1 Flaring Process

(1) Mechanical connectors used indoors shall comply with ISO 14903. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be refabricated.

(2) Pipework shall be protected from physical damage.

(3) Installation of pipework shall be kept to a minimum space required.

(4) Do NOT re-use joints and copper gaskets which have been used already.

(5) Joints made in installation between parts of refrigerant system shall be accessible for maintenance purposes.

(6) Install the refrigerant piping or components in a position where they are unlikely to be exposed to any substance which may corrode components containing refrigerant, unless the components are constructed of materials that are inherently resistant to corrosion or are suitably protected against corrosion.

(7) After completion of field piping for split systems, the field pipework shall be pressure tested with an inert gas and then vacuum tested prior to refrigerant charging, according to the following requirements; field-made refrigerant joints indoors shall be tightness tested. The test method shall have a sensitivity of 5 grams per year of refrigerant or better under a pressure of at least 0.25 times the maximum allowable pressure. No leak shall be detected.

(8) Use pipe cutter to cut the connection pipe in case it is unshaped.

(9) Keep the pipe downward in case cutting scraps get into the pipe. Clear away the burrs after cutting.

(10) Remove the flared nut connecting indoor connection pipe and outdoor unit. Then use flaring tool to fix the flared nut into the pipe (as shown in Fig.4.1).

(11) Check if the flared part is flaring evenly and if there is any crack.

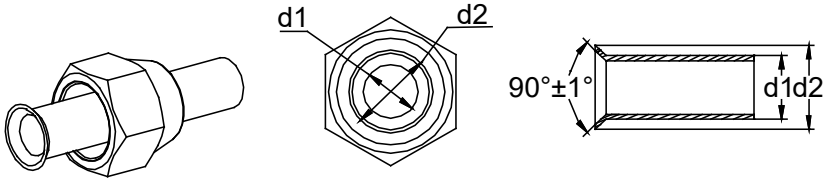


Fig. 4.1

4.2 Pipe Bending

(1) Reshape the pipe by hand. Be careful not to damage the pipe.

(2) Do not bend the pipe over 90°.

(3) If pipe is repeatedly bent or stretched, it will get hard and difficult to bend and stretch againch Therefore, do not bend or stretch the bend for over 3 times.

(4) In case that direct bending will open cracks to the pipe, first use sharp cutter to cut the insulating layer, as shown in Fig. 4.3. Do not bend the pipe until it is exposed. When bending is done, wrap the pipe with insulating layer and then secure it with adhesive tape.

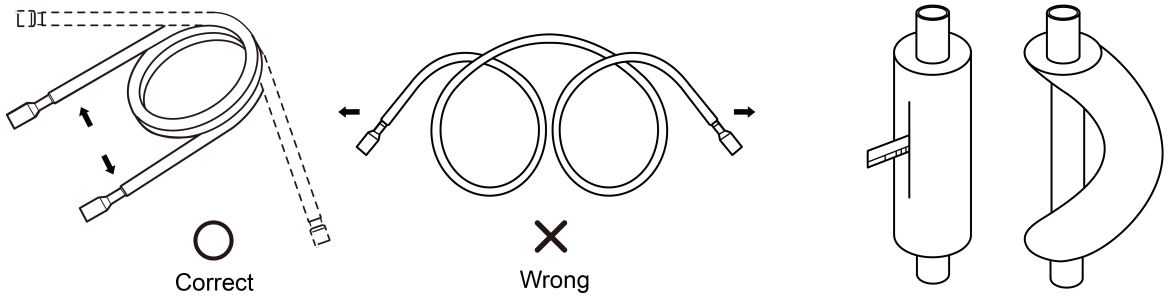


Fig. 4.2

Fig. 4.3

4.3 Indoor Pipe Connection

(1) Remove pipe cover and pipe plug.

(2) Direct the flared part of copper pipe to the center of screwed joint. Twist on the flared nut tightly by hand, as in Fig. 4.4 (Make sure indoor pipe is correctly connected. Improper location of the center will prevent flared nut from being securely twisted. Thread of nut will get damaged if the flared nut is twisted forcibly).

(3) Use torque wrench to twist on the flared nut tightly until the wrench gives out a click sound (Hold the handle of wrench and make it at right angle to the pipe. as in Fig. 4.5).

⚠CAUTION	
①	Use sponge to wrap the un-insulated connection pipe and joint. Then tie the sponge tightly with plastic tape.
②	Connection pipe should be supported by a bearer rather than the unit.
③	The bending angle of piping should not be too small; otherwise the piping might have cracks. Please use a pipe bender to bend the pipe.
④	When connecting IDU with connection pipe, do not pull the big and small joints of IDU with force in case the capillary tube or other tubes have cracks and cause leakage.

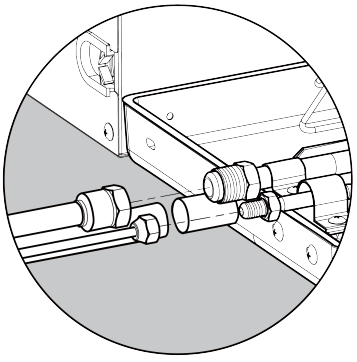


Fig. 4.4

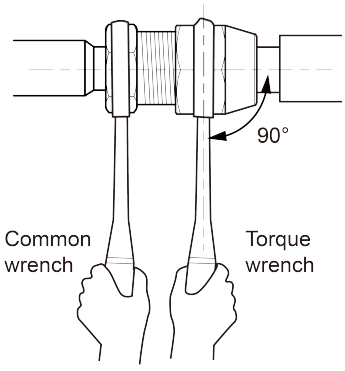


Fig. 4.5

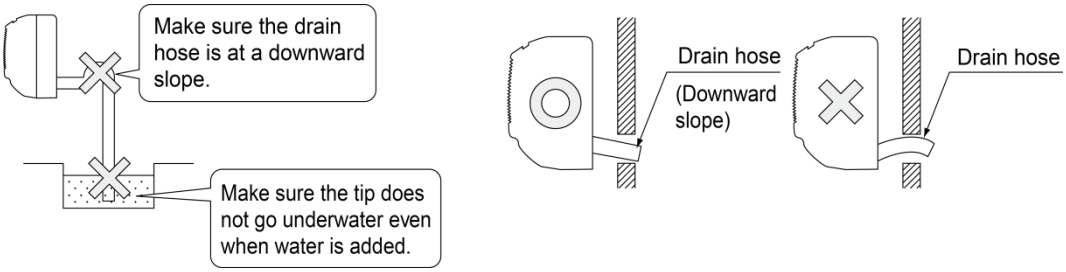
Pipe Diameter	Tightening Torque
6.35	15~30N·m
9.52	35~40N·m
12.7	45~50N·m
15.9	60~65N·m

5 Installation of Drain Pipe

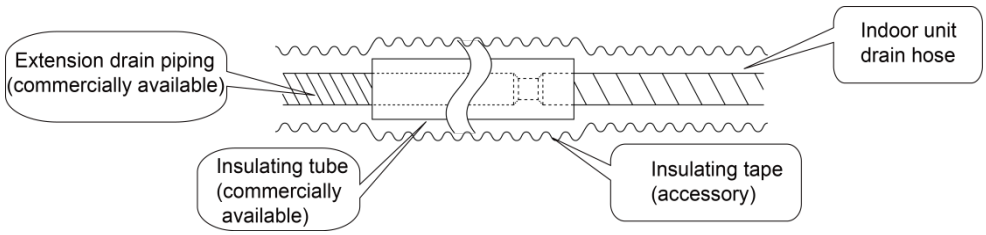
5.1 Precautions When Doing the Piping Work

- Keep piping as short as possible and slope it downwards at a gradient of at least 1/100 so that air may not remain trapped inside the pipe.

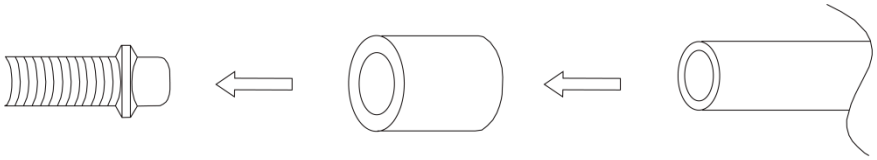
  For example:



- Keep pipe size equal to or greater than that of the connecting pipe.
- Install the drain piping as shown and take measures against condensation. Improperly rigged piping could lead to leaks and eventually wet furniture and belongings.



- When directly connecting a hard vinyl chloride pipe joint to the drain hose connected to the indoor unit, use a commercially available hard vinyl chloride pipe joint (nominal diameter 13mm).

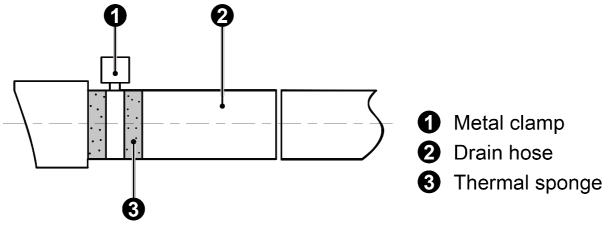


Drain hose connected to the indoor unit	Commercially available hard vinyl chloride pipe joint (nominal diameter 13mm)	Commercially available hard vinyl chloride pipe (nominal diameter 13mm)

- Drain hose connected to the indoor unit Commercially available hard vinyl chloride pipe joint (nominal diameter 13mm), Commercially available hard vinyl chloride pipe(nominal diameter 13mm)
- Do not connect the drain piping directly to sewage pipes that smell of ammonia. The ammonia in the sewage might enter the indoor unit through the drain pipes and corrode the heat exchanger.

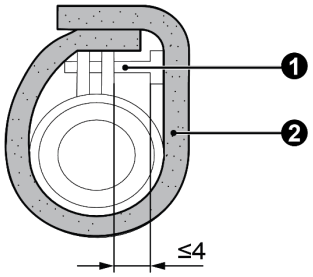
5.2 Installing the Drain Pipes

- Insert the drain hose into the drain outlet, and tighten the clamp securely with tape.
- Tighten the clamp until the screw head is less than 4mm from the hose.



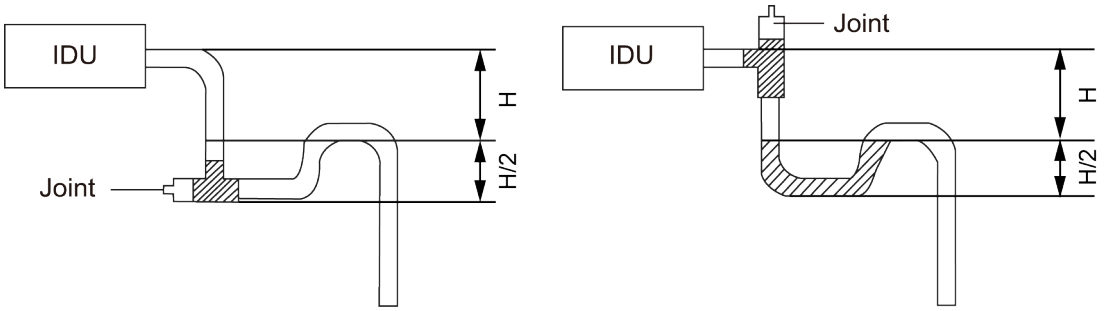
- Insulate the pipe clamp and the drain hose using heat insulation sponge.

Unit: mm



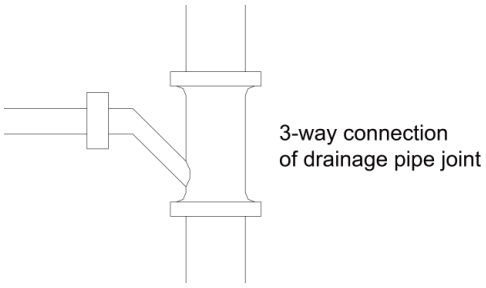
❶ Metal clamp
❷ Thermal sponge

- Install water trap as shown below.
- Install one water trap for each unit.
- Installation of water trap shall consider easy cleaning in the future.

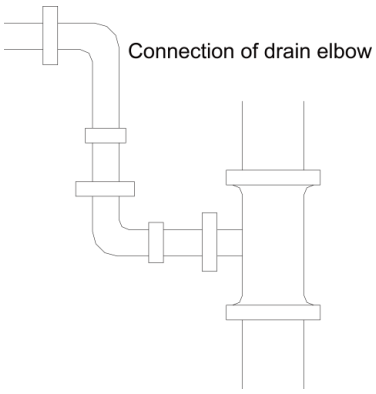


- Connection of drainage branch pipe to the standpipe or horizontal pipe of drainage main pipe
- The horizontal pipe cannot be connected to the vertical pipe at a same height. It can be connected in a manner as shown below:

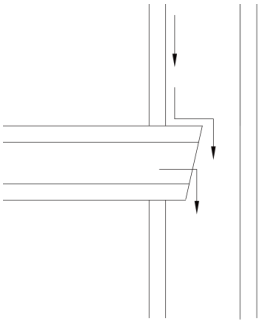
NO.1: 3-way connection of drainage pipe joint



NO.2: Connection of drain elbow



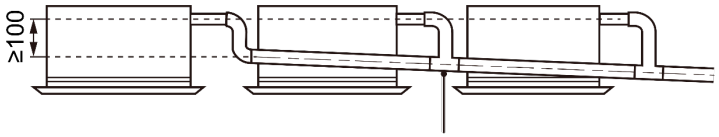
NO.3: Connection of horizontal pipe



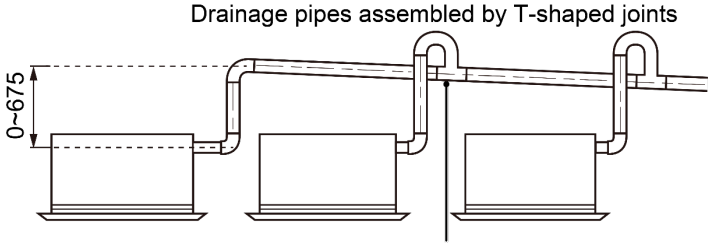
Connection of horizontal pipe

- When unifying multiple drain pipes, install the pipes as shown below. Select converging drain pipes whose gauge is suitable for the operating capacity of the unit.(take the cassette type unit for example)

Unit: mm



Drainage pipes assembled by T-shaped joints



Drainage pipes assembled by T-shaped joints

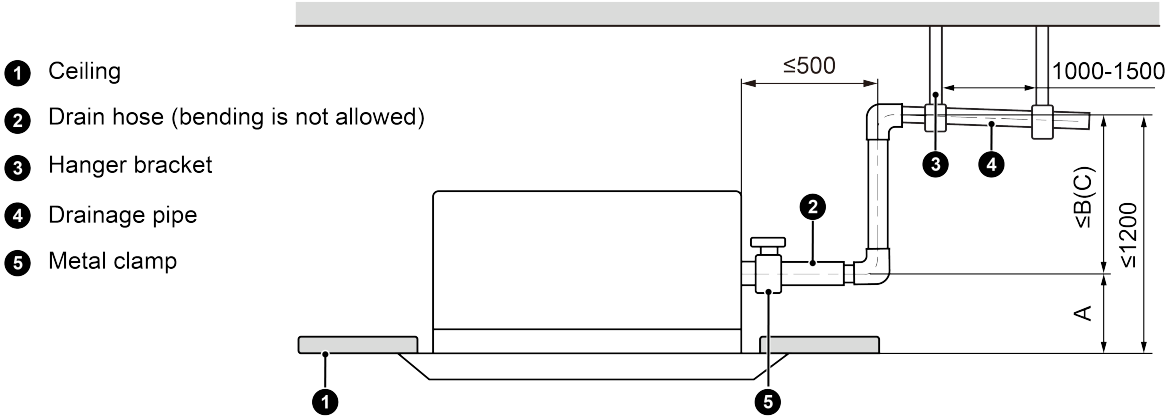
5.3 Precautions When Doing Riser Piping Work

(1) Make sure that heat insulation work is executed on the following 2 spots to prevent any possible water leakage due to dew condensation.

1) Connect the drain hose to the drain raiser pipe, and insulate them.

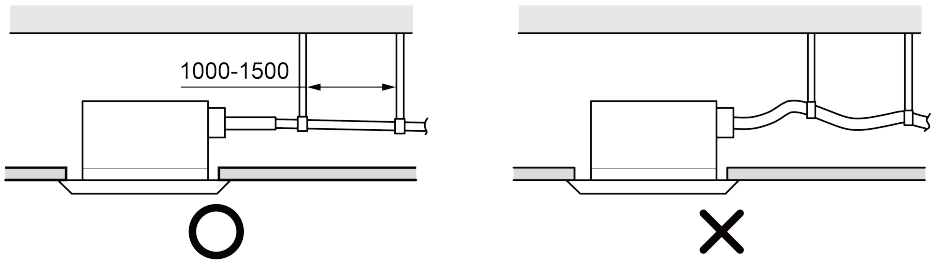
2) Connect the drain hose to the drain outlet on the indoor unit, and tighten it with the clamp.

Unit: mm



(2) Secure a downward gradient of 1/100 or more for the drain pipe. To accomplish this, mount supporting brackets at an interval of 1~1.5 m.

Unit: mm



5.4 Testing of Drain Piping

- After piping work is finished, check if drainage flows smoothly.
- Shown in the figure, add approximately 1liter of water slowly into the drain pan and check drainage flow during COOL running.

6 Electrical Installation

- The wiring must be in accordance with the local rules.
- Rated supply voltage and special circuit for air conditioner must be used.
- Do not pull the power cord forcefully.
- All the electric installations must be carried out by specialist technicians in accordance with the local laws, rules and these instructions.
- The diameter of flexible wire should be wide enough. Replace the damaged power cord and connecting wire with special flexible wire.
- The earthing shall be reliable and connected to the special earthing device on the construction. The installation must be done by specialist technicians. The leak protection switch and air switch with enough capacity must be installed. The air switch shall have both the magnetic tripping and thermal tripping functions to ensure protection against the short circuit and overload.
- The air conditioner belongs to I type electric appliances. The reliable earthed action is a must.
- The yellow and green wire inside the air conditioner is the earthed wire. Do not use it for other purpose or even cut off it. Do not fix it with tapping screw, Otherwise it may cause electric shock.
- There should be reliable earthed terminal for the power supply. Never connect the earth lead to the following articles:

  ①water pipe; ②gas pipe; ③drain pipe; ④unreliable place considered by professionals.

MAINTENANCE

CHAPTER 4 MAINTENANCE

1 Malfunction List

1.1 Malfunction List for the Wired Controller

Error Code	Content	Error Code	Content	Error Code	Content
L0	Indoor Unit Error	LA	Indoor Units Incompatibility Error	d9	Jumper Cap Error
L1	Indoor Fan Protection	LH	Low Air Quality Warning	dA	Indoor Unit Network Address Error
L2	E-heater Protection	LC	ODU-IDU Incompatibility Error	dH	Wired Controller PCB Error
L3	Water Full Protection	d1	Indoor Unit PCB Error	dC	Capacity DIP Switch Setting Error.
L4	Wired Controller Power Supply Error	d3	Ambient Temperature Sensor Error	dL	Outlet Air Temperature Sensor Error
L5	Freeze protection	d4	Inlet Pipe Temperature Sensor Error	dE	Indoor Unit CO_2 Sensor Error
L7	No Master Indoor Unit Error	d6	Outlet Pipe Temperature Sensor Error	C0	Communication Error
L8	Power Insufficiency Protection	d7	Humidity Sensor Error	AJ	Filter Cleaning Reminder
L9	Quantity Of Group Control Indoor Units Setting Error	d8	Water Temperature Error	o1	Low bus bar voltage of indoor unit
o2	High bus bar voltage of indoor unit	o3	IPM Module Protection of Indoor Unit	o4	Failure Startup of Indoor Unit
o5	Overcurrent Protection of Indoor Unit	o6	Current Detection Circuit Malfunction of Indoor Unit	o7	Desynchronizing Protection of Indoor Unit
o8	Communication Malfunction of Indoor Unit's Drive	o9	Communication Malfunction of Main Mater of Indoor Unit	oA	High temperature of Indoor Unit's Module
ob	Malfunction of Temperature Sensor of Indoor Unit's Module	oC	Charging Circuit Malfunction of Indoor Unit	o0	Other Drive Malfunction
db	Special Code: Field Debugging Code	yb	Refrigerant Leakage Protection	yd	Malfunction of Refrigerant Detection Sensor
En	Malfunction of System Refrigerant Detection	—	—	—	—

1.2 Exception Analyzing and Troubleshooting

1.2.1 “d1” Indoor circuit board error

Error display: IDU wired controller and IDU receive light board will display 

Error judgment condition and method:

Check if the reading of address chip and memory chip of IDU mainboard is normal. If the data of address chip and memory chip cannot be read, it is abnormal

Possible reason:

- Address chip is abnormal
- Memory chip is abnormal. Replace main control board directly

Troubleshooting:

Replace main control board directly

1.2.2 “d3” Ambient temperature sensor error

Error display: IDU wired controller and IDU receive light board will display 

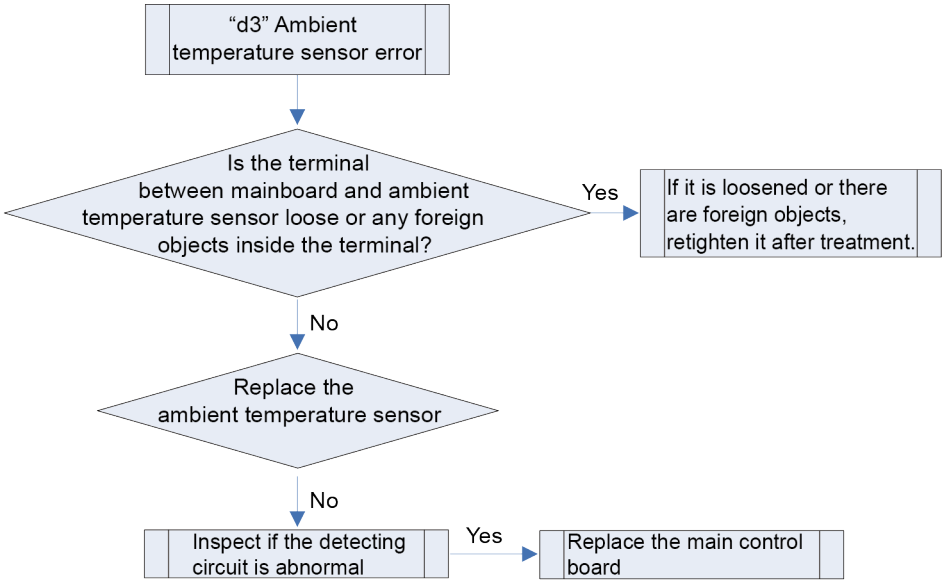
Error judgment condition and method:

Sample the AD value of temperature sensor through temperature sensor detecting circuit and judge the range of AD value, if the sampling AD value exceeds upper limit and lower limit in 5 seconds continuously, report the error

Possible reason:

- Poor contact between ambient temperature sensor and terminal in mainboard interface
- Ambient temperature sensor is abnormal
- Detecting circuit is abnormal

Troubleshooting:



1.2.3 “d4” Inlet pipe temperature sensor error

Error display: IDU wired controller and IDU receive light board will display 

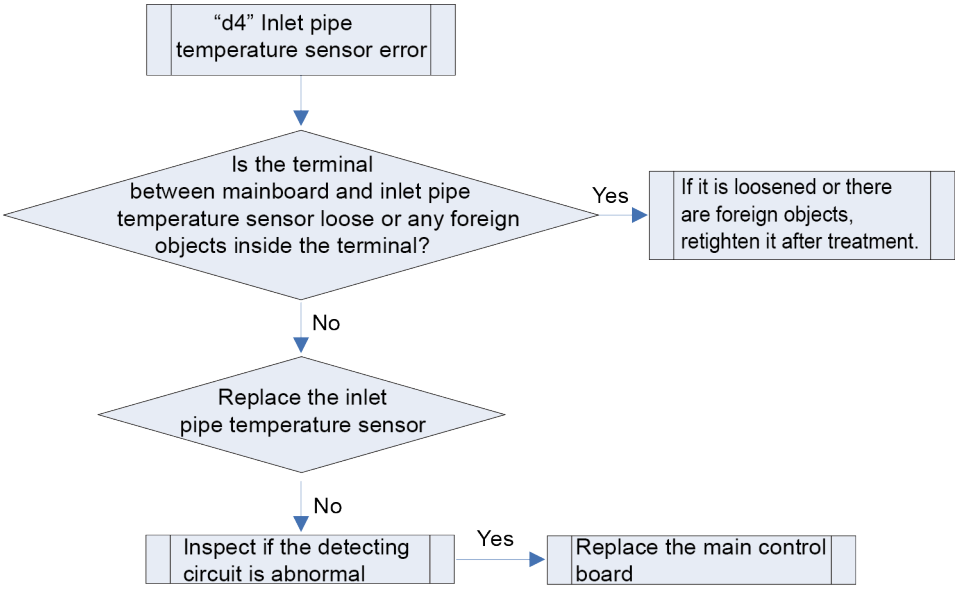
Error judgment condition and method:

Sample the AD value of temperature sensor through temperature sensor detecting circuit and judge the range of AD value. If the sampling AD value exceeds upper limit and lower limit in 5 seconds continuously, report the error

Possible reason:

- Poor contact between inlet pipe temperature sensor and terminal in mainboard interface
- Inlet pipe temperature sensor is abnormal
- Detecting circuit is abnormal

Troubleshooting:



1.2.4 “d6” Outlet pipe temperature sensor error

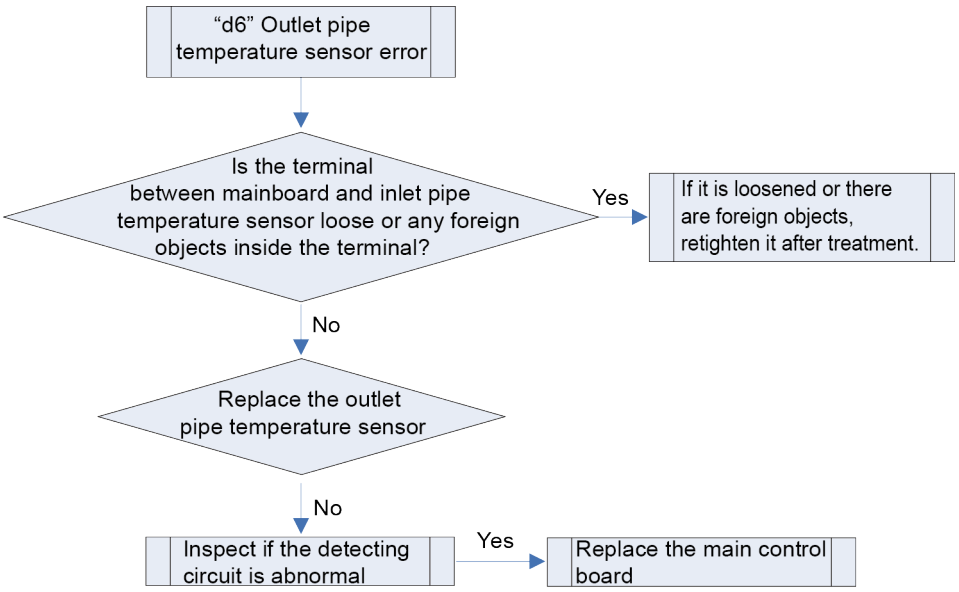
Error display: IDU wired controller and IDU receive light board will display 

Error judgment condition and method:

Sample the AD value of temperature sensor through temperature sensor detecting circuit and judge the range of AD value. If the sampling AD value exceeds upper limit and lower limit in 5 seconds continuously, report the error

Possible reason:

- Poor contact between outlet pipe temperature sensor and terminal in mainboard interface
- Outlet pipe temperature sensor is abnormal
- Detecting circuit is abnormal



1.2.5 "d7" Humidity sensor error

Error display: IDU wired controller and IDU receive light board will display 

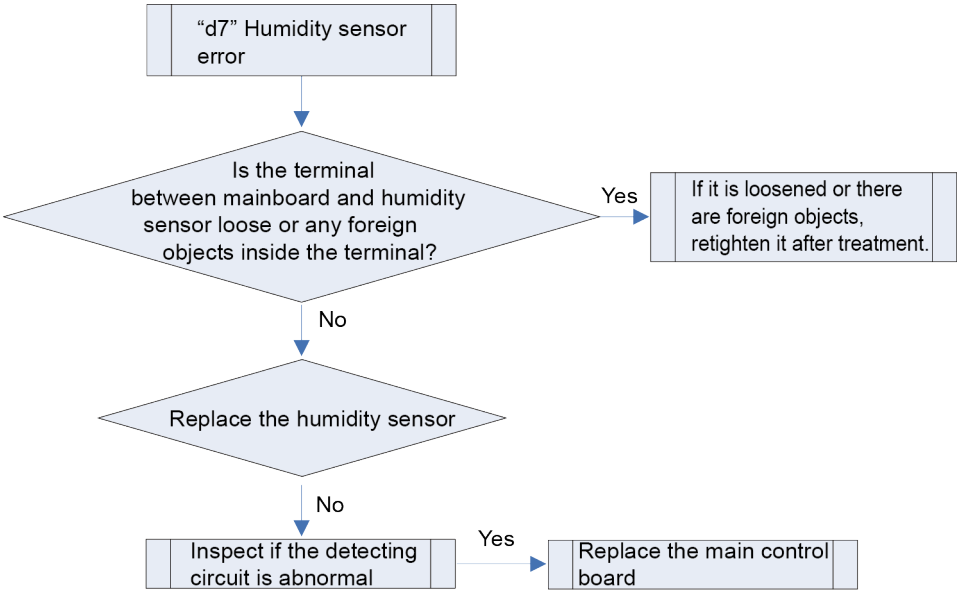
Error judgment condition and method:

Sample the AD value of temperature sensor through temperature sensor detecting circuit and judge the range of AD value. If the sampling AD value exceeds upper limit and lower limit in 5 seconds continuously, report the error

Possible reason:

- Poor contact between humidity sensor and terminal in mainboard interface
- Humidity sensor is abnormal
- Detecting circuit is abnormal

Troubleshooting:



1.2.6 "d9" Jumper cap error

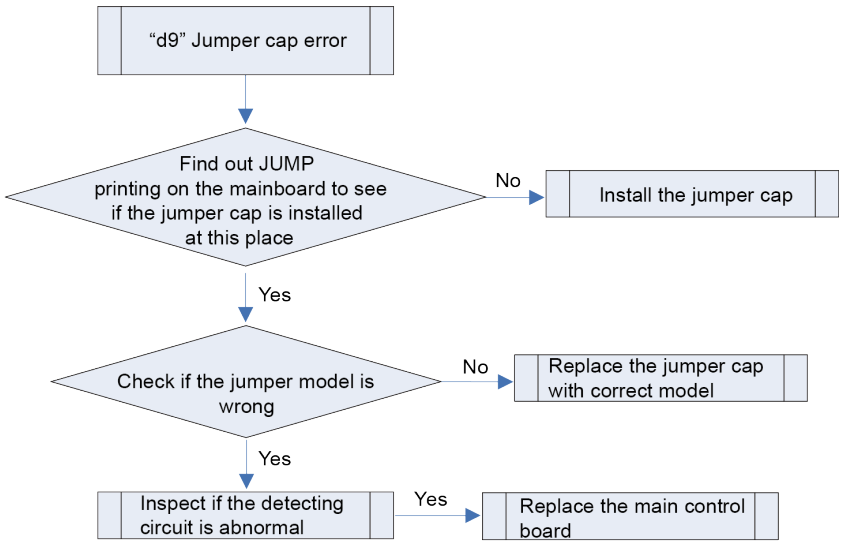
Error display: IDU wired controller and IDU receive light board will display 

Error judgment condition and method:

Possible reason:

- If jumper cap model doesn't match with mainboard, report the error
- Jumper cap is not installed
- Jumper cap model is wrong
- Detecting circuit is abnormal

Troubleshooting:



1.2.7 “dA” IDU network address error

Error display: IDU wired controller and IDU receive light board will display 

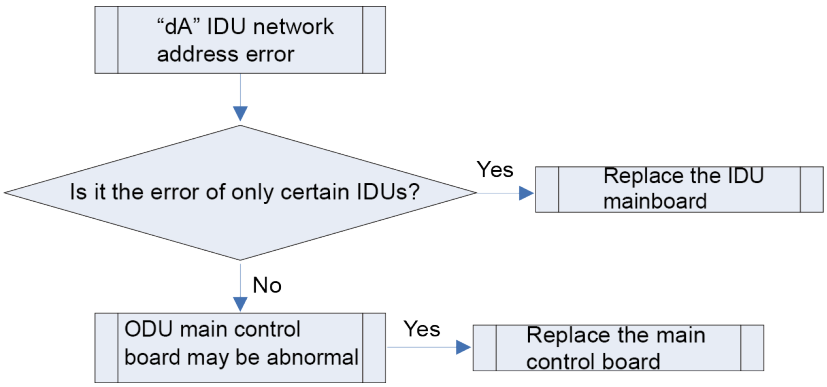
Error judgment condition and method:

Through testing the IDU address chip and IP address, if address chip cannot be read, IDU IP is 0 or IP is in conflict, report the error.

Possible reason:

- ODU allocated address is wrong
- IDU treatment is wrong
- Address chip is abnormal

Troubleshooting:



1.2.8 “dH” Wired controller circuit board error

Error display: IDU wired controller and IDU receive light board will display 

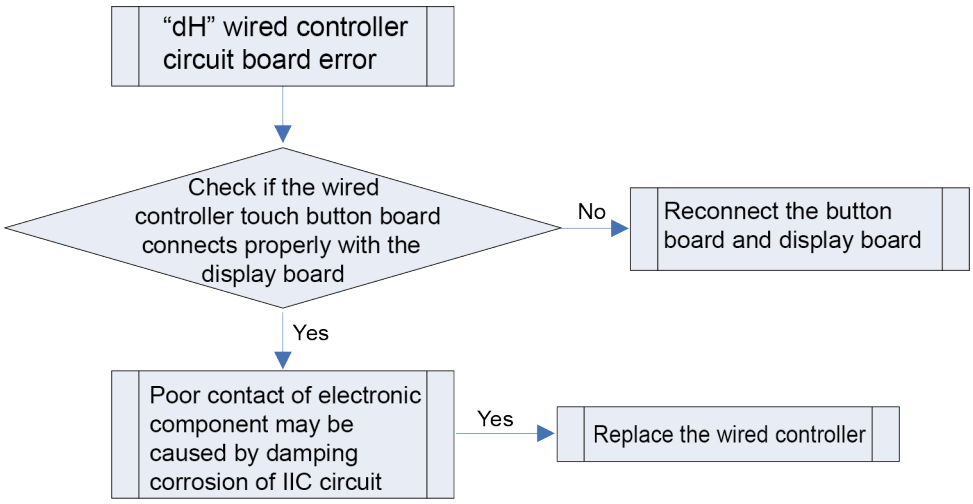
Error judgment condition and method:

Wired controller IIC communication is abnormal

Possible reason:

- Communication of wired controller touch button board and display board IIC is abnormal;
- Read and write of wired controller memory chip IIC is abnormal (when memory chip is existed);

Troubleshooting:



1.2.9 “dC” Capacity DIP switch setting error

Error display: IDU wired controller and IDU receive light board will display 

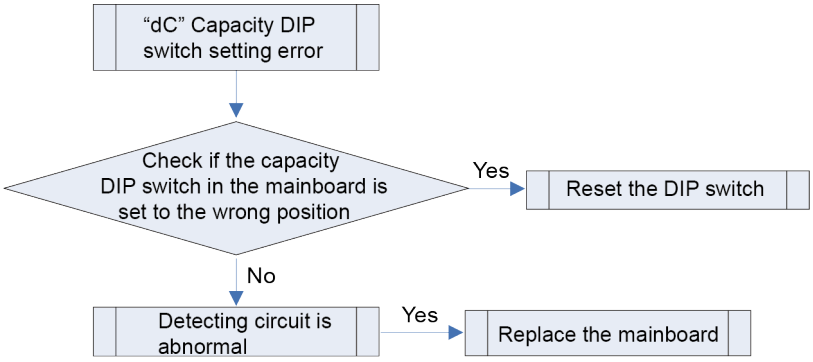
Error judgment condition and method:

If capacity DIP switch is set to the wrong position, report the error.

Possible reason:

- Capacity DIP switch is set to the wrong position
- Detecting circuit is abnormal

Troubleshooting:



1.2.10 “dL” Air outlet temperature sensor error

Error display: IDU wired controller and IDU receive light board will display 

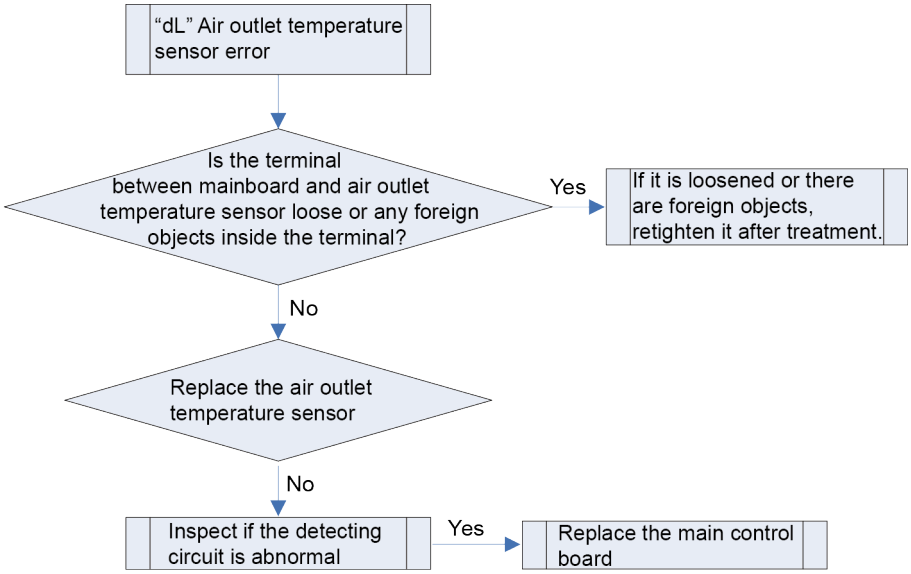
Error judgment condition and method:

Sample the AD value of temperature sensor through temperature sensor detecting circuit and judge the range of AD value. If the sampling AD value exceeds upper limit and lower limit in 5 seconds continuously, report the error

Possible reason:

- Poor contact between air outlet temperature sensor and terminal in mainboard interface
- Air outlet temperature sensor is abnormal
- Detecting circuit is abnormal

Troubleshooting:



1.2.11 "db" Project debugging

Error display: ODU mainboard, IDU wired controller and IDU receive light board will display 

Error judgment condition and method:

This is a status code of project debugging, not an error code. When IDU or ODU displays this code, it means the unit is under debugging status and the IDU cannot be operated.

Troubleshooting: ——

Possible reason:——

1.2.12 "L1" Indoor fan protection

Error display: IDU wired controller and IDU receive light board will display 

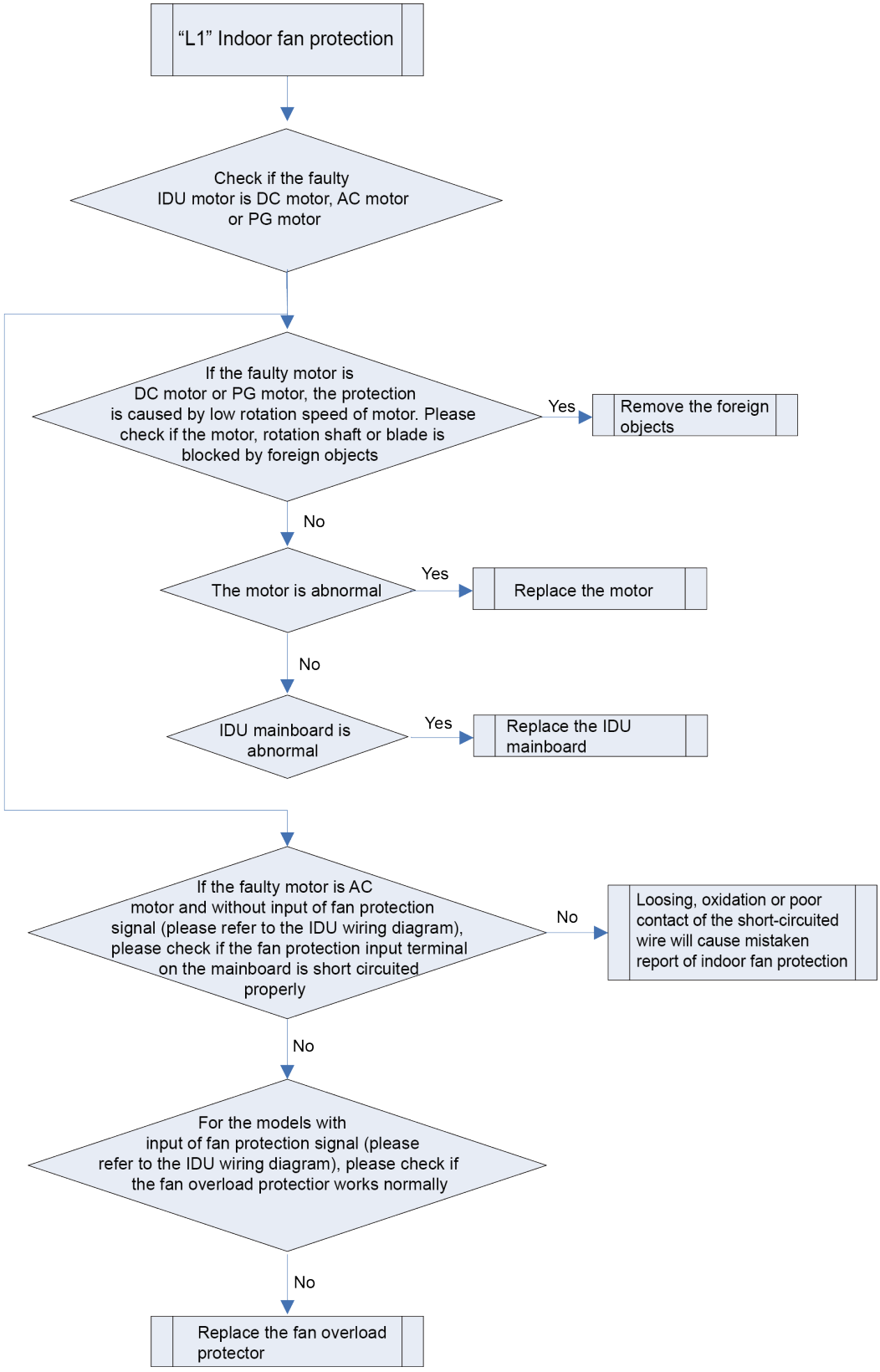
Error judgment condition and method:

Check if the rotation speed of IDU is too slow, or it stops rotation, or protection signal of outdoor fan is transferred. If yes, it is judged that indoor fan protection occurs.

Possible reason:

- Motor stops operation or it is blocked
- IDU mainboard is abnormal

Troubleshooting:



1.2.13 "L3" Water full protection

Error display: IDU wired controller and IDU receive light board will display 

Error judgment condition and method:

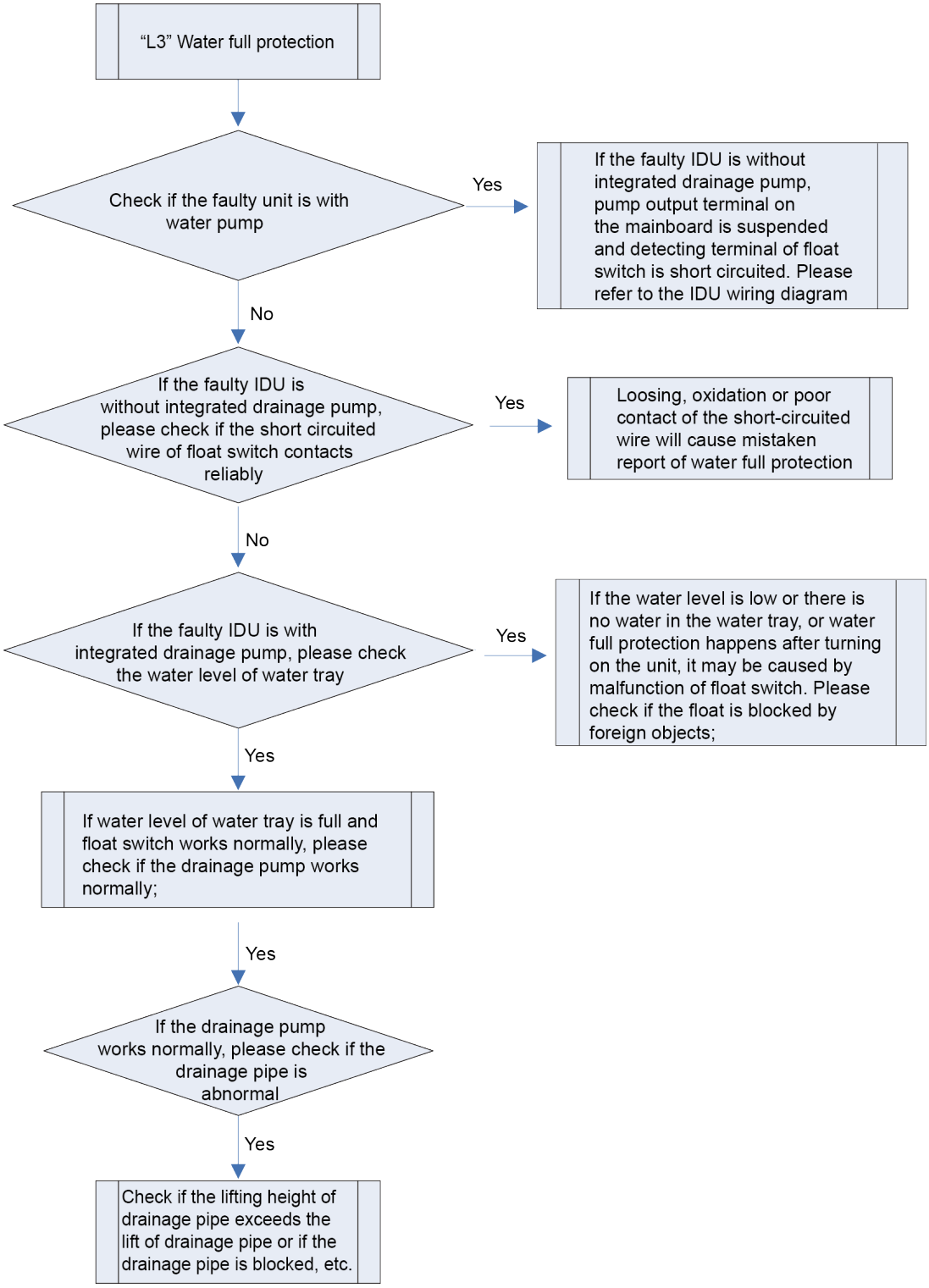
Check the status of IDU float switch. When water level is too high, float switch is activated, so water

full protection happens.

Possible reason:

- IDU is installed improperly
- Drainage pump is broken
- Float switch operates abnormally
- IDU mainboard is abnormal

Troubleshooting:



1.2.14 “L4” Power supply overcurrent protection

Error display: IDU wired controller and IDU receive light board will display 

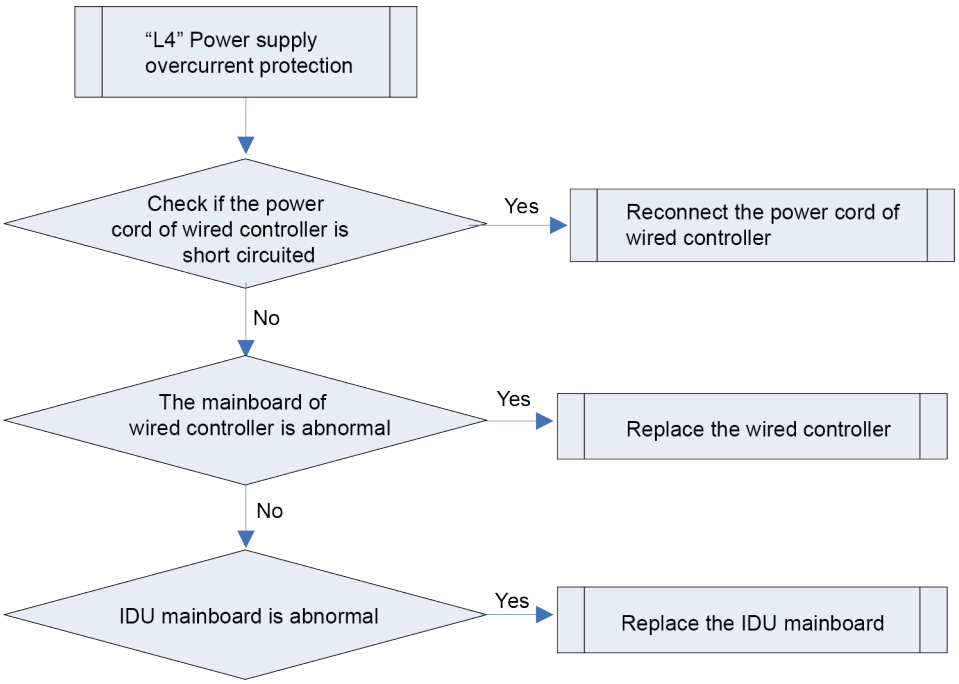
Error judgment condition and method:

Check if the power supply current from IDU to wired controller is normal. If power supply current is too big, it is judged that the current is abnormal.

Possible reason:

- Power supply conducting wire of wired controller is short circuited
- IDU mainboard is abnormal
- Mainboard of wired controller is abnormal

Troubleshooting:



1.2.15 “L5” Freeze protection

Error display: IDU wired controller and IDU receive light board will display 

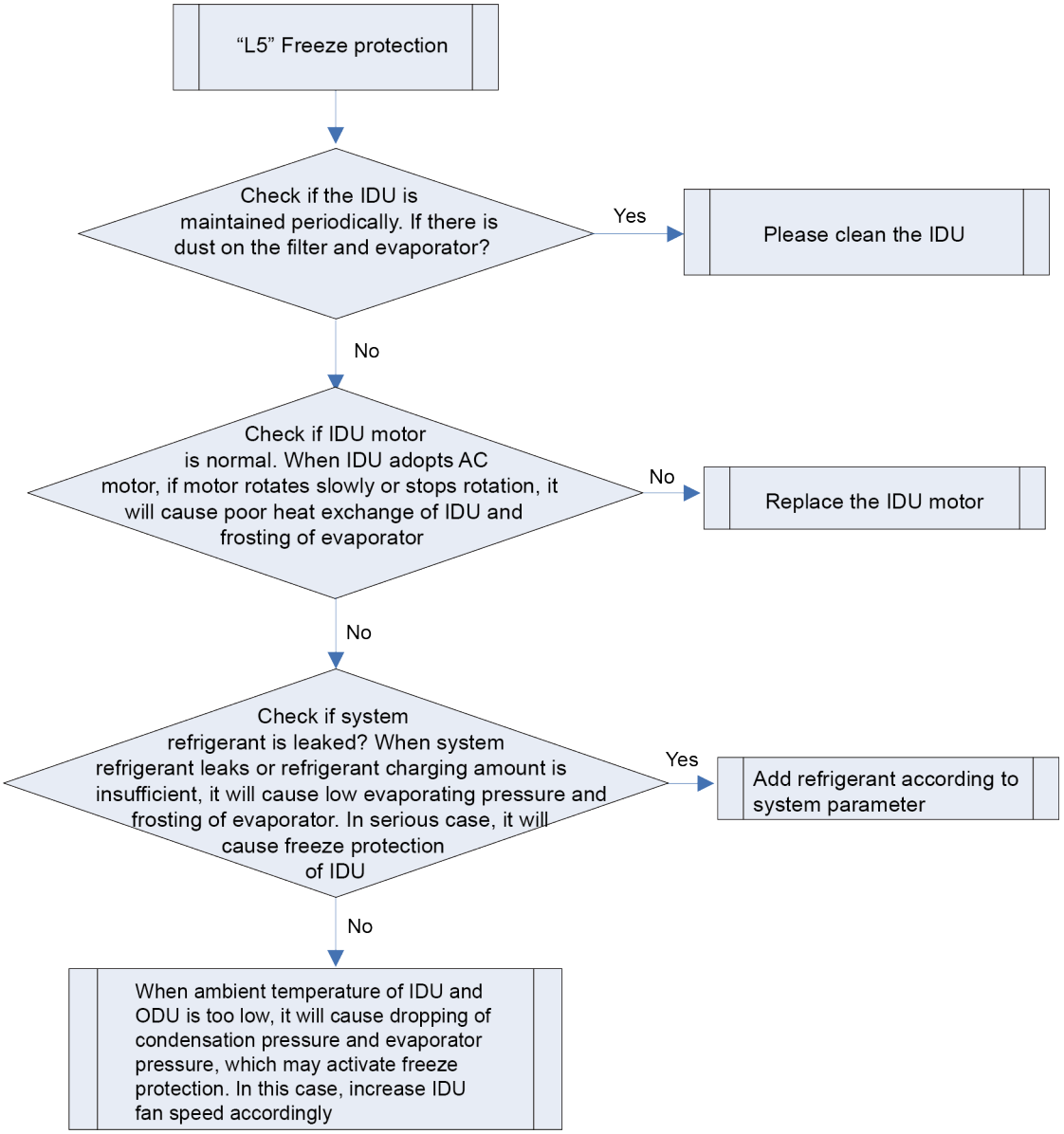
Error judgment condition and method:

Check IDU pipe temperature. When pipe temperature is too low, freeze protection will be activated to prevent freezing damage of evaporator.

Possible reason:

- IDU filter and evaporator are dirty
- IDU motor is blocked
- Refrigerant amount is insufficient
- Ambient temperature of IDU and ODU is too low

Troubleshooting:



1.2.16 "L7" No master IDU

Error display: IDU wired controller and IDU receive light board will display 

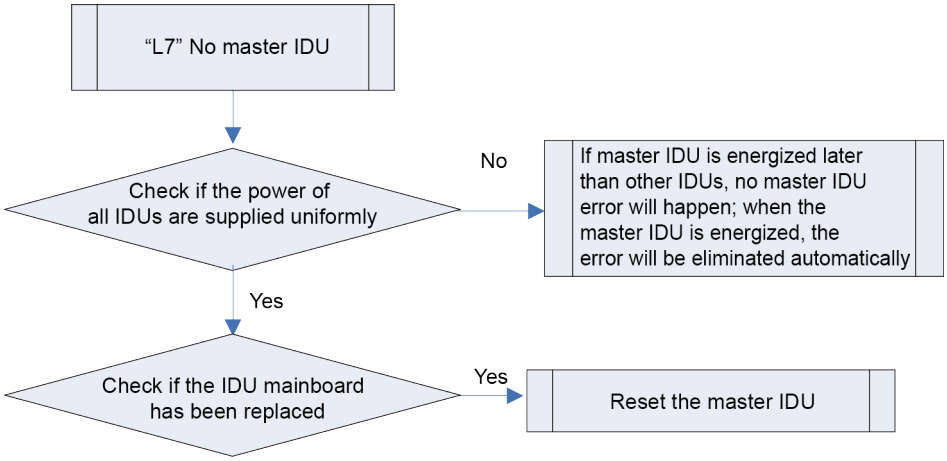
Error judgment condition and method:

No master IDU error will happen when there is no master IDU in the system

Possible reason:

- Master IDU is offline
- The mainboard of master IDU is replaced
- The mainboard of master IDU has error

Troubleshooting:



1.2.17 "L9" Group-controlled IDU quantity inconsistency

Error display: IDU wired controller and IDU receive light board will display 

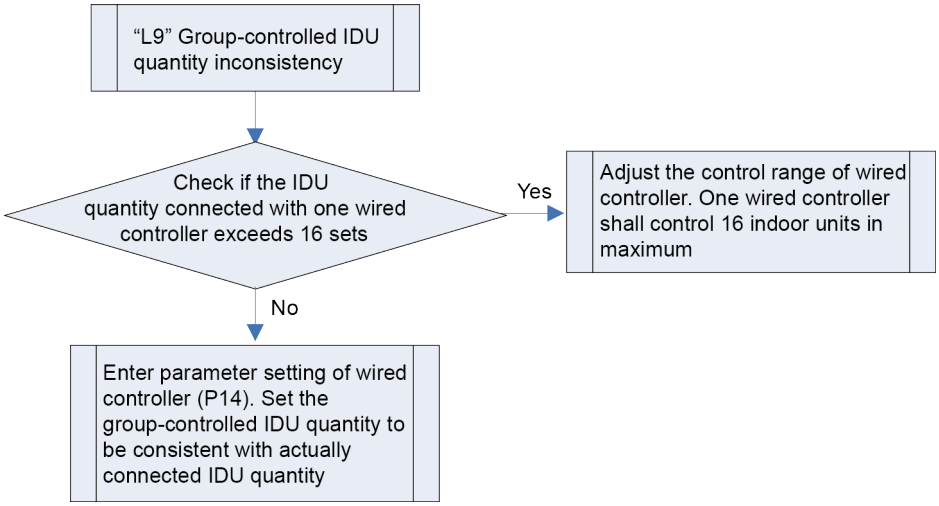
Error judgment condition and method:

If the IDU quantity connected with wired controller exceeds 16 sets or actually connected IDU quantity is inconsistent with the set group-controlled IDU quantity.

Possible reason:

- IDU quantity connected with one wired controller exceeds 16 sets;
- Actually connected IDU quantity is inconsistent with the set group-controlled IDU quantity.

Troubleshooting:



1.2.18 "LA" Group-controlled IDU series inconsistency

Error display: IDU wired controller and IDU receive light board will display 

Error judgment condition and method:

Wired controller detects that the IDUs connected with itself belong to different series.

Possible reason:

- IDUs connected with one wired controller belong to different series

Troubleshooting:

Make sure the IDUs connected with one wired controller belong to the same series.

1.2.19 “LC” Mismatch of IDU and ODU models

Error display: IDU wired controller and IDU receive light board will display 

Error judgment condition and method:

When some IDUs or devices which cannot be identified by some ODUs are installed in the system, mismatch error of IDU and ODU models will occur.

Possible reason:

- Mismatch of IDU and ODU

Troubleshooting:

When some IDUs or devices which cannot be identified by some ODUs are installed in the system (E.g. floor heating device is installed in modular DC inverter multiple VRF system), the error will occur. Please remove the relevant IDU devices or replace the ODU with suitable model.

2 After-sales Emergency Masures

When some unrecoverable fault occurs to one module which is connected with several others in parallel, the following emergency measures are recommended to guarantee the heating or cooling capacity of the indoor units and the service life of modules except the faulted one are not affected.

Step 1: set all indoor units under “Off” mode and cut off the power supply to the indoor and outdoor units.

Step 2: shut off all cutoff valves of the faulted outdoor unit, including the cutoff valves of the liquid/gas pipe as well as the oil balancing valve.

Step 3: cut off the air switch of the module.

Step 4: remove the communication line between the faulted module and other modules which are still kept connected through the communication line.

Step 5: readjust the address and quantity settings on the main board of the modules except the faulted one.

Step 6: power and restart the unit.

3 About the Refrigerant Leakage Sensor

(1) The R32 refrigerant leakage sensor must be replaced after malfunction or at the end of its lifetime. ONLY authorized persons may replace the sensor.

(2) The sensor has a lifetime of 15 years. At the end of sensor lifetime or when the sensor fault, the indoor unit or wired controller displays error code "yd", and emits an alarm sound. The alarm can be canceled by operating the “On/Off” button of the wired controller or remote control. The indoor unit fan will keep running and the system can not operate until the sensor is replaced. Please contact our designated dealer or local service center to replace the sensor.

(3) The R32 refrigerant leakage sensor is a semiconductor detector which may incorrectly detect substances other than R32 refrigerant. Avoid using chemical substances (e.g. organic solvents,

hair spray, paint) in high concentrations, in the close proximity of the indoor unit because this may cause misdetection of the R32 refrigerant leakage sensor.

(4) When the sensor detects refrigerant leak, the indoor unit or wired controller displays error code "yb", and emits an alarm sound. The alarm can be canceled by operating the “On/Off” button of the wired controller or remote control. The indoor unit fan will keep running and the system can not operate until the leakage is repaired. Please contact our designated dealer or local service center.

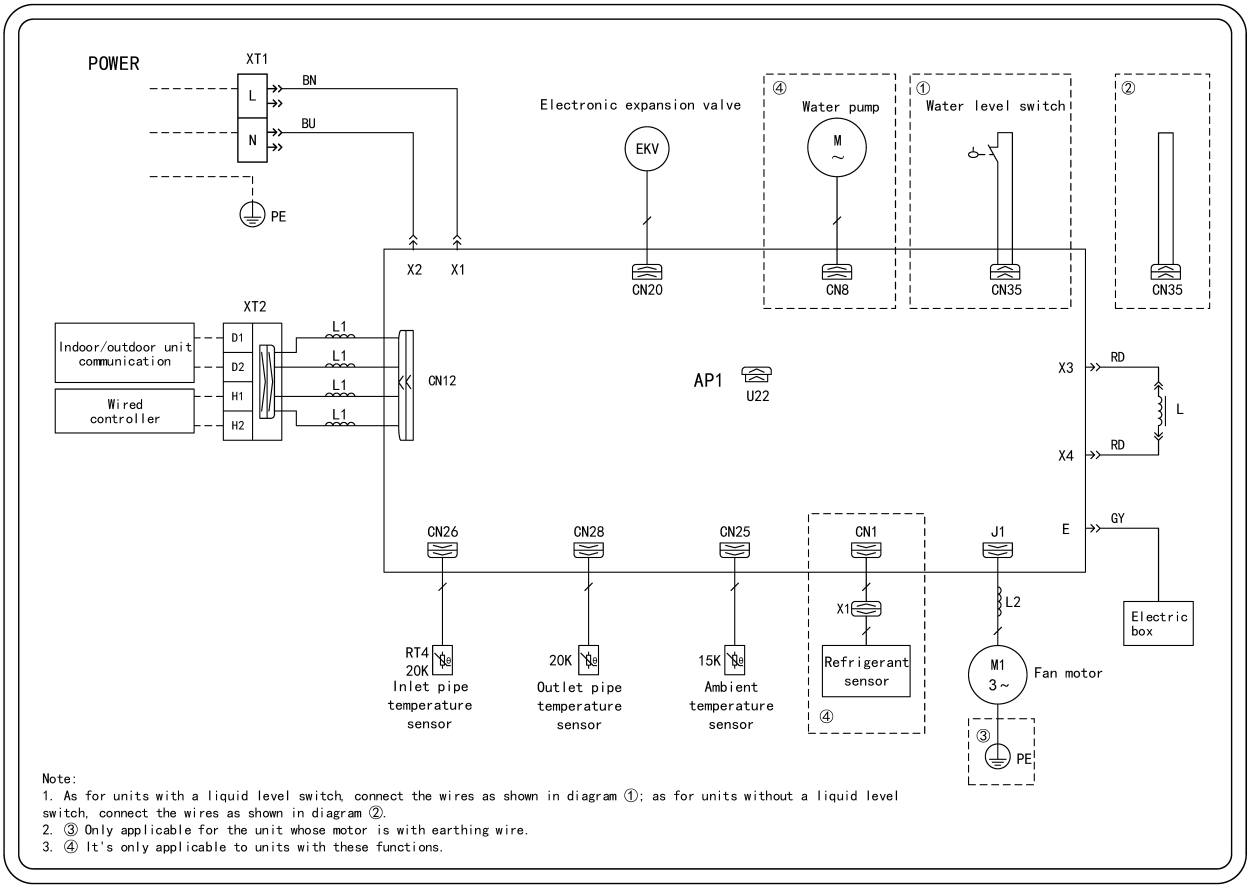
(5) If the indoor unit report a refrigerant leak and returns to normal after a while, it may be a misdetection caused by other chemical substances.

4 Wiring Diagram

NOTICE This drawing is just for reference; please always refer to the electric wiring stuck to the unit for actual wiring.

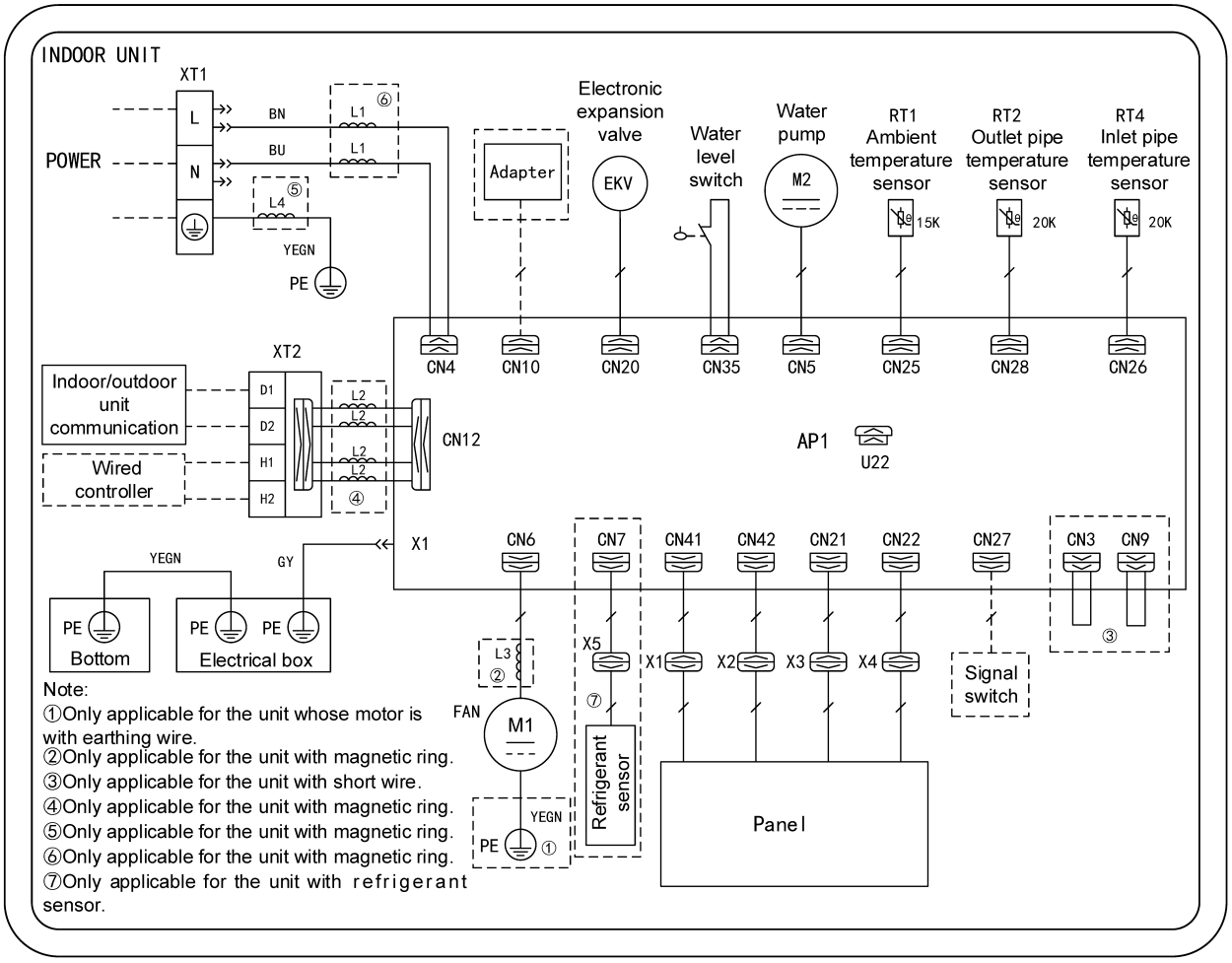
4.1 High Static Pressure Duct Type Indoor Unit

GMV-ND22~140PHS/NhD-T:



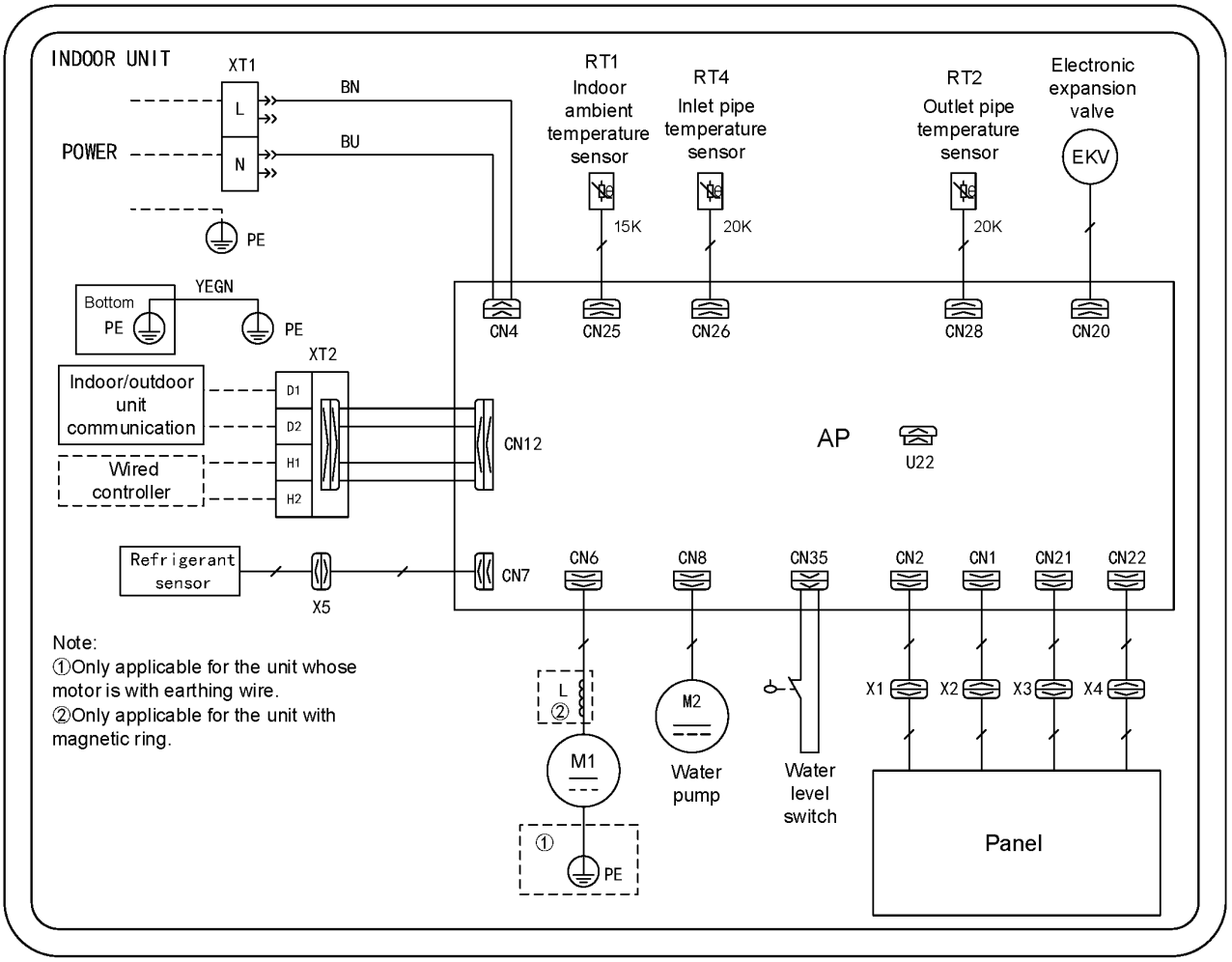
4.2 360°Air Discharge Cassette Type Indoor Unit

GMV-ND22~140T/NhD1-T:



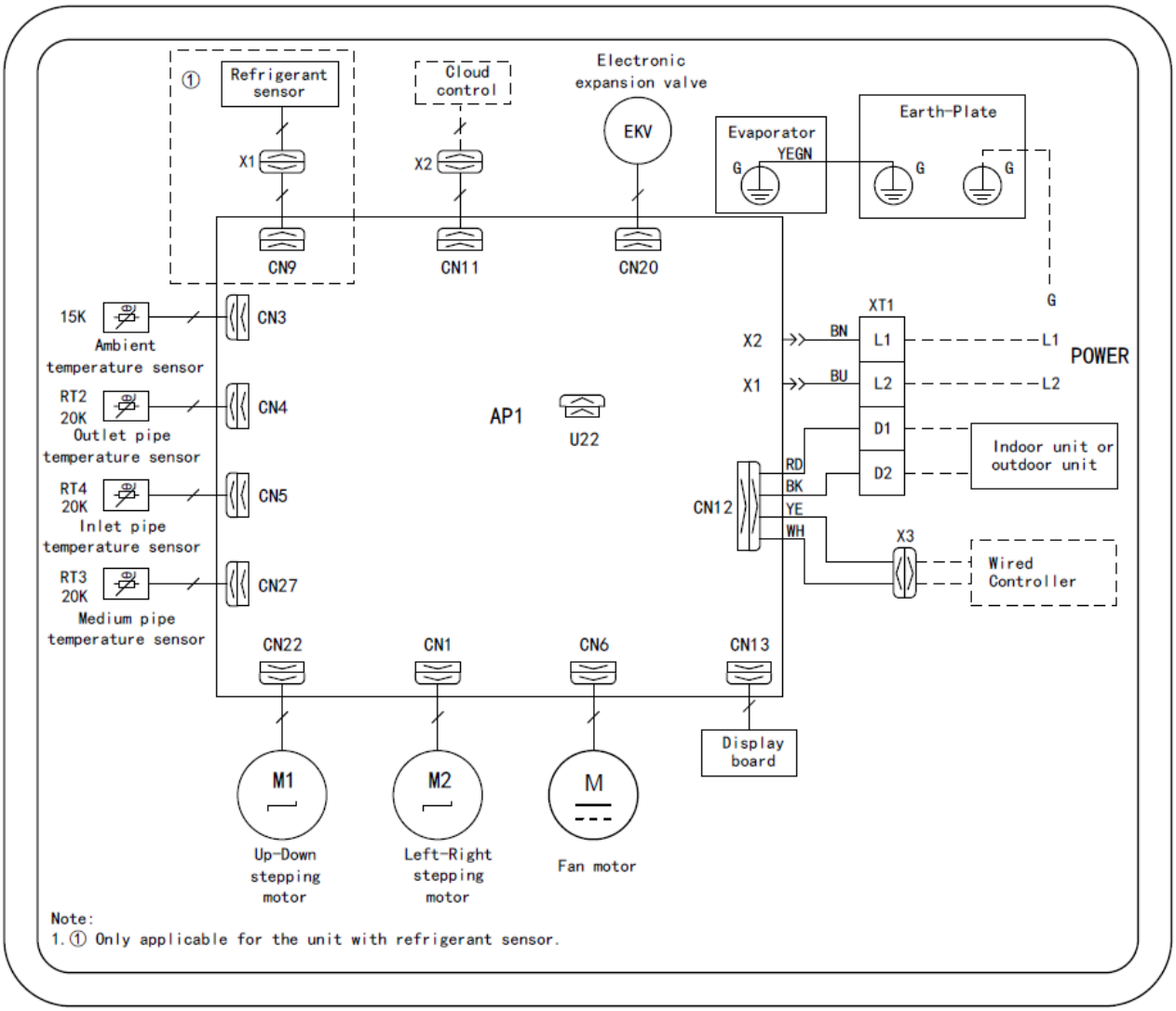
4.3 360°Air Discharge Compact Cassette Type Indoor Unit

GMV-ND15~71T/NhE-T:



4.4 Wall Mounted Type Indoor Unit

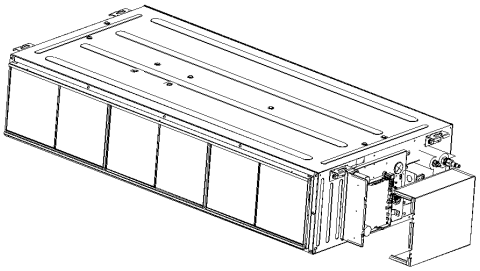
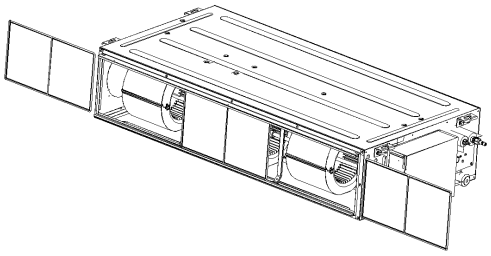
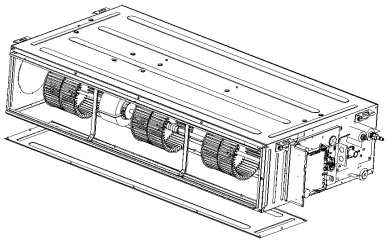
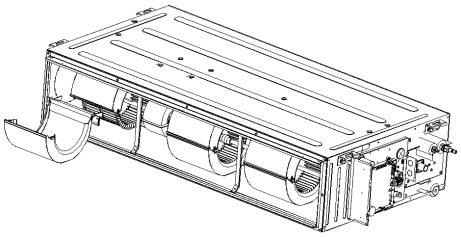
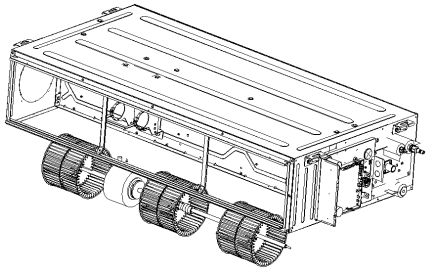
GMV-ND15~100G/NhA1C-T:

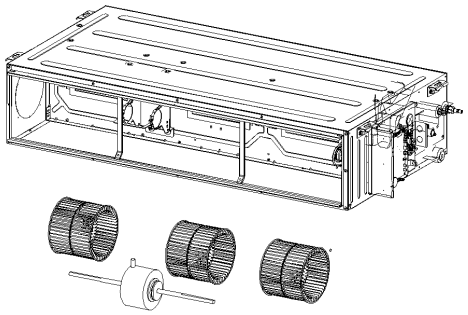
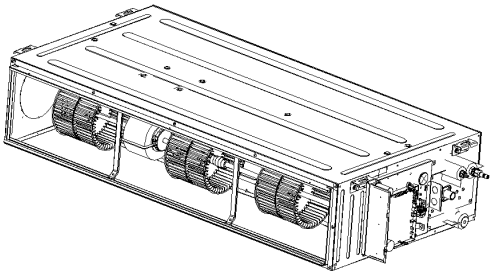
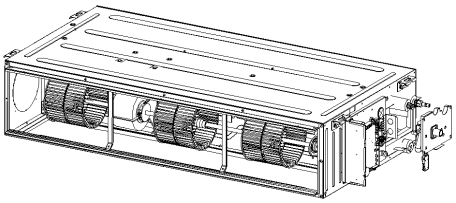


5 Disassembly and Assembly Procedure of Main Parts

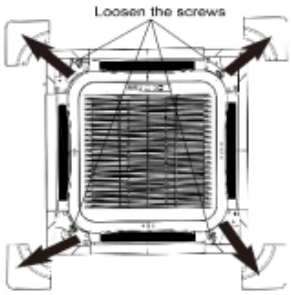
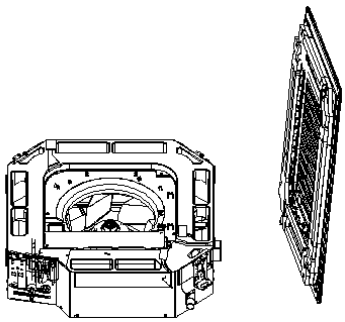
5.1 High Static Pressure Duct Type Indoor Unit

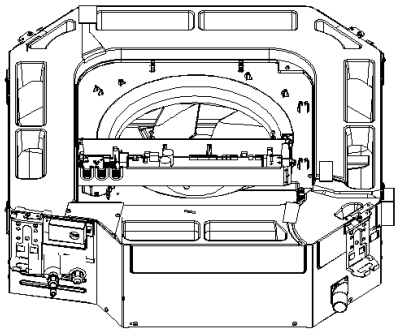
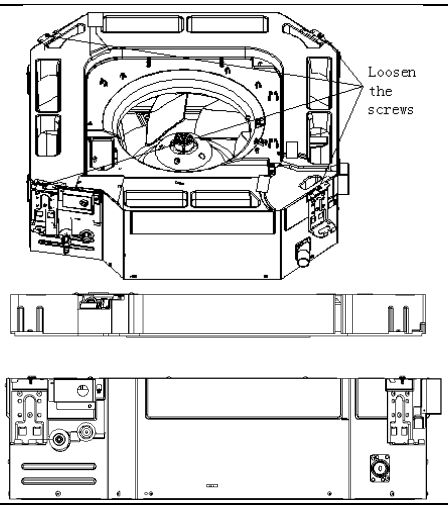
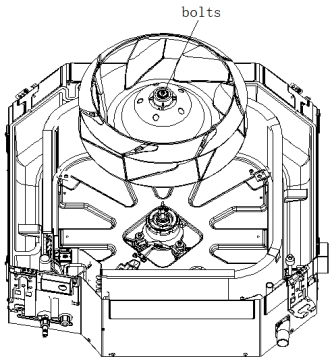
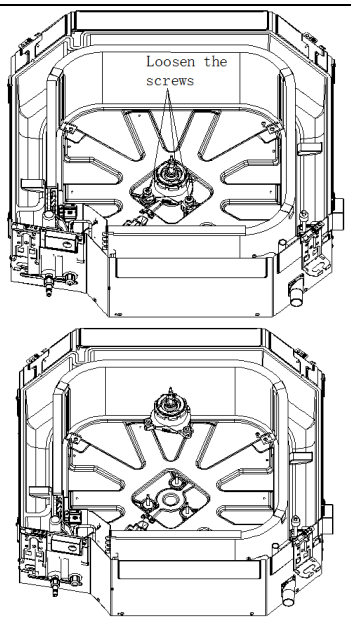
NOTICE The following steps are specific for GMV-ND36PHS/NhD-T units. For other units, the assembly and disassembly procedure is similar except the specifications of centrifugal fans and motors.

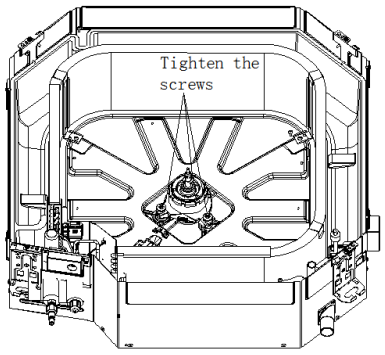
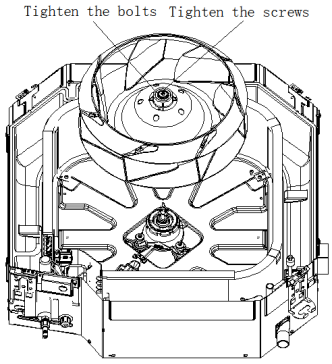
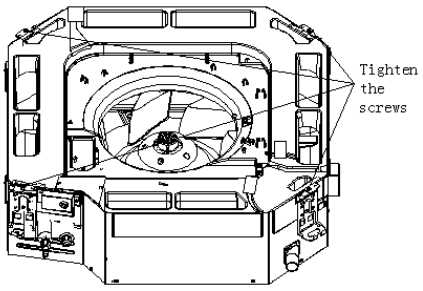
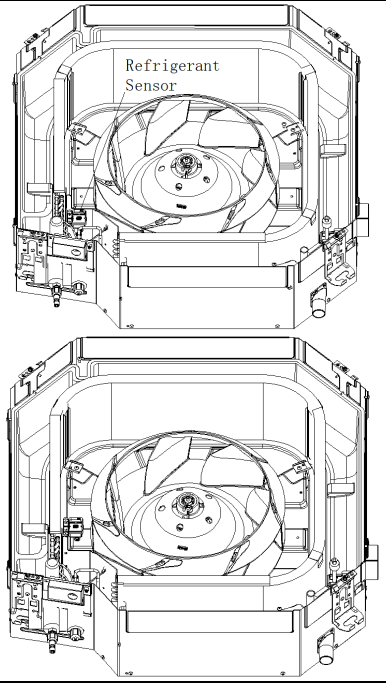
Motor and fan		
Precondition: The power supply has been disconnected.		
Step	Diagram	Operation Procedure
1. Remove the line connecting to the motor.		● Use a screwdriver to unscrew the electric box cover. ● Remove from the master board the line connecting to the motor and remove the tie.
2. Remove the filter.		● Remove the filter from the air return frame.
3. Remove the air return cover plate.		● Use a screwdriver to unscrew the air return cover plate.
4. Remove the volute casing.		● Loosen the fasteners that connect the rear volute casing with the front volute casing and remove the rear volute casing.
5. Loosen the centrifugal fan and motor.		● Use a hexagon to unscrew the centrifugal fan and loosen the fasteners of the motor.

Motor and fan		
Precondition: The power supply has been disconnected.		
Step	Diagram	Operation Procedure
6. Remove the motor.		● Remove the motor from the support and remove the centrifugal fan from the motor axle. Then, remove the motor. ● For motors that are accompanied with supports, the supports need removing as well.
7. Install a new motor.		● Assemble units based on the reverse order of this procedure and power on the units for test.
8. Remove the Refrigerant Sensor.		● Remove the Refrigerant Sensor from the Water Pump Assy and the Water Pump Assy from Left Side Plate Assy. Then, remove the Refrigerant Sensor.

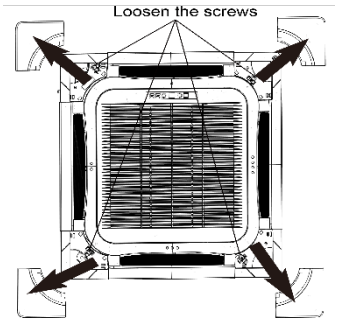
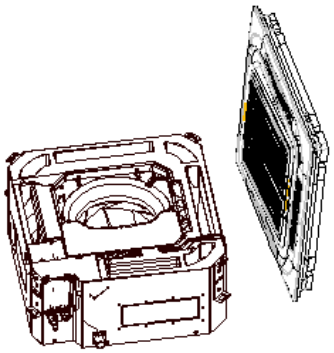
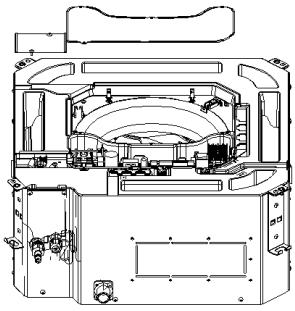
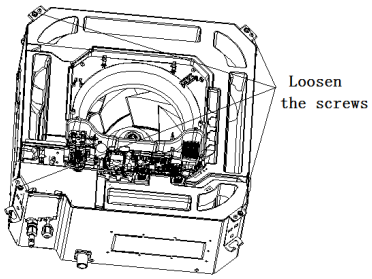
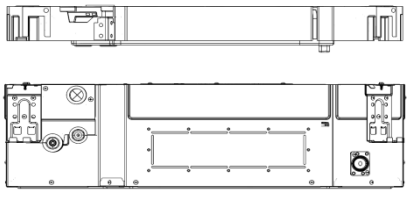
5.2 360°Air Discharge Cassette Type Indoor Unit

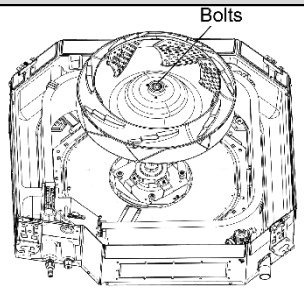
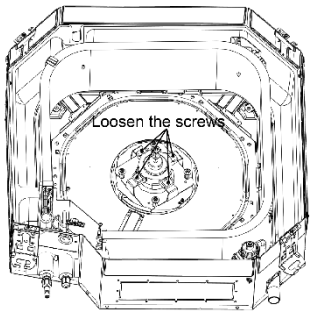
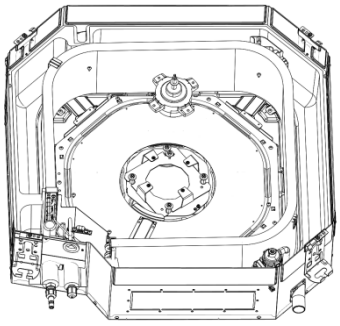
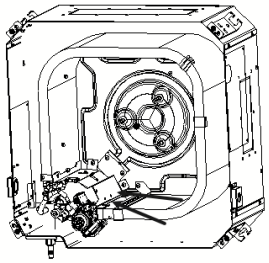
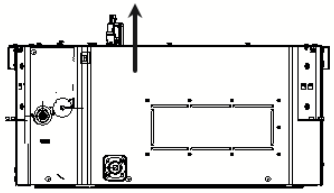
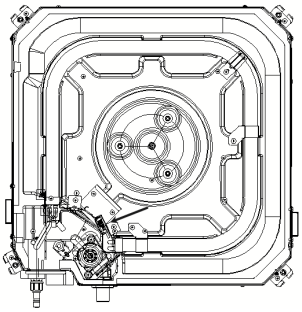
Motor and fan		
Step	Diagram	Operation Procedure
1. Remove the front panel.	 	● Turn off the power supply of indoor unit. ● Push the 4 corner plates in the directions shown by the arrows. ● Loosen the screws and remove the front panel.

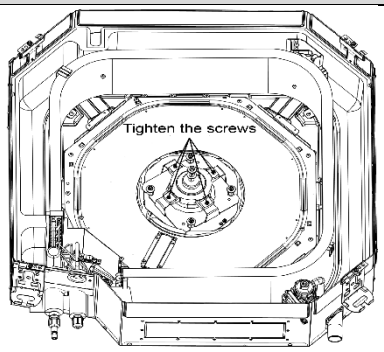
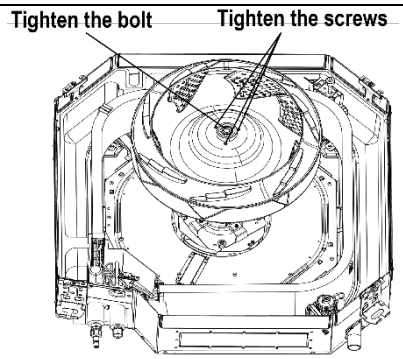
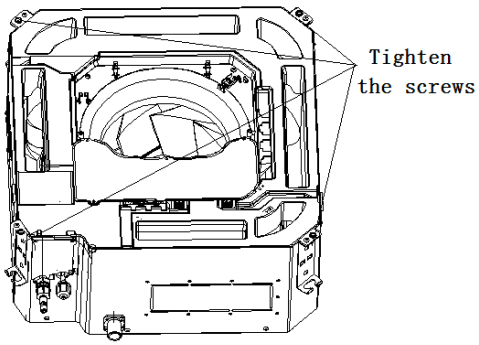
Motor and fan		
Step	Diagram	Operation Procedure
2. Remove the cover of electric box and the clamp of power cord.		● Remove the motor wire and water pump of the electric box.
3. Remove the water tray.		● Loosen the screws in the 4 corners and then remove the water tray.
4. Remove the fan.		● Use a screwdriver to remove the clamping band of motor. Then remove the fan.
5. Remove the motor.		● Use a screwdriver to unscrew the 3 screws of motor. Then remove the motor.

Motor and fan		
Step	Diagram	Operation Procedure
6. Replace and install the motor.		● Remove the motor from motor support and then replace with a new motor. ● Tighten the 3 screws of motor with a screwdriver.
7. Install the fan.		● Direct the hole of fan to the motor shaft and then mount on the fan. ● Tighten the clamping band of motor with a wrench.
8. Install the water tray.		● Direct the 4 corners of water tray to the 4 corners of the unit and then press them. Use a screwdriver to tighten the screws in the 4 corners. ● Connect the power cord and water pump wire. ● Place back the cover of electric box and the clamp of power cord. Then tighten the screws with a screwdriver.
9. Remove the Refrigerant Sensor		● Remove the 2 Refrigerant Sensor fixing screws, and then you can remove the Refrigerant Sensor.

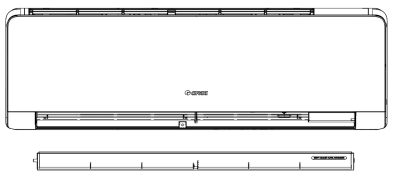
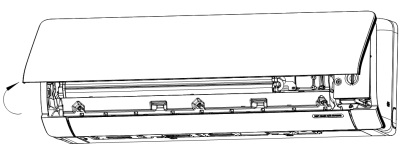
5.3 360°Air Discharge Compact Cassette Type Indoor Unit

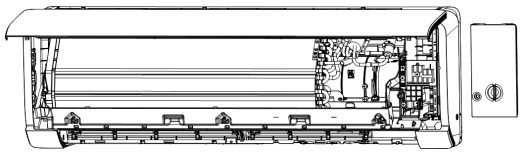
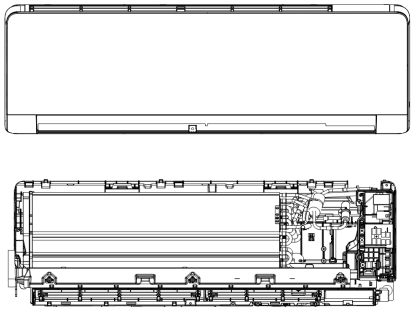
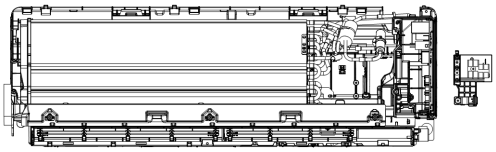
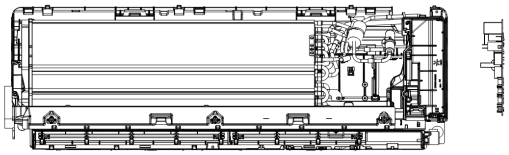
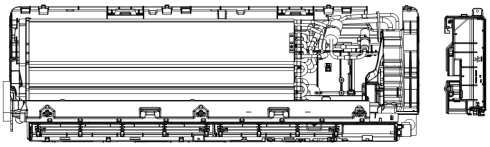
<table>
<tr><th colspan="3">Motor and fan</th></tr>
<tr><th>Step</th><th>Diagram</th><th>Operation Procedure</th></tr>
<tr><td rowspan="2">1. Remove the front panel.</td><td> 
</td><td rowspan="2">● Turn off the power supply of indoor unit.
● Push the 4 corner plates in the directions shown by the arrows.
● Loosen the screws and remove the front panel.</td></tr>
<tr><td>  </td></tr>
<tr><td>2. Remove the cover of electric box and the clamp of power cord.</td><td>  </td><td>● Remove the motor wire and water pump of the electric box.</td></tr>
<tr><td rowspan="2">3. Remove the water tray.</td><td> 
</td><td rowspan="2">● Loosen the screws in the 4 corners and then remove the water tray.</td></tr>
<tr><td>  </td></tr>
</table>

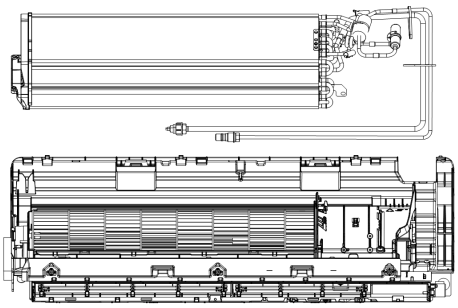
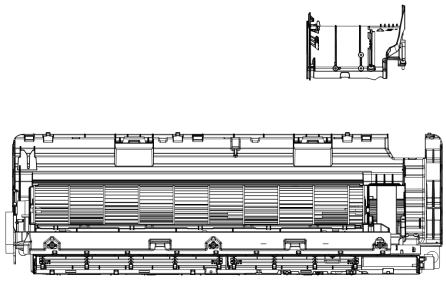
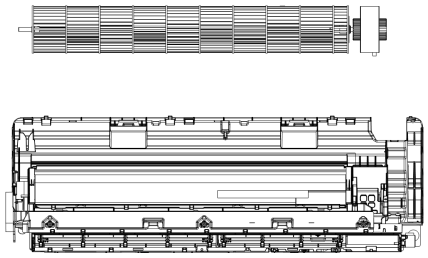
Motor and fan		
Step	Diagram	Operation Procedure
4. Remove the fan.		● Use a screwdriver to remove the clamping band of motor. Then remove the fan.
5. Remove motor.	 	● Use a screwdriver to unscrew the 4 screws of motor. Then remove the motor.
6. Remove the refrigerant sensor	 	● Remove the two fixing screws on the back of the connector plate. ● Move upwards to remove the refrigerant sensor.
7.Replacement and installation of refrigerant sensor		● Remove the refrigerant sensor from the connector plate, then replace it with a new refrigerant sensor. ● Use a screwdriver to tighten the two screws of the refrigerant sensor.

Motor and fan		
Step	Diagram	Operation Procedure
8. Replace and install the motor.		● Remove the motor from motor support and then replace with a new motor. ● Tighten the 4 screws of motor with a screwdriver.
9. Install the fan.		● Direct the hole of fan to the motor shaft and then mount on the fan. ● Tighten the clamping band of motor with a wrench.
10. Install the water tray.		● Direct the 4 corners of water tray to the 4 corners of the unit and then press them. Use a screwdriver to tighten the screws in the 4 corners. ● Connect the power cord and water pump wire. ● Place back the cover of electric box and the clamp of power cord. Then tighten the screws with a screwdriver.

5.4 Wall Mounted Type Indoor Unit

Removal of Fan Motor		
Remark: before removing, making sure power is disconnected.		
Step	Diagram	Operation Procedure
1. Remove the louver		● Take off the axle bush of the louver. ● Remove the louver.
2. Open the front panel		● Hold the indents on both sides of the panel and pull it out in the direction shown by the arrow.

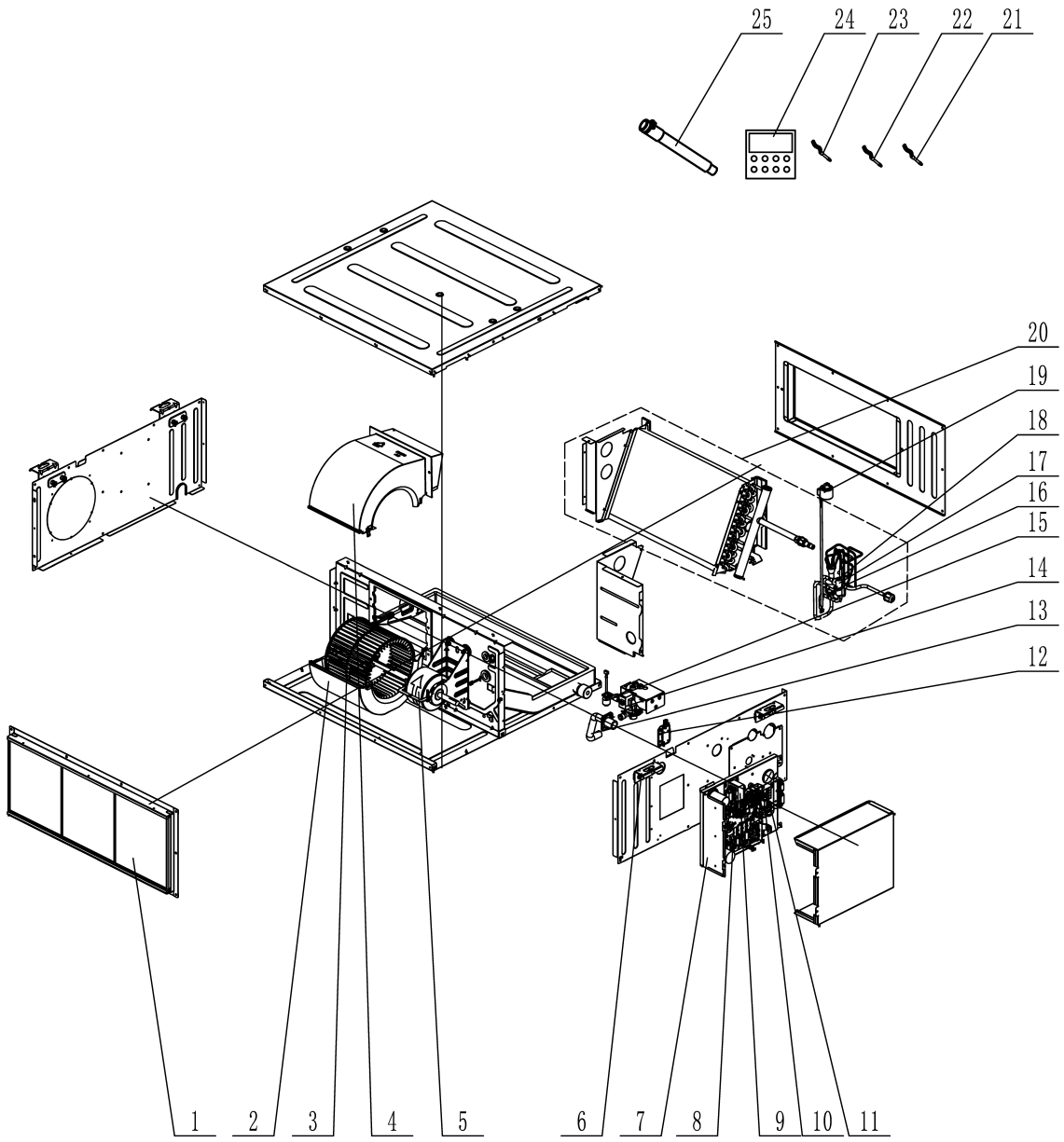
Removal of Fan Motor		
Remark: before removing, making sure power is disconnected.		
Step	Diagram	Operation Procedure
3. Remove the electrical box cover 2		● Unscrew the screws fixing the electrical box cover with a screwdriver. Take off the box cover 2. ● Detach the ambient temperature sensor from the conduit.
4. Remove the front panel assembly		● Unscrew the screws fixing the front panel assembly. ● Remove the front panel assembly.
5. Remove the electrical box cover 1		● Press on the buckle of the box cover 1 and then take off the cover.
6. Remove the main board		● Release the wiring terminals connected to the main board. ● Remove the main board.
7. Remove the electrical box		● Unscrew the screws fixing the electrical box with a screwdriver. ● Remove the electrical box.

Removal of Fan Motor		
Remark: before removing, making sure power is disconnected.		
Step	Diagram	Operation Procedure
8. Remove the evaporator		● Use a screwdriver to unscrew the screws fixing the press plate of connection pipe on the back of the unit and take off the press plate. ● Unscrew the screws of evaporator with a screwdriver and then remove the evaporator.
9.Remove motor's pressing plate		● Unscrew the fixing screws of the pressing plate with a screwdriver and then remove it.
10. Remove the motor and fan		● Take off the motor and fan directly. ● Use a screwdriver to unscrew the screws connecting the motor and the fan.
11. Install a new motor.		● Assemble units based on the reverse order of this procedure and power on the units for test.

6 Exploded Views and Part List

6.1 High Static Pressure Duct Type Indoor Unit

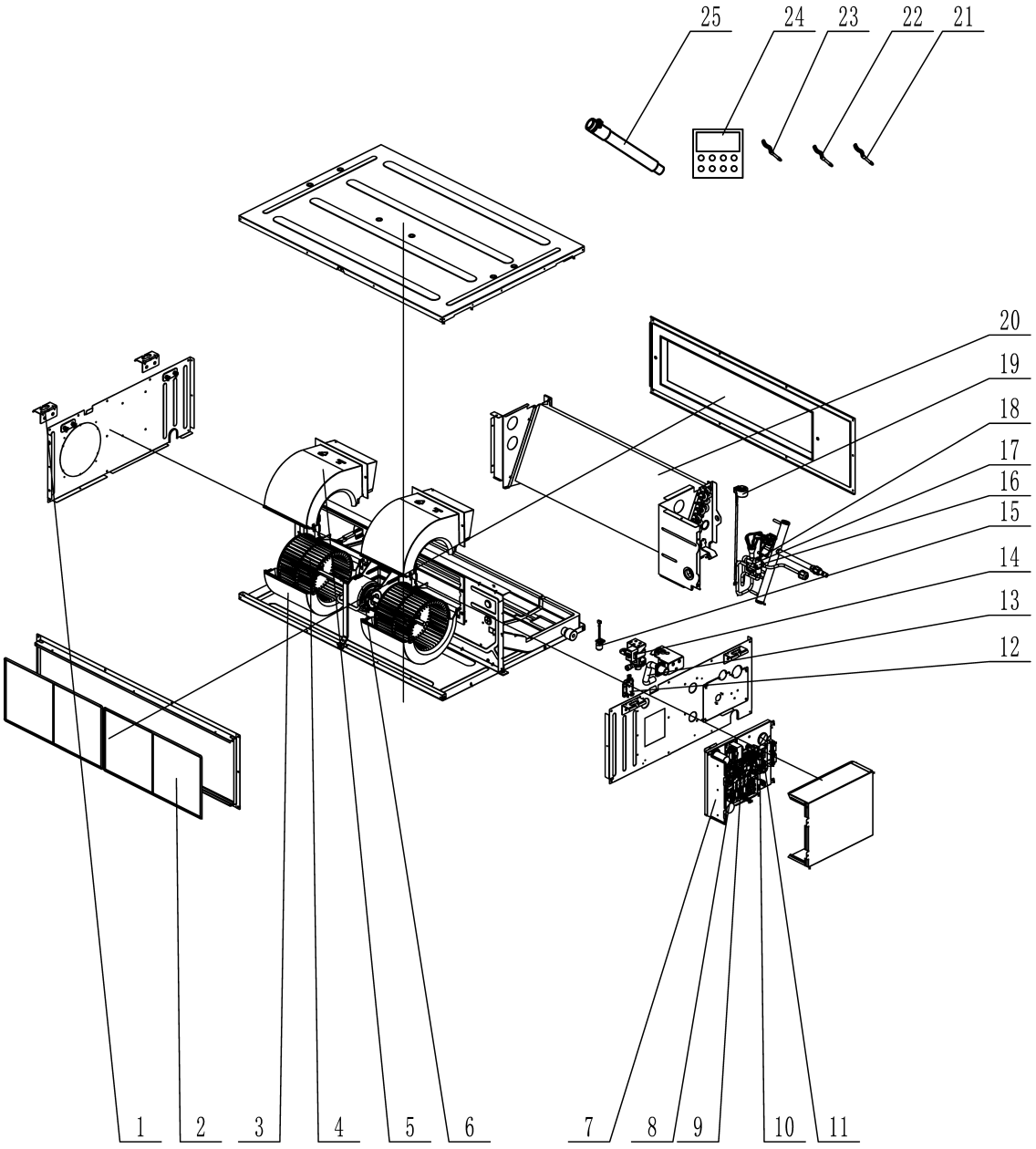
Exploded View of GMV-ND22~50PHS/NhD-T:



No.	Part Name
1	Filter Sub-Assy
2	Propeller Housing(Lower)
3	Centrifugal Fan
4	Propeller Housing(Upper)
5	Brushless DC Motor
6	Hook
7	Electric Box Assy
8	Main Board
9	Reactor
10	Terminal Board
11	Terminal Board
12	Gas Sensor
13	Pump Drainpipe
14	Water Pump
15	Liquid Level Switch
16	Strainer
17	Electronic Expansion Valve
18	Strainer
19	Electric Expand Valve Fitting
20	Evaporator Assy
21	Temperature Sensor
22	Temperature Sensor
23	Temperature Sensor
24	Display Board
25	Drain Hose Sub-Assy

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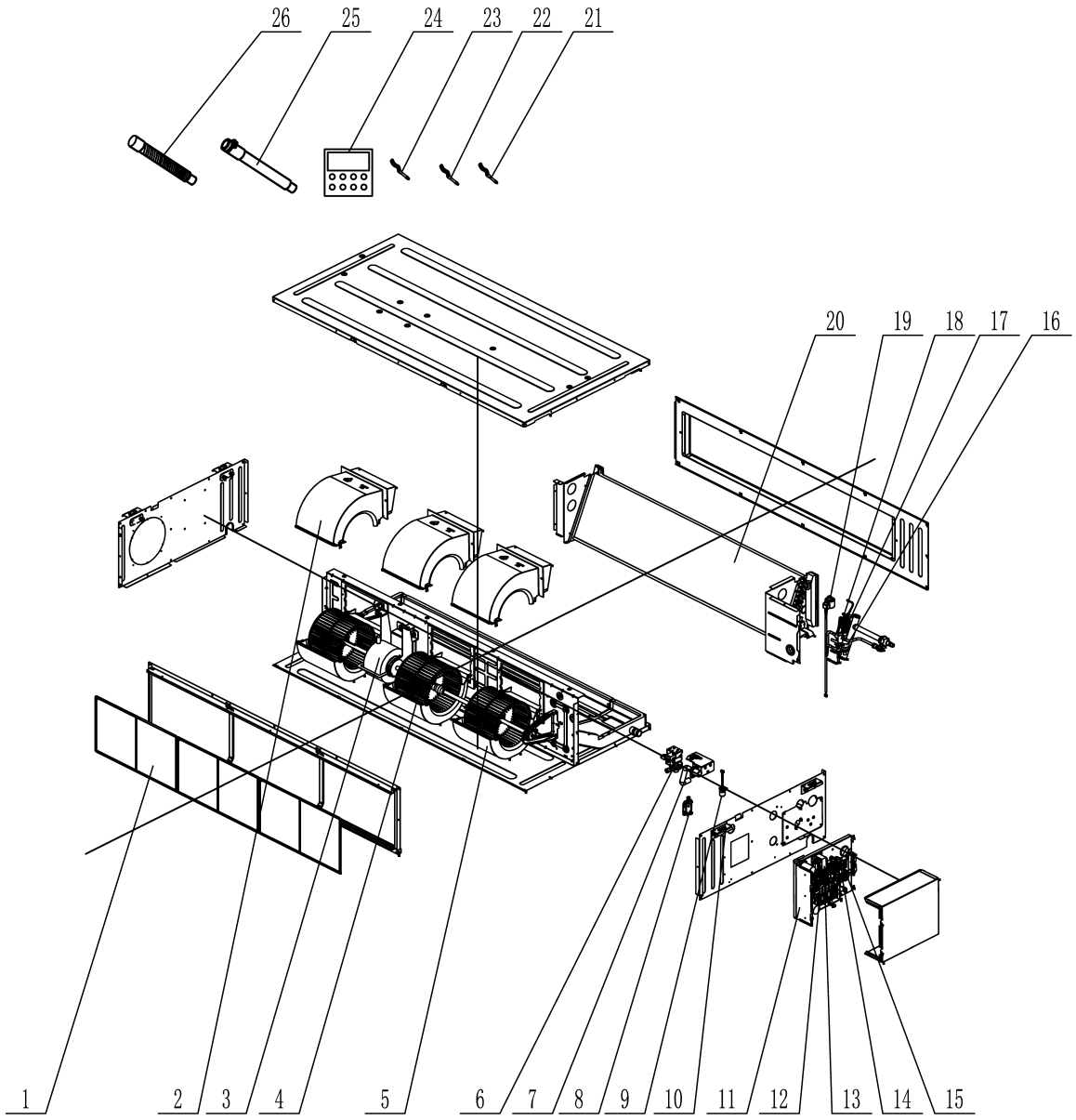
Exploded View of GMV-ND56~80PHS/NhD-T:



No.	Part Name
1	Hook
2	Filter Sub-Assy
3	Propeller Housing
4	Centrifugal Fan
5	Propeller Housing
6	Brushless DC Motor
7	Electric Box Assy
8	Reactor
9	Main Board
10	Terminal Board
11	Terminal Board
12	Gas Sensor
13	Pump Drainpipe
14	Water Pump
15	Liquid Level Switch
16	Electronic Expansion Valve
17	Strainer
18	Strainer
19	Electric Expand Valve Fitting
20	Evaporator Assy
21	Temperature Sensor
22	Temperature Sensor
23	Temperature Sensor
24	Display Board
25	Drain Hose Sub-Assy

Above data is subject to change without notice, please refer the SP in global service website.

Exploded View of GMV-ND90~140PHS/NhD-T:

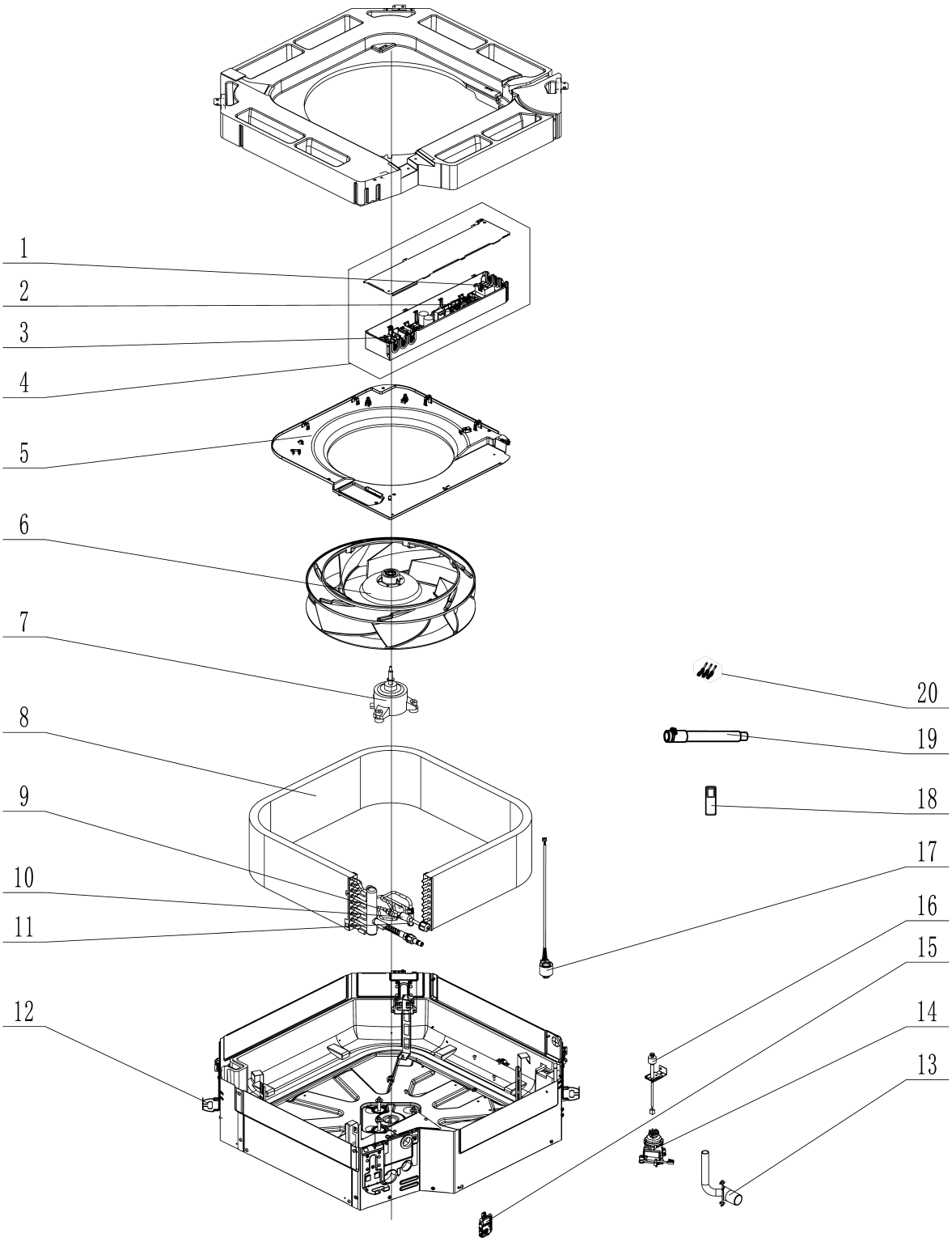


No.	Part Name
1	Filter Sub-Assy
2	Propeller Housing
3	Brushless DC Motor
4	Centrifugal Fan
5	Propeller Housing
6	Water Pump
7	Pump Drainpipe
8	Gas Sensor
9	Liquid Level Switch
10	Hook
11	Electric box assy
12	Main Board
13	Reactor
14	Terminal Board
15	Terminal Board
16	Strainer
17	Electronic Expansion Valve
18	Strainer
19	Electric Expand Valve Fitting
20	Evaporator Assy
21	Temperature Sensor
22	Temperature Sensor
23	Temperature Sensor
24	Display Board
25	Drain Hose Sub-Assy
26	Corrugated Pipe

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6.2 360°Air Discharge Cassette Type Indoor Unit

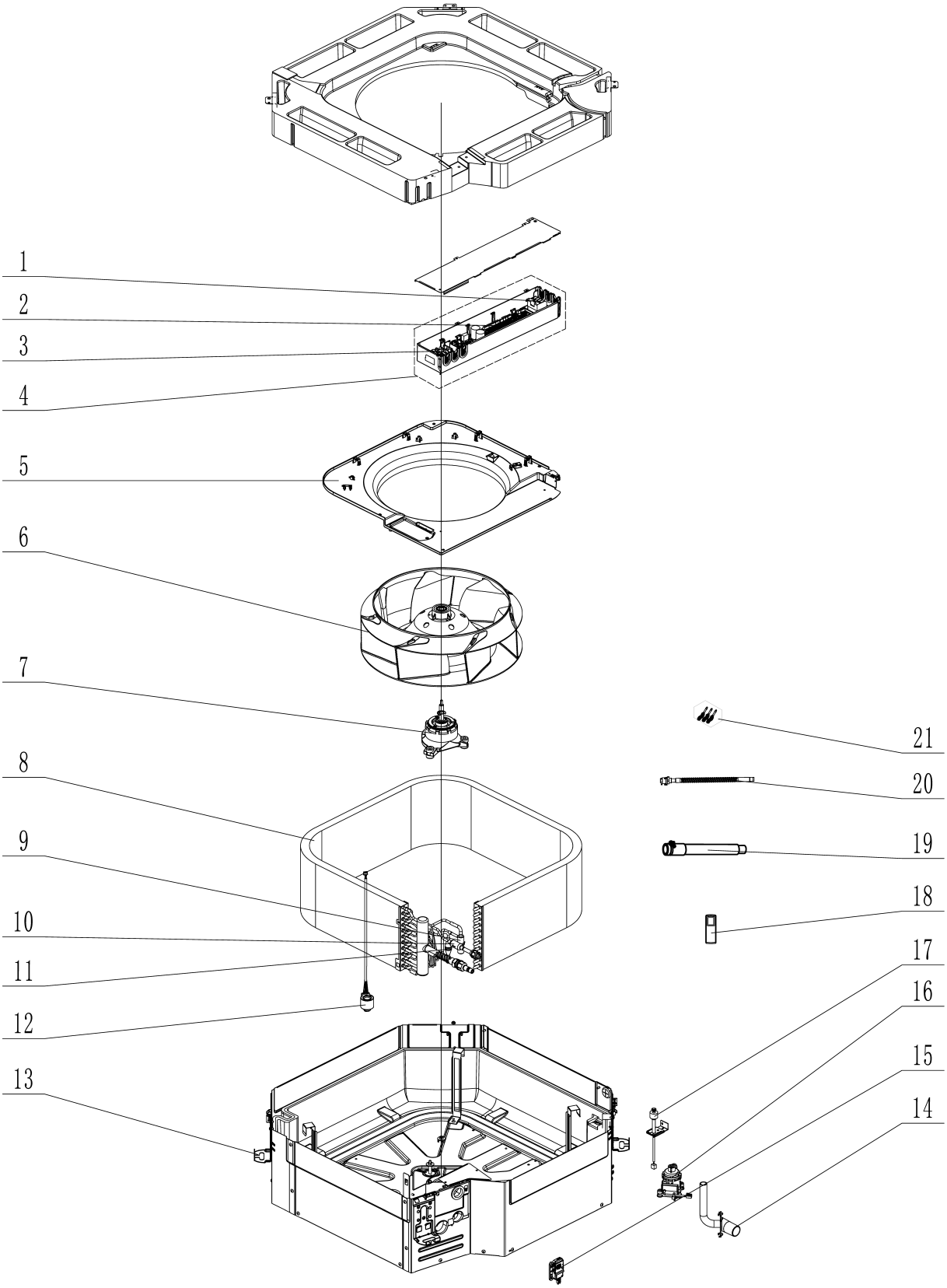
Exploded View of GMV-ND22~80T/NhD1-T:



No.	Part Name
1	Terminal Board
2	Main Board
3	Terminal Board
4	Electric Box Assy
5	Diversion Circle
6	Centrifugal Fan
7	Brushless DC Motor
8	Evaporator Assy
9	Strainer
10	Strainer
11	Electronic Expansion Valve
12	Body Installing Plate
13	Drainage Pipe Sub-Assy
14	Water Pump
15	Gas Sensor
16	Liquid Level Switch
17	Electric Expand Valve Fitting
18	Remote Controller
19	Drain Hose Sub-Assy
20	Sensor Sub-Assy

Above data is subject to change without notice, please refer the SP in global service website.

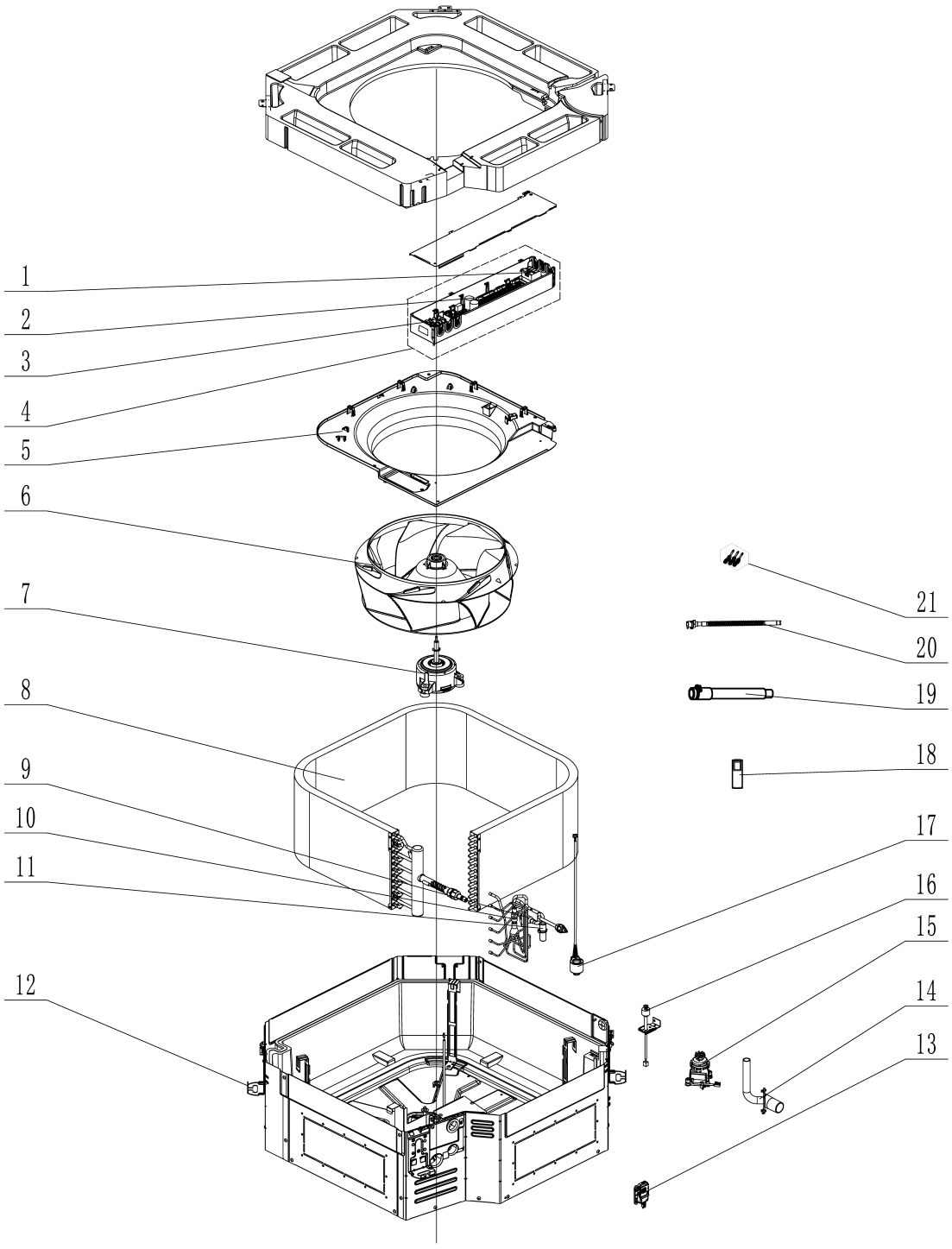
Exploded View of GMV-ND90~112T/NhD1-T:



No.	Part Name
1	Terminal Board
2	Main Board
3	Terminal Board
4	Electric Box Assy
5	Diversion Circle
6	Centrifugal Fan
7	Brushless DC Motor
8	Evaporator Assy
9	Electronic Expansion Valve
10	Strainer
11	Strainer A
12	Electric Expand Valve Fitting
13	Body Installing Plate
14	Drainage Pipe Sub-Assy
15	Gas Sensor
16	Water Pump
17	Liquid Level Switch
18	Remote Controller
19	Drain Hose Sub-Assy
20	Corrugated Pipe
21	Sensor Sub-Assy

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Exploded View of GMV-ND125~140T/NhD1-T:

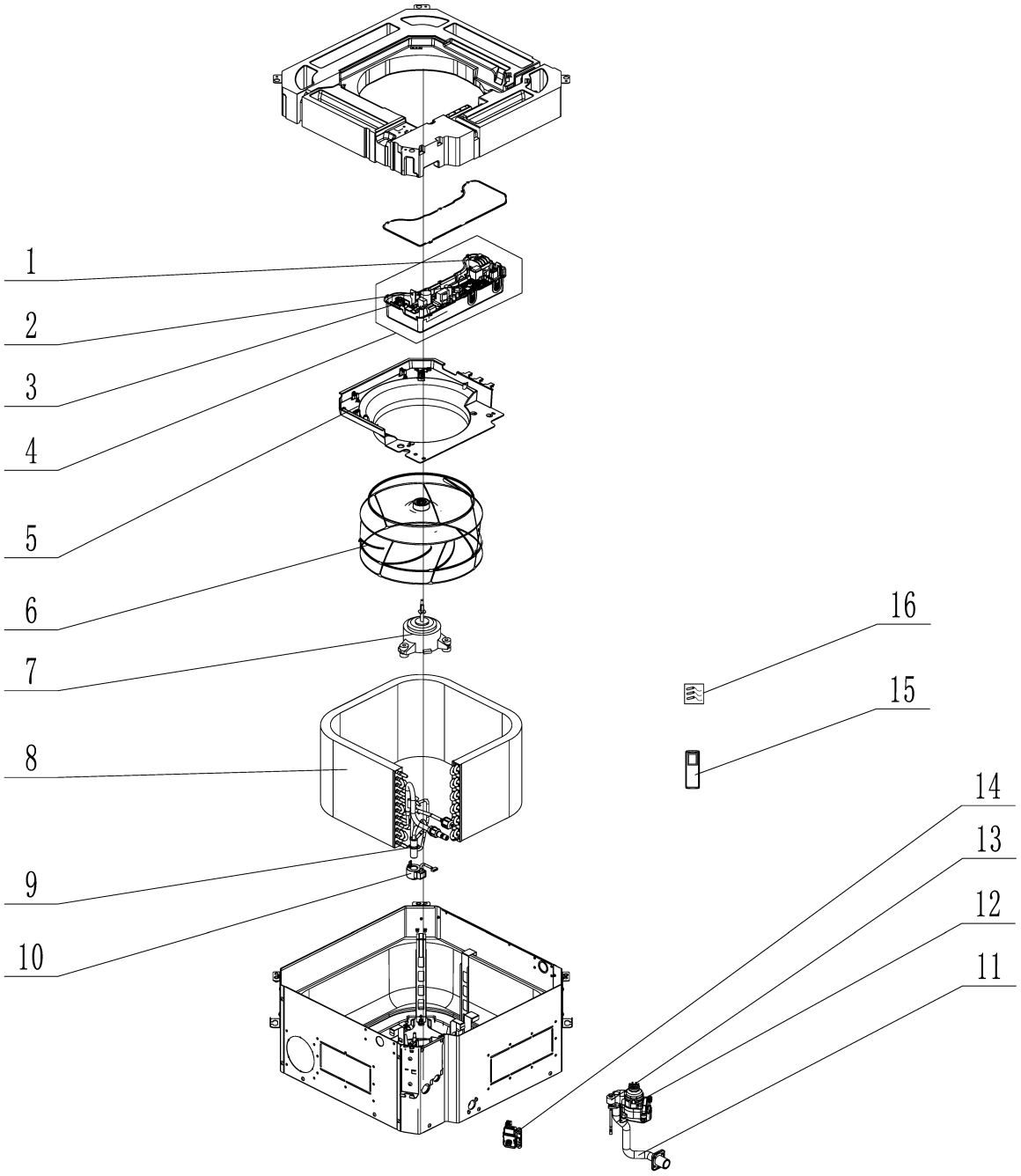


No.	Part Name
1	Terminal Board
2	Main Board
3	Terminal Board
4	Electric Box Assy
5	Diversion Circle
6	Centrifugal Fan
7	Brushless DC Motor
8	Evaporator Assy
9	Strainer
10	Strainer
11	Electronic Expansion Valve
12	Body Installing Plate
13	Gas Sensor
14	Drainage Pipe Sub-Assy
15	Water Pump
16	Liquid Level Switch
17	Electric Expand Valve Fitting
18	Remote Controller
19	Drain Hose Sub-Assy
20	Corrugated Pipe
21	Sensor Sub-Assy

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6.3 360°Air Discharge Compact Cassette Type Indoor Unit

Exploded View of GMV-ND15~71T/NhE-T:

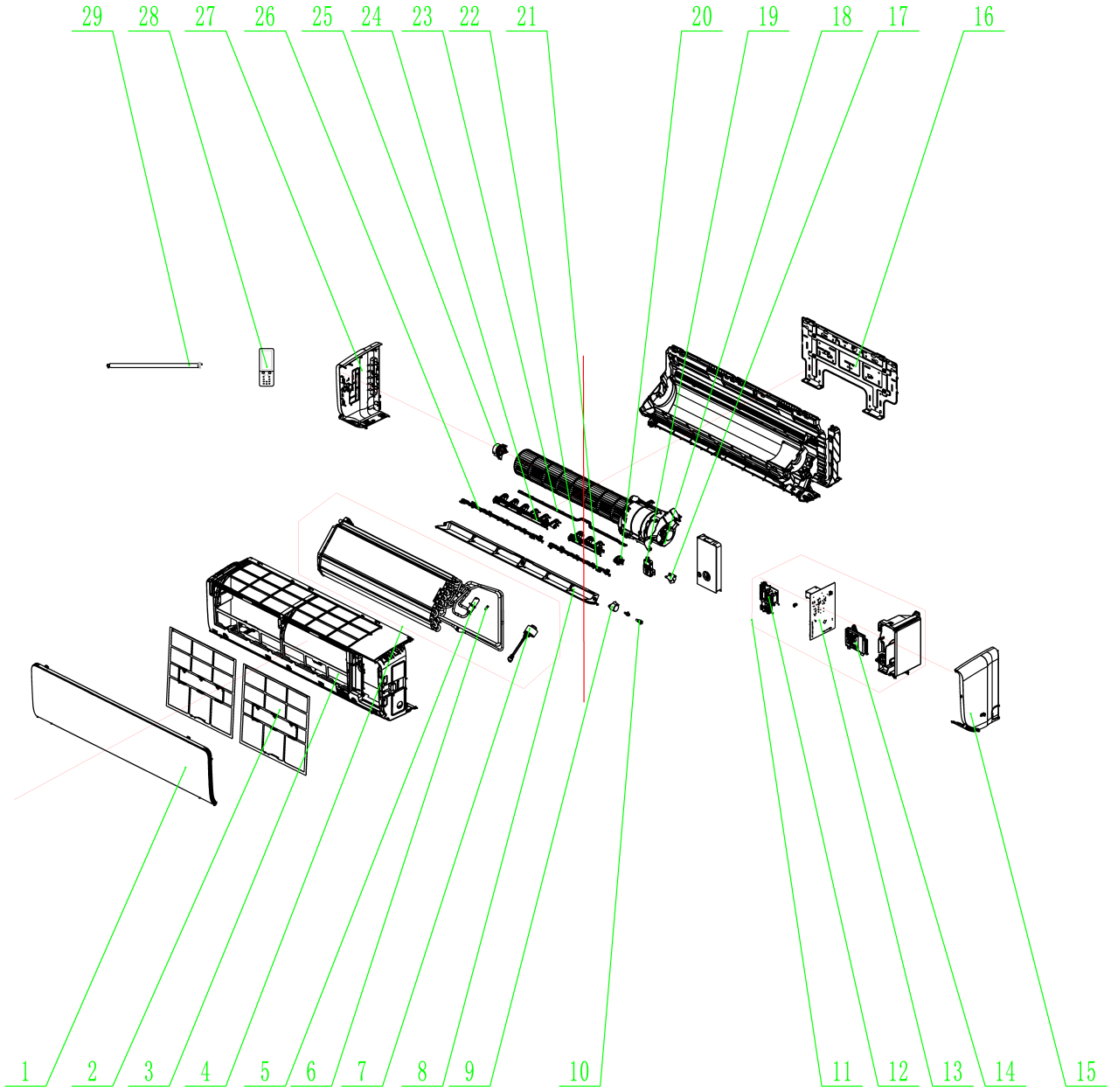


No.	Part Name
1	Terminal Board
2	Main Board
3	Terminal Board
4	Electric Box Assy
5	Diversion Circle
6	Centifugal Fan
7	Brushless DC Motor
8	Evaporator Assy
9	Electronic Expansion Valve
10	Electric Expand Valve Fitting
11	Drain Pipe
12	Water Pump
13	Liquid Level Switch
14	Gas Sensor
15	Remote Controller
16	Sensor Sub-Assy

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6.4 Wall Mounted Type Indoor Unit

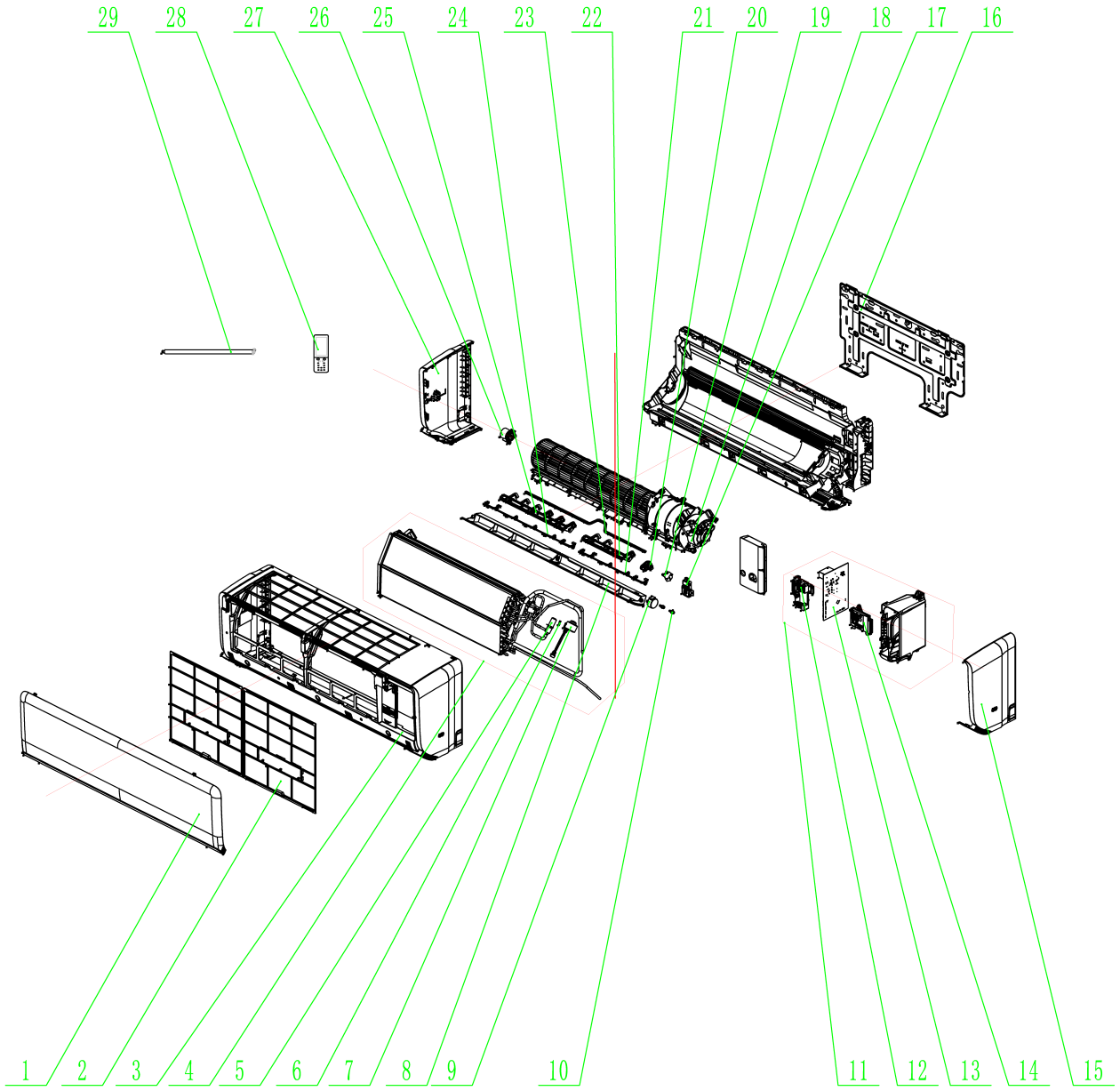
Exploded View of GMV-ND15G/NhA1C-T, GMV-ND18G/NhA1C-T, GMV-ND22G/NhA1C-T, GMV-ND28G/NhA1C-T



No.	Part Name
1	Front Panel
2	Filter Sub-Assy
3	Front Case
4	Evaporator Assy
5	Electronic Expansion Valve
6	Filter Sub-Assy
7	Electric Expand Valve Fitting
8	Guide Louver
9	Stepping Motor
10	Axile Bush
11	Electric Box Assy
12	Terminal Board
13	Main Board
14	Display Board
15	Right Side Plate
16	Wall Mounting Frame
17	Stepping Motor
18	Brushless DC Motor
19	Gas Sensor
20	Air Louver (Auto)
21	Rear Grill Sub-Assy
22	Air Louver(Right)
23	Swing Lever
24	Air Louver (Left)(Auto)
25	Axile Bush Sub-Assy
26	Rear Grill Sub-Assy
27	Left Side Plate
28	Remote Controller
29	Drainage Hose

Above data is subject to change without notice, please reference the SP in global service website.

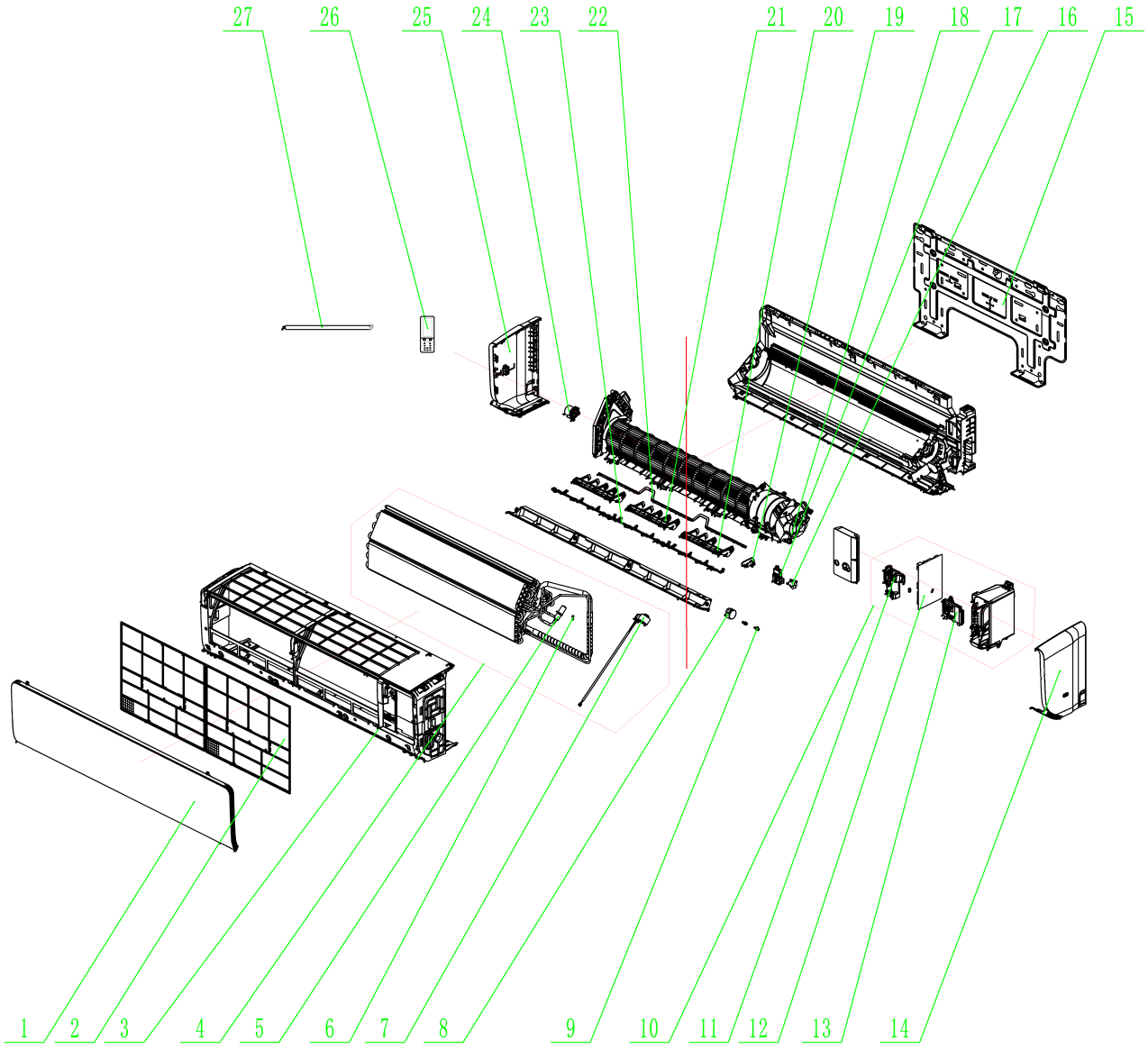
Exploded View of GMV-ND36G/NhA1C-T,GMV-ND45G/NhA1C-T,GMV-ND50G/NhA1C-T



No.	Part Name
1	Front Panel
2	Filter Sub-Assy
3	Front Case
4	Evaporator Assy
5	Electronic Expansion Valve
6	Filter Sub-Assy
7	Electric Expand Valve Fitting
8	Guide Louver
9	Stepping Motor
10	Axile Bush
11	Electric Box Assy
12	Terminal Board
13	Main Board
14	Display Board
15	Right Side Plate
16	Wall Mounting Frame
17	Gas Sensor
18	Brushless DC Motor
19	Stepping Motor
20	Air Louver (Auto)
21	Rear Grill Sub-Assy
22	Air Louver(Right)
23	Swing Lever
24	Rear Grill Sub-Assy
25	Air Louver (Left)
26	Axile Bush Sub-Assy
27	Left Side Plate
28	Remote Controller
29	Drainage Hose

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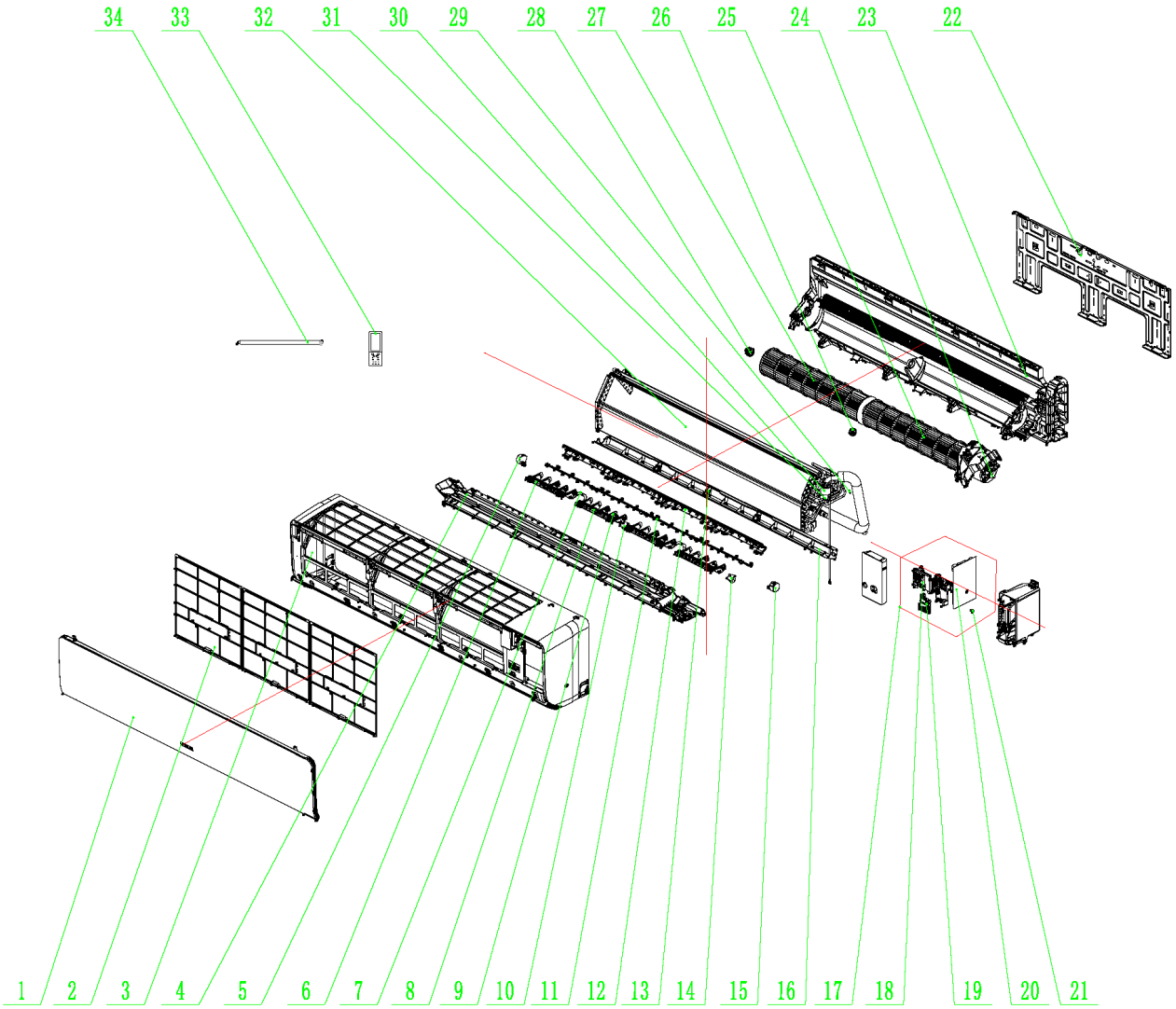
Exploded View of GMV-ND56G/NhA1C-T, GMV-ND63G/NhA1C-T, GMV-ND71G/NhA1C-T



No.	Part Name
1	Front Panel
2	Filter Sub-Assy
3	Front Case
4	Evaporator Assy
5	Electronic Expansion Valve
6	Filter Sub-Assy
7	Electric Expand Valve Fitting
8	Stepping Motor
9	Axile Bush
10	Electric Box Assy
11	Terminal Board
12	Main Board
13	Display Board
14	Right Side Plate
15	Wall Mounting Frame
16	Stepping Motor
17	Gas Sensor
18	Brushless DC Motor
19	Air Louver
20	Air Louver 1
21	Air Louver 1
22	Swing Lever
23	Rear Grill Sub-Assy
24	Axile Bush Sub-Assy
25	Left Side Plate
26	Remote Controller
27	Drainage Hose

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Exploded View of GMV-ND80G/NhA1C-T, GMV-ND90G/NhA1C-T, GMV-ND100G/NhA1C-T



No.	Part Name
1	Front Panel
2	Filter Sub-Assy
3	Front Case Assy
4	Water Tray Sub-Assy
5	Stepping Motor
5	Air Louver
6	Swing Lever
7	Air Louver
8	Air Louver
9	Stepping Motor
10	Rear Grill Sub-Assy
11	Helicoid Tongue
12	Axile Bush
13	Stepping Motor
14	Stepping Motor
15	Guide Louver
16	Electric Box Assy
17	Display Board
18	Gas Sensor
19	Main Board
20	Jumper
21	Wall Mounting Frame
22	Rear Case Sub-Assy
23	Brushless DC Motor
24	Cross Flow Fan
25	Bearing Holder Sub-assy
26	Cross Flow Fan
27	O-Gasket sub-assy of Bearing
28	Filter Sub-Assy
29	Electric Expand Valve Fitting
30	Electronic Expansion Valve
31	Evaporator Assy
32	Remote Controller
33	Drainage Hose
34	Front Panel

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