1 Summary and Features

Model	Remarks
GTHD(09)AANK3A1AI GTHD(12)AANK3A1AI GTHD(18)AANK3A1AI	1PH 220-240V 50Hz

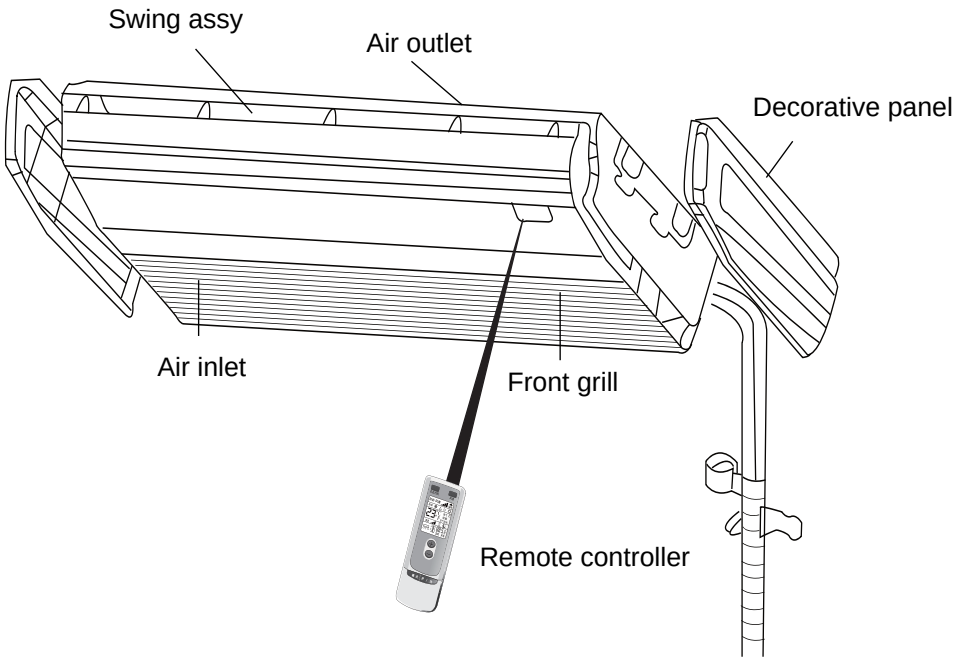
2 Specifications and Technical Parameters

Model	GTHD(09)AANK3A1AI	GTHD(12)AANK3A1AI	GTHD(18)AANK3A1AI
Fan Motor Speed (r/min) (H/M/L)	790/670/550	790/670/550	1070/970/870
Output of Fan Motor (w)	10	10	40
Input Power of Heater (w)	/	/	/
Fan Motor Capacitor (uF)	1	1.5	3
Fan Motor RLA (A)	/	/	/
Fan Type-Piece	centrifugal fan-2		
Diameter--Length (mm)	Φ125×134 Φ92×616		
Evaporator	Aluminum fin-dopper tube	Aluminum fin-dopper tube	Aluminum fin-dopper tube
Pipe Diameter (mm)	Φ7	Φ7	Φ7
Row--Fin Gap (mm)	2-1.6	3-1.6	3-1.6
Coil length (1) × height (H) × coil width (L)	586×247×25.4	586×247×38.1	586×247×38.1
Swing Motor Model	MP35CB/P35CA	MP35CB/P35CA	MP35CB/P35CA
Output of Swing Motor (W)	2/2	2/2	2/2
Fuse (A)	T3.15AL 250V		
Sound Pressure Level dB (A) (H/M/L)	45/40/32	46/43/36	54/50/47
Sound Power Level dB (A) (H/M/L)***	55/50/42	56/53/46	64/60/57
Dimension (W/H/D) (mm)	836×695×238		
Dimension of Package (L/W/H) (mm)	935×805×295		
Net Weight / Gross Weight (mm)	27/35.5		

3 Component Name

Suitable for : GTHD(09)AANK3A1AI GTHD(12)AANK3A1AI GTHD(18)AANK3A1AI

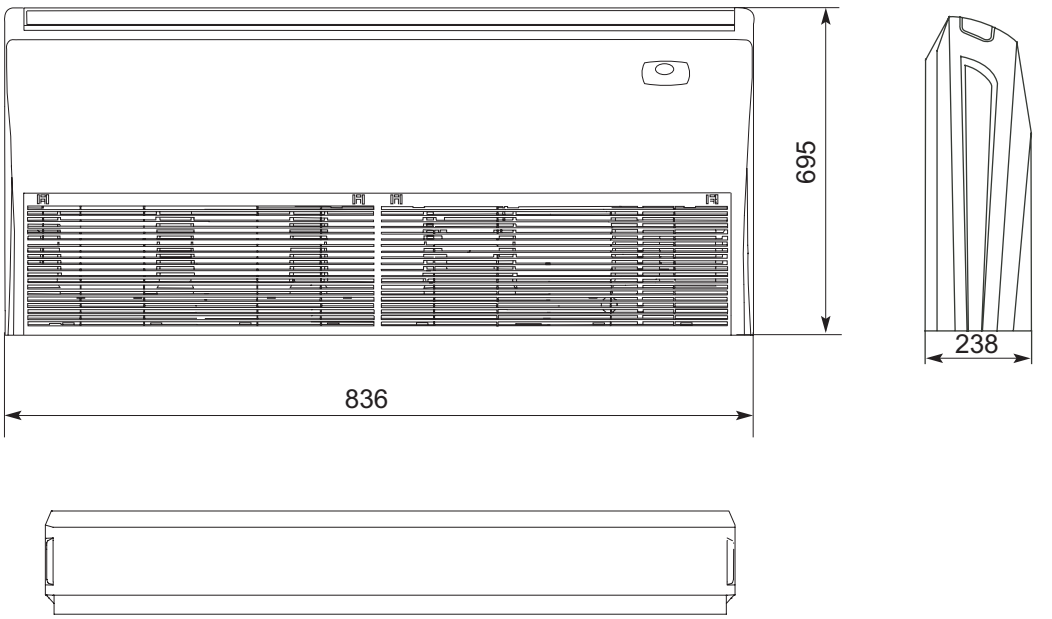
Indoor Unit



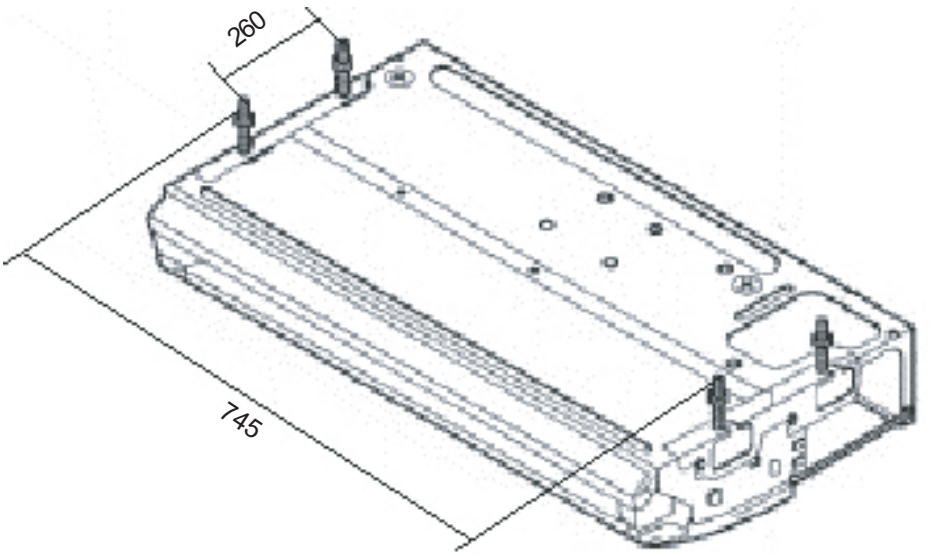
4 Outline and Installation Dimension

4.1 Outline and Installation Dimension of Indoor Unit

Outline Dimension

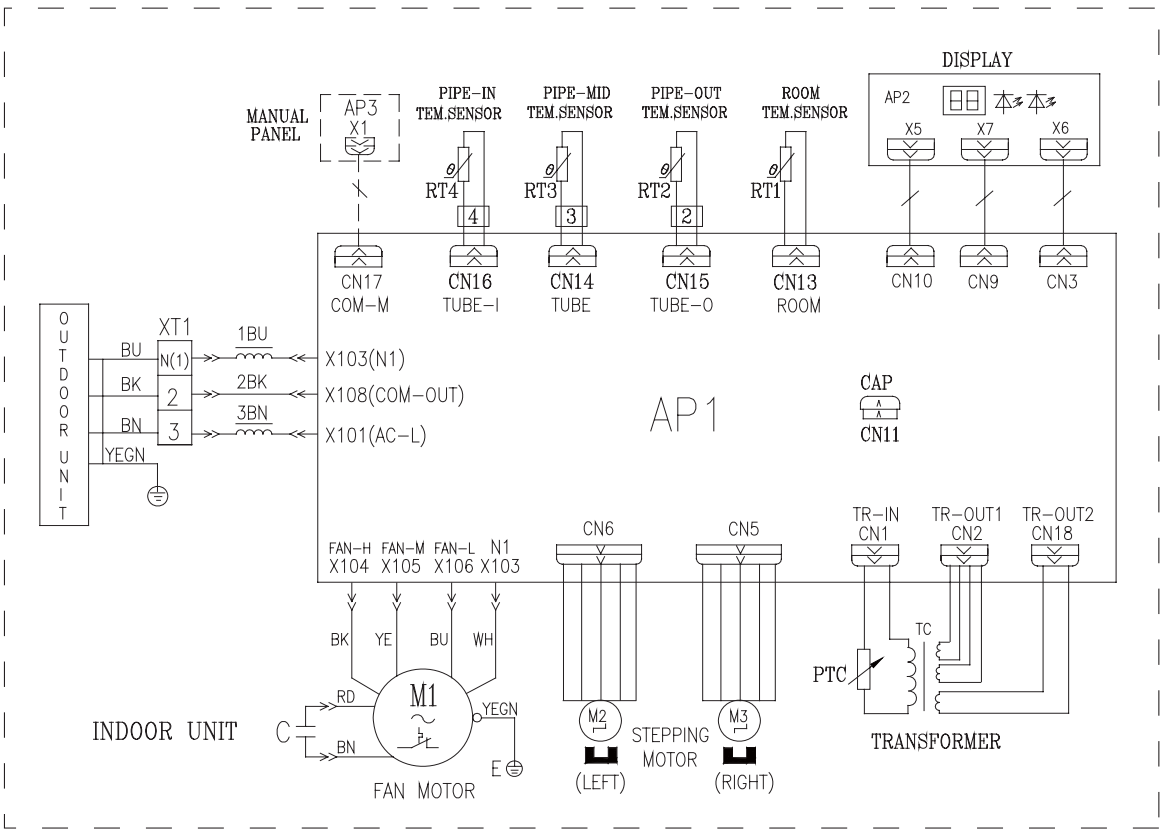


Installation Dimension



5 Electric Diagram

GTHD(09)AANK3A1AI GTHD(12)AANK3A1AI GTHD(18)AANK3A1AI



6 Controller Function Manual and Operation Instruction

6.1 Controller Function Manual

1 Temperature Parameters

- Indoor ambient temperature ($T_{amb.}$)
- Evaporator tube temperature (T_{tube})

2 Basic Functions

2.1 Cooling Mode

1.Temp. can be set in the range of 16-30℃.
2. The unit will firstly run at high fan speed for 8s and then switch to preset fan speed.
3. When error of outdoor unit occurs or the unit stops for protection, indoor unit will keep its orignal operating state.

2.2 Dehumidifying Mode

1.Temp. can be set in the range of 16-30℃.
2. The unit will firstly run at high fan speed for 8s and then switch to low fan speed.
3. When error of outdoor unit occurs or the unit stops for protection, indoor unit will keep its orignal operating state.

2.3 Fan Mode

1.Temp. can be set in the range of 16-30℃.Setting temp on wire controller is defaulted to 26℃.
2. The unit will firstly run at high fan speed for 8s and then switch to preset fan speed.
3. When error of outdoor unit occurs or the unit stops for protection, indoor unit will keep its orignal operating state.

2.4 Heating Mode

1.Temp. can be set in the range of 16-30℃.
2. If compress stops at required temp. point,indoor fan will run by blowing residual heat.
3. If compress under heating mode stops for error ,indoor fan will run by blowing residual heat.
4. Function of blowing residual heat:
Receiving the information from outdoor unit that compressor is stopped,indoor fan switches to low fan speed for 10s and then stop.
5. Anti-cold air
After heating compressor begins to run,indoor fan runs according to the following conditions:
1).Common anti-cold air:If Tamb.≥20℃, and compressor runs for 5s or Ttube≥35℃, indoor fan begins to run at low fan speed.After 3 min at low speed or Ttube ≥40℃ indoor fan runs at preset speed. If Tamb.<20℃ ,and compressor runs for 90s and Ttube<35℃, indoor fan won't run.When Ttube ≥35℃ or compressor runs above 90s,indoor fan runs at low speed. After 3 min at low speed or Ttube≥40℃,indoor fan runs at preset speed.
2).Anti-cold air after defrosting: When compressor runs for 90s and Ttube<35℃, indoor fan won't run.WhenTtube ≥35℃, or compressor runs above 90s,indoor fan runs at low speed.After 3 min at low speed or Ttube ≥40℃, indoor fan runs at preset speed.
Once running,indoor fan won't stop.Once at preset fan speed, it won't forcibly return to low speed.

2.5 AUTO Mode

1) When Tamb.≥25℃, the unit runs under cooling mode, Tpreset=25℃. (Tpreset=26℃ ,connected withwire contrller.)
2) When Tamb.≤20℃, the unit runs under heating mode for cooling and heating type,Tpreset=20℃.And it runs under fan modes for cooling only type,Tpreset=20℃.
3) When 20℃<Tamb.<25℃, the unit keeps its original operating state. If first energization, it runs under fan mode.

2.6 Mode Conflict

If indoor room receives information from outdoor unit which is mode conflict, indoor unit will stop all loads(indoor fan,swing) after buzzer gives out a beep.Running indicator falshes 7 times and other indicators keep normal.The mode sending to outdoor unit is also the one received by remote controller.

If indoor room receives information from outdoor unit which is mode conflict after timer on reaches, indoor unit will stop all loads (indoor fan,auxiliary heater) after buzzer gives out a beep.Running indicator falshes 7 times and other indicators keep normal.The mode sending to outdoor unit is also the one received by remote controller.

3. Other Control

3.1 Buzzer

When the unit is energized or receives signal from valid button or remote controller , the buzzer will give out a beep.

3.2 Auto Fan Speed of Indoor Fan

Indoor fan will automatically select high,middle or low fan speed according to ambient temp.During switchover, there is 3min and 30s delay protection.

3.3 Swing Control

Stepping motor is controlled for startup and stop by swing button.It's swing is valid only when indoor fan is running.
As the right figure (Fig.2),A is close position , B is min. position and C is max. position.The angle between A and B is 64 degrees and betwwen B and C is 60 degrees).

Swing angle:

1. Power the unit on for reset.Swing motor rotates for 126 degrees to close guide louver.
2. Turn on the unit.If swing mode is not set,guide louer will turn to position C under cooling,dry or fan mode, and turn to position B under heating mode.
3. During normal operation of indoor fan , blade swings between B and C under swing mode and it stops at present position when swing is stopped.
4. If unit is stopped for malfunction or defrosting during operation of indoor fan, blade stops at present position.
5. Blade stops at present position during blowing residual heat.
6. During anti cold air ,guide louver turns to max. postion C.

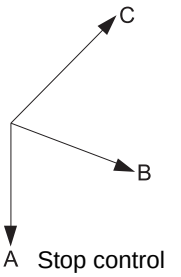


Fig.1

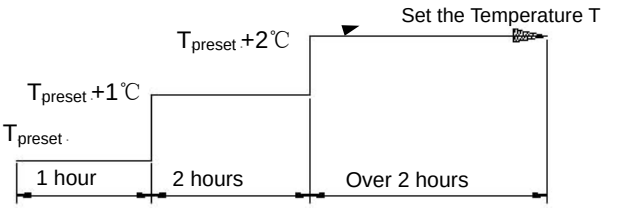
3.4 Buttons

Test button: After energize, press this button, without pressing any other buttons or input of remote-control signal,into forced cooling mode according to nominal cooling condition P1.The unit will be in standby state in 5min.
Press this button for above 3s into forced heating mode according to nominal heating condition P1. The unit will be in standby state in 5min.Press this button again during test state to quit and into standby state.

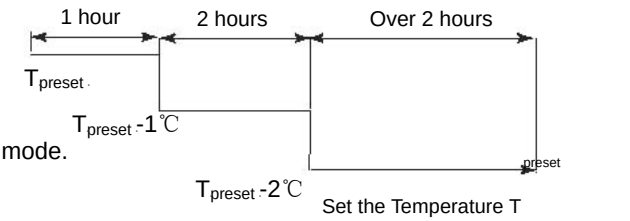
Auto button: If press this button when the unit is off , the unit will run under auto mode.If press it when the unit is on, the unit will stop running.

3.5 Sleep Function

Setting SLEEP function under COOL or DRY mode, preset temperature will automatically rise by 1℃ after 1hour and rise by another 1℃ after 2 hours. Preset temperature will rise by 2 ℃ in total within 2 hours. After that, the unit will run at this preset temperature.



Setting SLEEP function under HEAT mode, the preset temperature will automatically decrease by 1℃ after 1hour and decrease by another 1℃ after 2 hours. Preset temperature will decrease by 2 ℃ in total within 2 hours. After that, the unit will run at this preset temperature.



No sleep function under fan mode and auto mode.

3.4 Timer Function

1.TIMER ON can be set when the unit is stopped. Upon the time as set , the controller will run under preset mode. The interval of time setting is 0.5h and can be set within 0.5-24h in cycle.

2.TIMER OFF can be set when the unit is running. Upon the time as set ,the unit will be stopped.The interval of time setting is 0.5h and can be set within 0.5-24h in cycle.

3.7 Communication Malfunction

Communication malfunction occurs, if the unit can not receivie correct signal for 3 minutes continuously.Under AUTO HEAT or HEAT mode, the unit runs with blowing residual heat.Under other mode, indoor fan keeps its original operating state. If signal from wire controller can not be received for 1min continuously, communication malfunction with wire controller occurs.

3.8 Memory Function

1.What can be memorized includes: mode(auto.cool,dry,fan.heat),swing, setting temperature, preset fan speed and so on.
2.If the unit is running before re-energization,the indoor unit will send signal of state to outdoor unit in 3-min. delay.
3.After re-energization, the unit will run under the state befor power failure.
4.If indoor unit does not connect wire controller and TIMER function is not set at the last remote control command,the system after power failure will memorize the the last remote control command and it runs at the running mode set at last time.If TIMER function is set at the last remote control command,the system after power failure will automatically cancel TIMER. It should be reset.
5. If the system is connected with manual controller.It will run according to wire contoroller's command before power failure and after re-energization.

3.9 Indoor Indicators

1.Communication indicator of indoor mainboard
When indoor unit communicates with outdoor unit or with wire controller, Communication indicator flashes for once.
2. Indicators of indoor light board
Under normal operation, red indicator (running indicator), yellow indicator (heating indicator) and green indicator (cooling indicaor) will show according to corresponding running state.Malfunction is shown priorly and many malfunctions are shown in cycle.
Note:1) Once malfunction occurs,it will be shown.
2). Malfucntion indicator flashes once every 0.5s.The show interval beween two malfucntions is 3s.

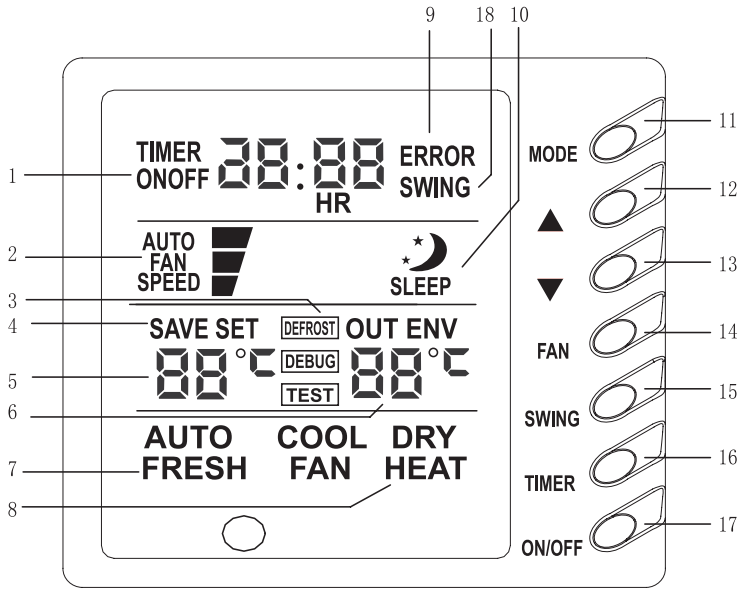
Serial number	Meaning	LED(red)	LED (yellow)	LED (green)	LED (88)
1	Compressor high pressure protection unit stop	Blink once			E1
2	Indoor unit anti-freezing protection	Twice			E2
3	Low-pressure protection unit stop	Three times			E3
4	Air exhaust protection unit stop	Four times			E4
5	Over current protection unit stop	Five times			E5
6	Communication malfunction unit stop	Six times			E6
7	Unit modes conflict	Seven times			E7
8	Jumper malfunction	fifteen times			C5
9	Defrosting /Heating oil return		Blink once		H1
10	Compressor overload protection unit stop		Three times		H3
11	System Unit malfunction		Four times		H4
12	IPM modular protection unit stop		Five times		H5
13	PFC protection unit stop		Six times		HC
14	Compressor malfunction		Seven times		H7
15	Water spill protection		Eight times		H8
16	indoor ambient temp. sensor malfunction			Blink once	F1
17	indoor pipe temp. sensor malfunction			Twice	F2
18	Outdoor ambient temp. sensor malfunction			Three times	F3
19	Outdoor pipe temp. sensor malfunction			Four times	F4
20	Outdoor air exhaust temp. sensor malfunction			Five times	F5
21	E2 PROM Error			Eleven times	HA
22	Wire controller ambient temp. sensor malfunction			Blink once	

3.10 Turbo Function (invalid when connected with wire controller)

After setting of turbo function by remotr controller, indoor fan will run at high speed forcibly and turbo.setiing is send to outdoor unit at the same time.

6.2 Instruction to Wire Controller (Optional)

NOTE:1. Never install the wire controller in a place where is water leakage.
2.Avoid bumping, throwing, tossing or frequently opening the wire controller.



Composition of wire controller

1	Timer display	10	Sleep display
2	Fan speed display (Auto, High, Middle,	11	MODE button
3	Defrosting display	12	Button for temp. increase
4	Saving state display	13	Button for temp. decrease
5	Set temp. display	14	FAN button
6	Ambient temp. display	15	SWING button
7	Fresh air display	16	TIME button
8	Mode (COOL, DRY, FAN, HEAT, AUTO)	17	ON/OFF button
9	Malfunction display	18	Display of Swing state

When the unit is running operated by wire controller

The Codes of Failure Definitions are as Follows:		
Fault code	Meaning	Wire controller
1	Compressor high pressure protection unit stop	E1
2	Indoor unit anti-freezing protection	E2
3	Low-pressure protection unit stop	E3
4	Air exhaust protection unit stop	E4
5	Over current protection unit stop	E5
6	Communication malfunction unit stop	E6
7	Unit modes conflict	E3
8	Jumper malfunction	E3
9	Defrosting /Heating oil return	defrost
10	Compressor overload protection unit stop	E5
11	System Unit malfunction	F2
12	IPM modular protection unit stop	E5
13	PFC protection unit stop	E5
14	Compressor malfunction	E9
15	Water spill protection	E9
16	Indoor ambient temp. sensor malfunction	F0
17	Indoor pipe temp. sensor malfunction	F1
18	Outdoor ambient temp. sensor malfunction	F3
19	Outdoor pipe temp. sensor malfunction	F2
20	Outdoor air exhaust temp. sensor malfunction	F4
21	E2 PROM Error	E3
22	Wire controller ambient temp. sensor malfunction	F5

7 Disassembly Procedures

7.1 Disassembly Procedures for Indoor Unit

Operating Procedures / Photos

1.Disassemble Front Grill and Filter

Manually pull the clasp 1 of front grill downwards to open the front grill.Loose the clasp 2 with pincers to remove the front grill.

Fig.7-1,7-2

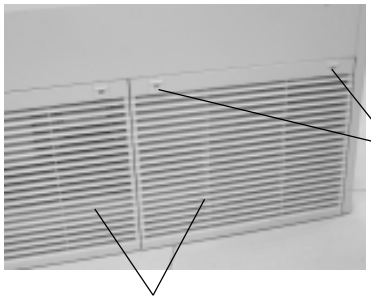


Fig.7-1

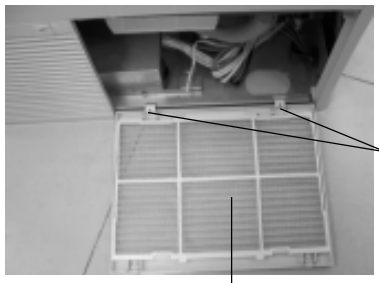


Fig.7-2

2.Disassemble Left and Right Decorative Panels

Unscrew the 2 screws on the left and right decorative panels and them push the panels upwards forciblely to take them out.

Fig.7-3,7-4

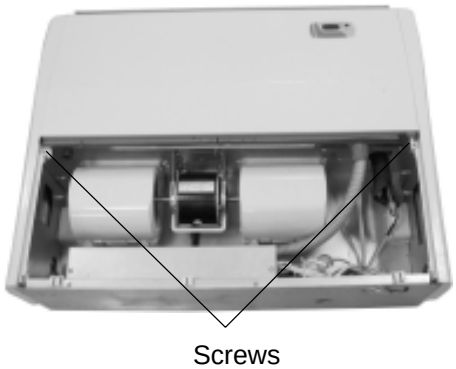


Fig.7-3

Operating Procedures / Photos

Fig.7-4

3.Disassemble Front Panel

Unscrew the 4 screws at the front panel and 3 screws in the sponge.Lift the front panel upwards to remove it.

Fig.7.5

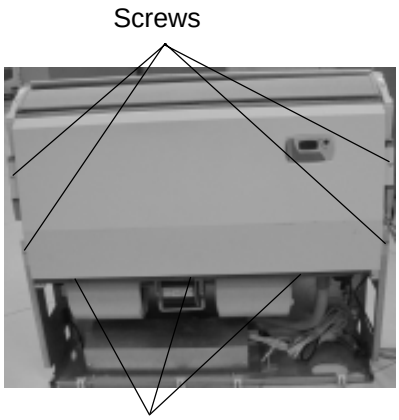


Fig.7.5

4.Disassemble Rear Side Plate (air outlet)

Remove the flanneletteand unscrew the 2 screws at the rear side plate to remove it.

Fig.7-6

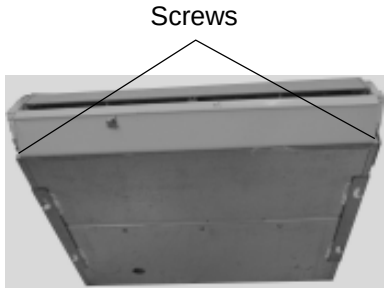


Fig.7.6

5.Disassemble Guide Louver

Top the middle of guide louver and pull it out from the middle clasp and then bend the right and left axile bushes to take the guide louver out.

Fig.7-7,7-8

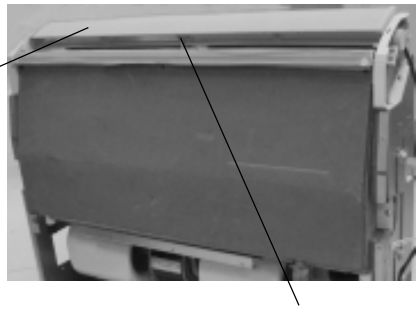


Fig.7.7

Operating Procedures / Photos

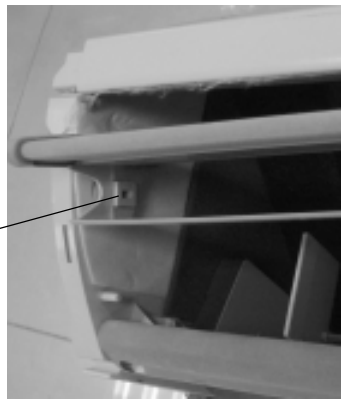


Fig.7-8

6.Disassemble Water Tray Sub-assy

Unscrew the 4 screws fixing the right and left side of the water tray to remove it.

Fig.7-9

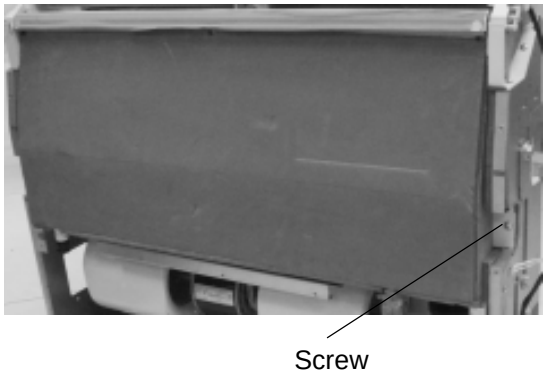


Fig.7-9

7.Disassemble Evaporator Assy

Unscrew the 4 screws fixing the cover plate of evaporator.Pull out the 3 temp sensors on the pipes and then unscrew the 2 screws at the left side of evaporator to remove it by inclined lift.

Fig.7-10,7-11,7-12

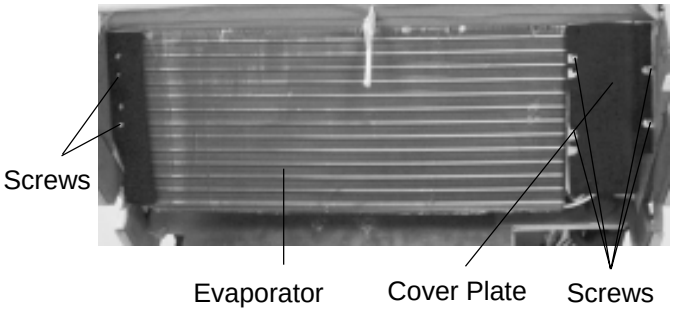


Fig.7-10

Operating Procedures / Photos

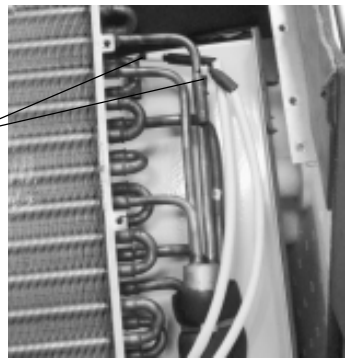


Fig.7-11

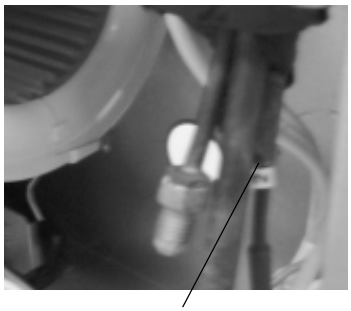


Fig.7-12

8.Disassemble Electric Box Assy

Unscrew the 2 screws fixing the electric box cover to pull out the cover upwards.Loosen the wiring terminals of fan motor and guide louver motor and then remove the ambient temp sensor bound by the tie line at the side of elelctric box.At last unscrew the 3 screws fixing the electric box to remove it.

Fig.7-13,7-14

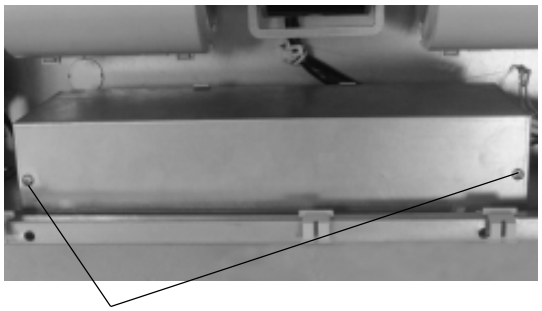


Fig.7-13

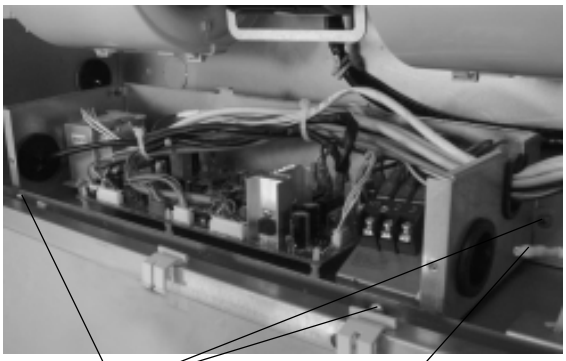


Fig.7-14

9.Disassemble Cross Flow Fan

Loosen the clasps in and at the front and back of the propeller housing to remove it from the motor support.Unscrew the 1 screw fixing cross flow fan with a inner hexagon spanner to remove it.

Fig.7-15,7-16

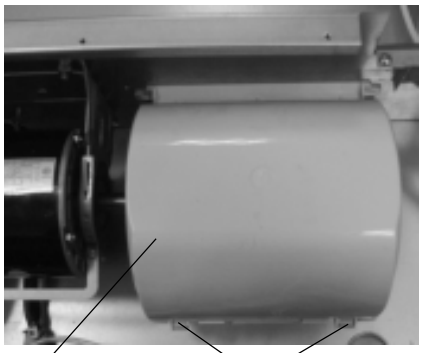


Fig.7-15

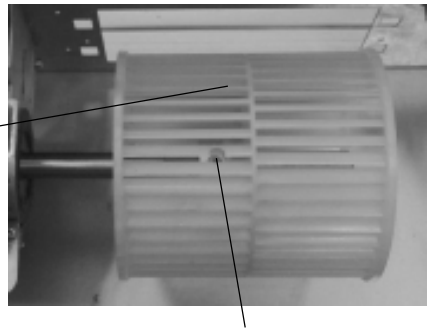


Fig.7-16

10.Disassemble Motor

Loosen the 4 nuts fixing the support to remove the motor sub-assy and then unscrew the 2 bolts onthe clamping band to remove the motor.

Fig.7-17

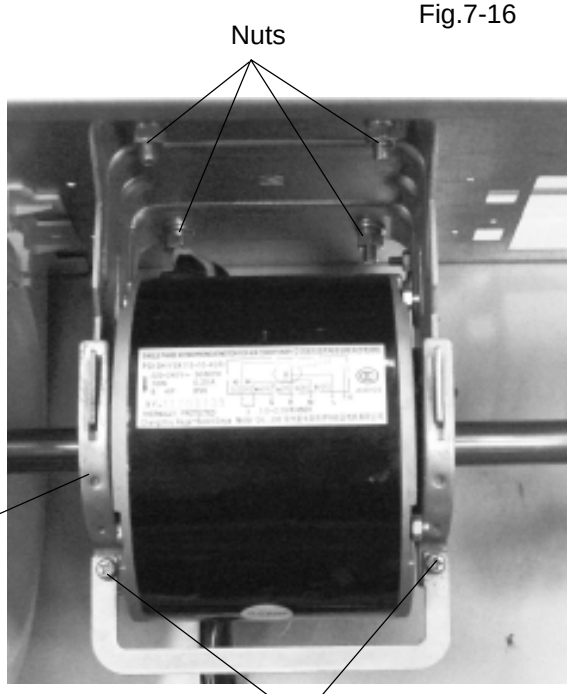
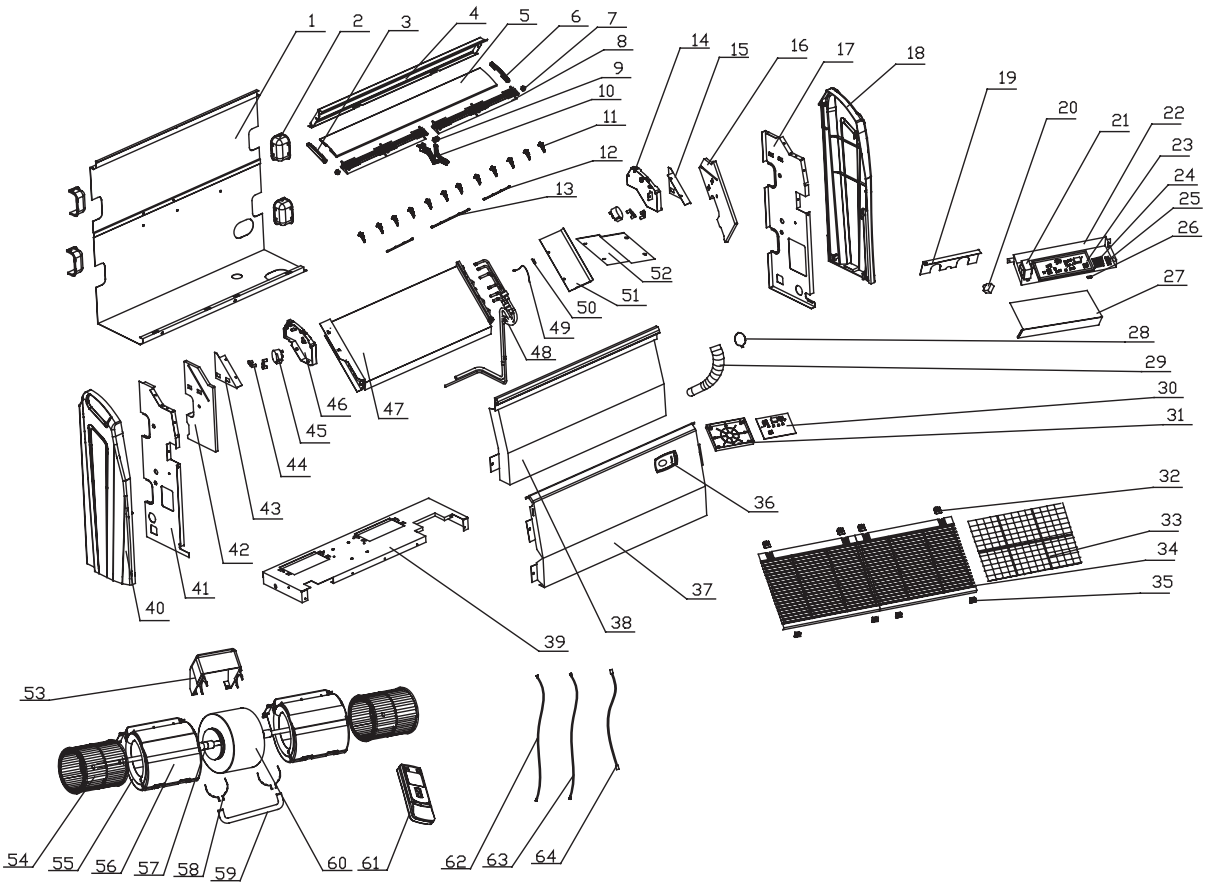


Fig.7-17

8 Exploded View and Components and Parts List

8.1 Exploded View



8.2 Components and Parts List of Indoor Unit 1

No	Description	Part Code		Qty
		GTHD(09)AANK3A1AI	GTHD(12)AANK3A1AI	
1	Rear Side Plate	01302013	01302013	1
2	Handle	26232001	26232001	4
3	Left Decoration Plate	261124151	261124151	1
4	Rear Side Plate of Air Outlet	01302015	01302015	1
5	Louver	1051953201	1051953201	1
6	Right Decoration Plate	261124161	261124161	1
7	Shaft of Louver II	10512026	10512026	2
8	Louver Support	24212019	24212019	2
9	Shaft of Louver I	10512025	10512025	1
10	Louver Fixer	24212018	24212018	1
11	Swing Louver	10512027	10512027	12
12	Connecting Lever	10582009	10582009	2
13	Connecting Lever	10582008	10582008	1
14	Right Swing Motor Fixer	26152006	26152006	1
15	Right Fixing Plate of Evaporator	01072411	01072411	1
16	Foam of Right Side Plate	12312404	12312404	1
17	Right Fixing Plate	01332404	01332404	1
18	Right Decoration Panel	26112027	26112027	1
19	Pipe Clamp Plate	0107243701	0107243701	1
20	Capacitor CBB611A 1uF/500V	33010089	33010020	1
21	Transformer	43110013	43110013	1
22	Electric Box	01402046	01402046	1
23	Main PCB	30039371	30039371	1
24	Terminal Board	420111041	420111041	1
25	Wire Clamp	71010003	71010003	1
	Insulate mat slice	70410525	70410525	1
26	Fuse 5A 250VAC	/	/	/
27	Cover of Electric Box	01412033	01412033	1
28	Pipe Clip	70812001	70812001	1
29	Drainage Pipe	05235433	05235433	1
30	Display Board	30545654	30545654	1
31	Electric Box	20102138	20102138	1
32	Front Grill Clip 1	26252002	26252002	2
33	Filter	11122013	11122013	1
34	Front Grill	22412010	22412010	1

No	Description	Part Code		Qty
		GTHD(09)AANK3A1AI	GTHD(12)AANK3A1AI	
35	Front Grill Clip 2	26252003	26252003	2
36	Buttons Panel	201620041	201620041	1
37	Front Panel	01532001	01532001	1
38	Water Tray Panel	01272205P	01272205P	1
39	Motor Support	01709532	01709532	1
40	Left Decoration Panel	26112028	26112028	1
41	Left Fixing Plate	01332405	01332405	1
42	Left Side Foam	12312403	12312403	1
43	Left Fixing Plate of Evaporator	01072410	01072410	1
44	Motor Clamp	26112026	26112026	2
45	Step Motor MP35CA	15212402	15212402	1
	Step Motor MP35CB	1521240201	1521240201	1
46	Left Swing Motor Fixer	26152005	26152005	1
47	Evaporator Assy	01032466	01032467	1
48	Liquid-intake Pipe Components	03222465	03222519	1
	Air Collecting Pipe Components	03533200	03533425	1
49	Temp Sensor 15K	39000186	39000186	1
	Temp Sensor 20K	3900019817	3900019817	1
	Temp Sensor 20K	3900019818	3900019818	1
	Temp Sensor 20K	3900019819	3900019819	1
50	Temp Sensor Insert	42020063	42020063	3
51	Water Lead Panel	01362001	01362001	1
52	Cover of Evaporator	01072409	01072409	1
53	Fixed Mount	01708763	01708763	1
54	Centrifugal Fan	10312401	10312401	2
55	Rear Snail Shell	22202032	22202032	2
56	Front Snail Shell	22202031	22202031	2
57	Axes Connector	/	/	1
58	Bar Clasp	70819522	70819522	4
59	Hoop	70819521	70819521	1
60	Motor PG10H	15707302	15707302	1
61	Remote Controller	30512520	30512520	1
62	Connecting Cable	400204056	400204056	1
63	Connecting Cable	/	/	1
64	Signal Cable	40030027	40030027	1
		40030029	40030029	
		40030028	40030028	

8.3 Components and Parts List of Indoor Unit 2

No	Description	Part Code	Qty
		GTHD(18)AANK3A1AI	
1	Rear Side Plate	01302013	1
2	Handle	26232001	4
3	Left Decoration Plate	261124151	1
4	Rear Side Plate of Air Outlet	01302015	1
5	Louver	1051953201	1
6	Right Decoration Plate	261124161	1
7	Shaft of Louver II	10512026	2
8	Louver Support	24212019	2
9	Shaft of Louver I	10512025	1
10	Louver Fixer	24212018	1
11	Swing Louver	10512027	12
12	Connecting Lever	10582009	2
13	Connecting Lever	10582008	1
14	Right Swing Motor Fixer	26152006	1
15	Right Fixing Plate of Evaporator	01072411	1
16	Foam of Right Side Plate	12312404	1
17	Right Fixing Plate	01332404	1
18	Right Decoration Panel	26112027	1
19	Pipe Clamp Plate	0107243701	1
20	Capacitor CBB611A 1uF/500V	33010027	1
21	Transformer 57X35E	43110013	1
22	Electric Box	01402046	1
23	Main PCB M901F2AJ	30039371	1
24	Terminal Board RS9413	420111041	1
25	Wire Clamp	71010003	1
	Insulate mat slice	70410525	1
26	Fuse 5A 250VAC	/	/
27	Cover of Electric Box	01412033	1
28	Pipe Clip	70812001	1
29	Drainage Pipe	05235433	1
30	Display Board 5T52	30545654	1
31	Electric Box	20102138	1
32	Front Grill Clip 1	26252002	2
33	Filter	11122013	1
34	Front Grill	22412010	1

No	Description	Part Code	Qty
		GTHD(18)AANK3A1AI	
35	Front Grill Clip 2	26252003	2
36	Buttons Panel	201620041	1
37	Front Panel	01532001	1
38	Water Tray Panel	01272205P	1
39	Motor Support	01709532	1
40	Left Decoration Panel	26112028	1
41	Left Fixing Plate	01332405	1
42	Left Side Foam	12312403	1
43	Left Fixing Plate of Evaporator	01072410	1
44	Motor Clamp	26112026	2
45	Step Motor MP35CA	15212402	1
	Step Motor MP35CB	1521240201	1
46	Left Swing Motor Fixer	26152005	1
47	Evaporator Assy	01032468	1
48	Liquid-intake Pipe Components	03222520	1
	Air Collecting Pipe Components	03533428	1
49	Temp Sensor 15K	390002061	1
	Temp Sensor 20K	3900019817	1
	Temp Sensor 20K	3900019818	1
	Temp Sensor 20K	3900019819	1
50	Temp Sensor Insert	42020063	3
51	Water Lead Panel	01362001	1
52	Cover of Evaporator	01072409	1
53	Fixed Mount	01708763	1
54	Centrifugal Fan	10312401	2
55	Rear Snail Shell	22202032	2
56	Front Snail Shell	22202031	2
57	Axes Connector	/	1
58	Bar Clasp	70819522	4
59	Hoop	70819521	1
60	Motor PG40F	157073024	1
61	Remote Controller	30512520	1
62	Connecting Cable	400204056	1
63	Connecting Cable	/	1
64	Signal Cable	40030027	1
		40030029	
		40030028	