

SERVICE MANUAL

AIR PURIFIER

SP-240A



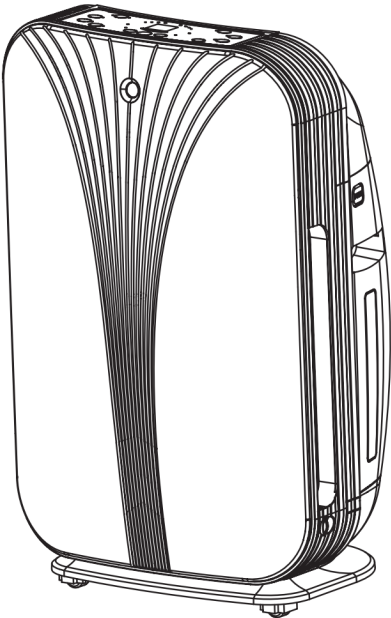
“Original instructions”

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Summary and Features

MODELS:



Remote Controller:

YY1ZB1



1.Safety Precautions

Safety Instruction

- ⚠ Only single-phase alternating current can be used, otherwise accident like fire hazard, electric shock may be incurred.
- ⚠ Don't energize the unit if power cord or plug is damaged or the plug can be plugged tightly, otherwise accident like electric shock, short circuit or fire hazard may be incurred.
- ⚠ Don't squeeze, stretch, twist, bundle, press or seriously bend the power cord, otherwise accident like electric shock, short circuit or fire hazard may be incurred.
- ⚠ If power cord is damaged, it must be replaced by service man to avoid accident.
Before replacing filter, moving or cleaning unit, the power supply must be cut off and power cord must be unplugged.
- ⚠ Don't unplug the unit with wet hand, otherwise, electric shock, short circuit or fire hazard may be incurred.
Hold the plug when unplugging the unit and don't draw the power cord, otherwise, accident like electric shock, short circuit, fire hazard may be incurred.
- ⚠ Periodically clean the dust on the plug.
Too much dust will cause dampness which will further cause electric shock, short circuit or fire hazard.
- ⚠ If the unit will not be used for long term, the unit must be unplugged.
Otherwise the insulating property will decrease, which will incur accident like electric shock, fire hazard.
- ⚠ Don't insert finger or foreign object into air inlet or air outlet.
Otherwise electric shock or other malfunction may be incurred.
- ⚠ Don't use the unit in the bath or in a place where the humidity is huge to avoid wetting.
Otherwise electric shock or malfunction may be incurred.
- ⚠ Don't use the unit in a place where there is much smoke and dust (like kitchens).
Otherwise crack may be incurred.
- ⚠ Don't let the unit aspirate flammable gas or spark produced by cigarette or incensory.
Otherwise accident like fire hazard may be incurred.
- ⚠ Don't use dilution agent of gasoline or paint to clean the unit and don't spray insecticide to the unit. Otherwise accident like crack, electric or fire hazard may be incurred.
- ⚠ Don't use the unit when spraying insecticide in the room.
Otherwise the insecticide may be accumulated inside the unit which will be blown out from air outlet.

Notice

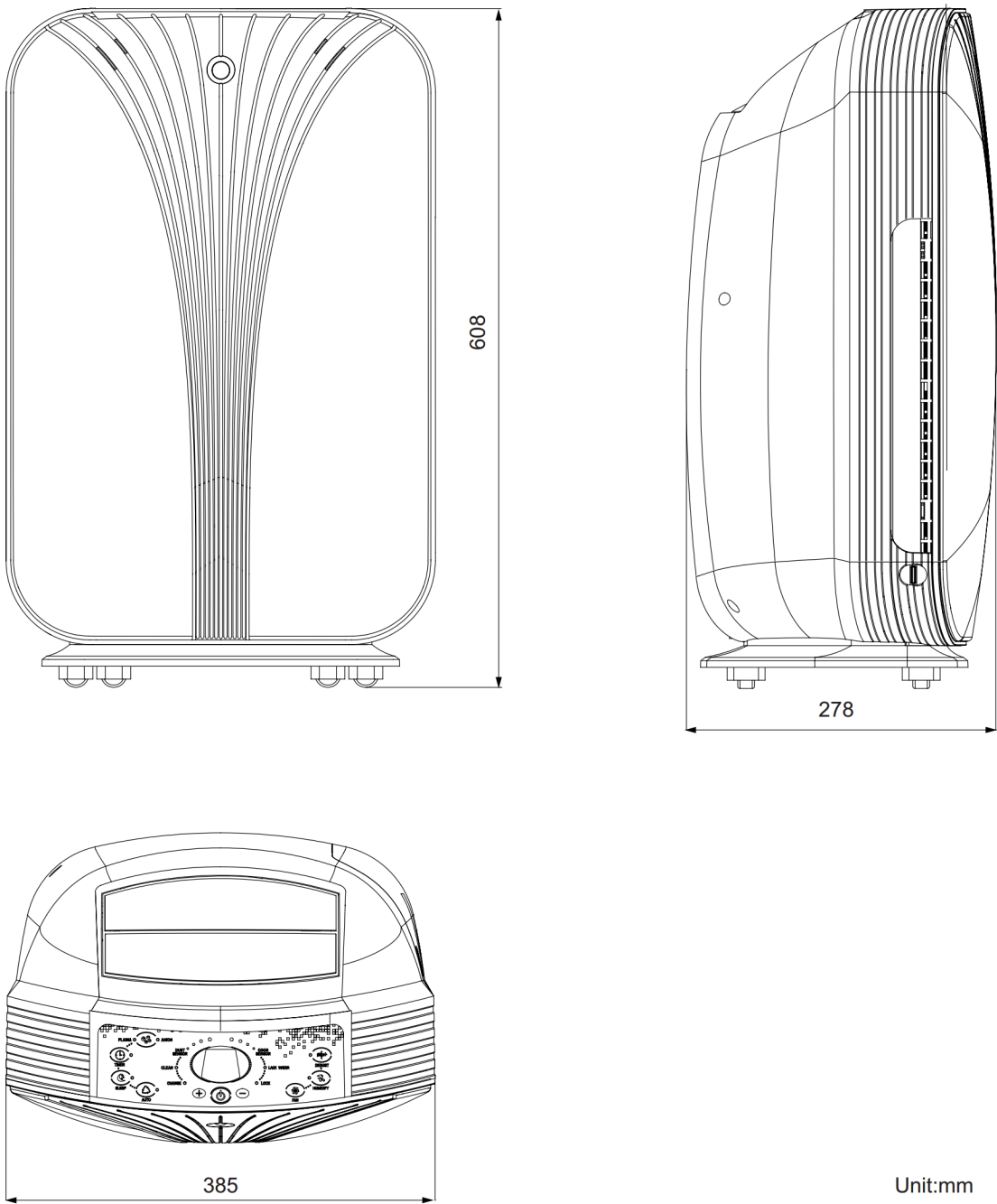
- ★ Place the unit in flat ground where ventilation is good.
If you want to remove dust inside the unit, it's better to place the unit in lower place.
- ★ Don't place the unit in outside a place where there is direct sunshine.
Otherwise, the unit will discolour and the sensitivity of the remote control will decrease.
- ★ Don't near lighting equipment.
Otherwise the sensitivity of the remote control will decrease.
- ★ The unit can't be close to heat source, like heater.
Heat will discolour or distort the unit.
- ★ The unit shall be 2 meters away from TV, radio, acoustic apparatus, wireless, etc.
Otherwise the interference of electronic wave may be incurred.
- ★ The distance to the wall shall be at least 10cm.
If using the unit for long, the wall will become dirty. Please paste plastic or paper on wall or adopt other method to prevent it and periodically clean the wall.
- ★ The curtain can't contact with air inlet or air outlet.
Otherwise the curtain may be stained and the malfunction may be incurred.
- ★ The container with water, like fish bowl or flower vase shall be kept away from the unit.
If water enters the unit, electric shock or malfunction may be incurred.
- ★ Don't seat or stand on the unit. Don't swing the unit or use the unit when it is lying or sloping.
Otherwise malfunction may be incurred.
- ★ When moving the unit, hold the handle on the rear.
If holding the front panel, the front panel may be off and the unit may be damaged.
- ★ This unit can't get rid of Carbon Monoxide (CO).
- ★ When batteries fail, take them out from remote control and properly dispose the batteries.
- ★ Only service man can remove or repair the unit.
Otherwise fire hazard, electric shock or injury may be incurred. Please contact service center of Gree if there is malfunction.

2.Specifications

Model	--	SP-240A
Rated Voltage	V ~	220-240
Rated Frequency	Hz	50
Phases	--	1
CADR	m ³ /h	160
Power Input	W	58
Current Input	A	0.25
Standby power consumption (optional)	W	0.5
Humidifying Capacity	ml/h	380
Air Flow Volume(S/H/M/L)	m ³ /h	240/200/160/80
Suggested Room Size	m ²	15-22
Climate Type	--	T1
Isolation	--	II
Moisture Protection	--	IP24
Sound Pressure Level (H/M/L)	dB (A)	48/42/35
Sound Power Level (H/M/L)	dB (A)	58/52/45
Fan Type	--	Centrifugal
Fan Diameter Length(DXL)	mm	Φ215X66
Fan Motor Speed (S/H/M/L)	r/min	1280/1090/900/650
Fan Motor Power Output	W	25
Fan Motor RLA	A	0.25
Fan Motor Capacitor	μF	2.5
Dimension (WXMxD)	mm	385X608X278
Dimension of Carton Box (LXWXH)	mm	430X315X664
Dimension of Package(LXWXH)	mm	433X318X679
Net Weight	kg	11.0
Gross Weight	kg	13.0

The above data is subject to change without notice. Please refer to the nameplate of the unit.

3.Outline and Installation Dimension



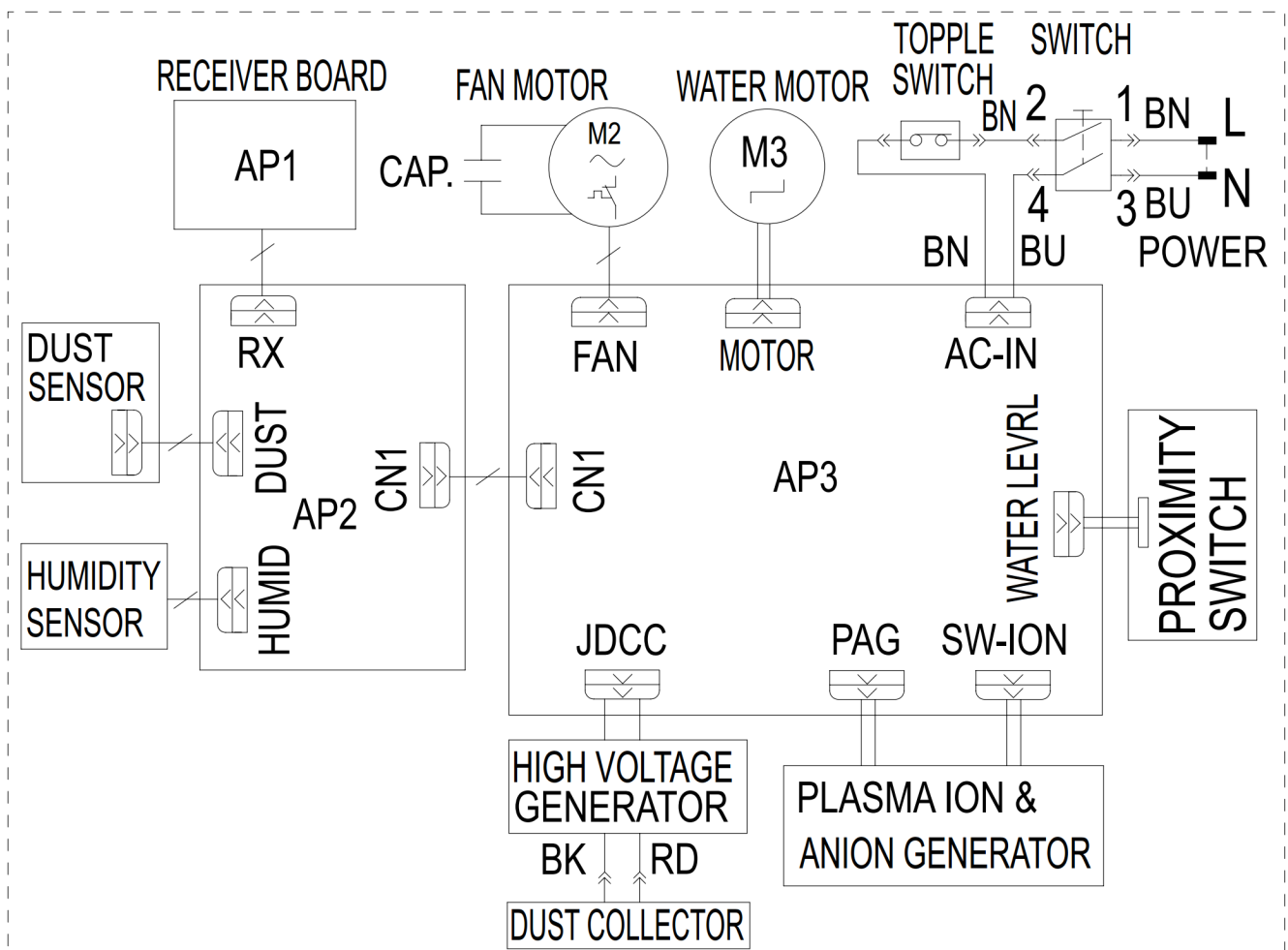
4.Schematic Diagram

4.1 Electrical Data

Meaning of marks

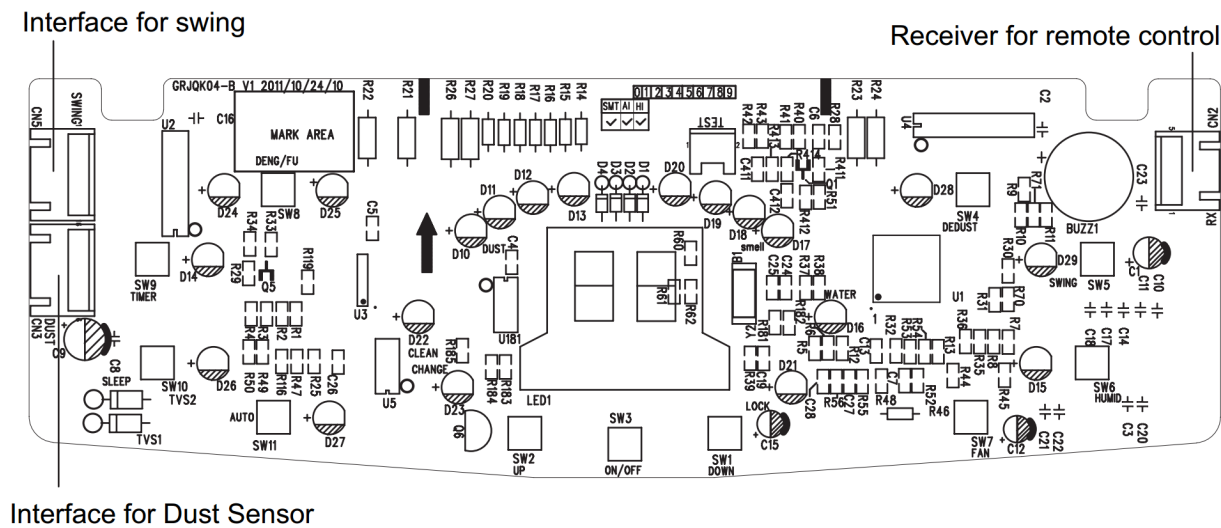
Symbol	Color symbol	Symbol	Color symbol
OG	ORANGE	BN	BROWN
WH	WHITE	BU	BLUE
YE	YELLOW	BK	BLACK
RD	RED	Symbol	Parts name
YEGN	YELLOW GREEN		PROTECTIVE EARTH
/	/	COMP	COMPRESSOR

4.2 Electrical Wiring

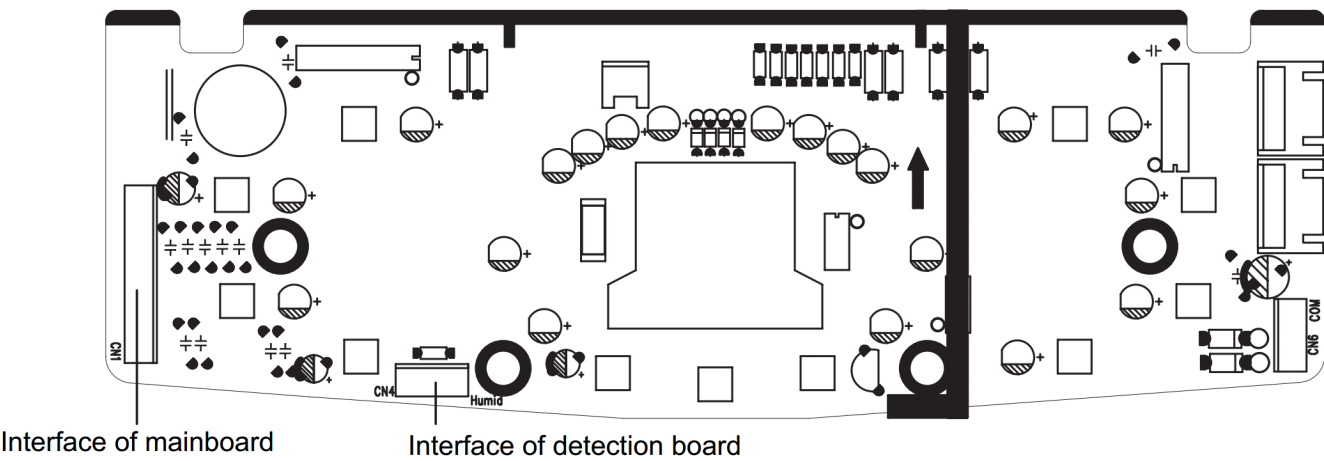


(2)Display Board

● TOP VIEW

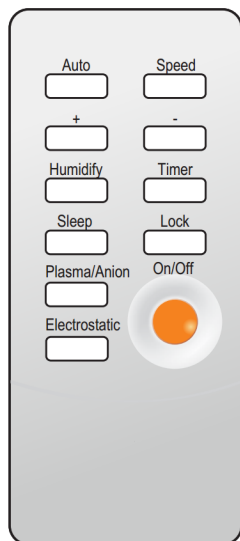


● BOTTOM VIEW



5.Function and Control

5.1 Remote Controller Description



ON/OFF

Press this button in standby status and then the unit will start operation. Press this button again and the unit will stop operation.

Auto

When the unit is operating and this button is pressed, the unit will automatically adjust negative ion, electrostatic dust removal device, switch of humidifying function and fan speed according to sensed air quality and ambient relative humidity. Fan speed button will be invalid in this mode.

Speed

During operation, press this button and fan speed will switch according to the sequence below. LED lamp for fan speed will change accordingly.

+/-

When the unit operates at humidifying mode, press button "+" or "-" to adjust set humidity. When the unit is operating, in timer setting mode, press button "+" or "-" to adjust time for turning off the unit. When the unit is standby, in timer setting mode, press button "+" or "-" to adjust time for turning on the unit.

Humidify

When the unit is operating and this button is pressed, the unit will enter this mode. Press this button again to cancel this mode.

Timer

When the unit is energized, press this button to enter timer setting. Press + or – to adjust time of timer and set range is 0~24 hours. Press this button again to cancel the setting.

When the unit is operating, timer is set for turning off the unit. If the unit is turned off, timer is set for turning on the unit.

Sleep

When the unit is operating and this button is pressed, the unit will automatically adjust negative ion, electrostatic dust removal device and humidifying function based on sensed air quality and ambient relative humidity. Fan speed will switch between silence and low speed.

Fan speed button will be invalid in this mode.

Lock

When lock is off, press this button for over 2 seconds and relevant LED lamp will be on. The controller will be locked. When lock is on, press this button for over 2 seconds again to cancel lock. Lock is off as default once the unit is energized after power failure occurs.

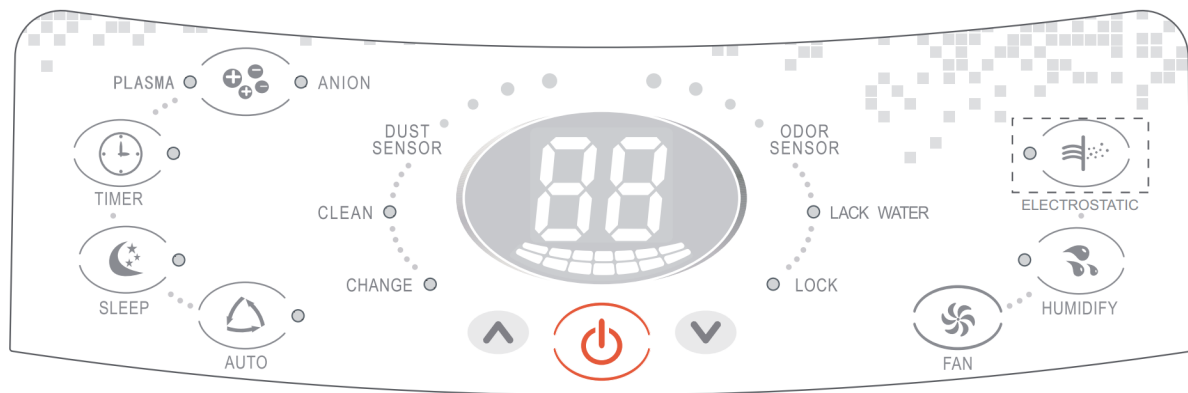
Plasma / Anion

Press this button and plasma and anion will change as follows:

Electrostatic

When the unit is operating, press this button to turn on electrostatic mode. Press this button again to quit this mode. (Electrostatic mode is not available for model GCF220BKNA.)

5.2 Display Function Introduction



Display of Nixie Tube

- (1) Ambient humidity is displayed during normal operation.
- (2) Time is displayed when setting timer.
- (3) Set humidity is displayed when setting humidity.
- (4) Sensitivity degree d1, d2 or d3 of dust is displayed when setting sensitivity of dust.
- (5) Sensitivity degree o1, o2 or o3 of odor is displayed when setting sensitivity of odor.

Example:



Sensitivity degree of dust



Sensitivity degree of odor

LED Lamp for Water Shortage

When LED lamp for water shortage blinks, there is water shortage for water tank. It reminds user of filling water. Both conditions below must be met when LED lamp blinks:

- (1) Humidifying mode has been set;
- (2) Set humidity is higher than ambient humidity.

LED Lamp for Child Lock

When child lock function is turned on, other buttons in the unit and remote control will be locked to prevent child wrongly operating the unit.

- (1) After pressing child lock button in remote control for 2 seconds, the LED lamp of child lock will be on and child lock function is activated. If any other button is pressed, LED lamp of child lock will blink and buzzer will sound.
- (2) Press button of child lock for 2 seconds to release child lock.

Fan Speed Bar

It displays current fan speed. One column means silence; Three columns mean low fan speed; Five columns mean medium fan speed; Seven columns mean high speed.



Silence



Low fan speed



Med. fan speed



High fan speed

Cleaning and Replacement

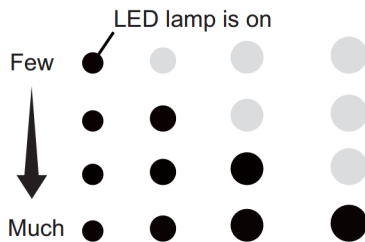
When LED lamp for cleaning or replacement is on, it reminds user of cleaning or replacing filter of the unit.

- (1) Cleaning When LED lamp for cleaning is on, it means unit has operated for continuous 480 hours. It reminds user of cleaning cleanable parts of the unit, such as filter. When pressing buttons **Sleep+Timer**, LED lamp for cleaning will be off and timing counter will recount time;
- (2) Replacement When LED lamp for replacement is on, it means the unit has operated for continuous 2000 hours. It reminds user of replacing filter so as to keep good performances on dust removal; When pressing buttons **Sleep+Timer**, LED lamp for replacement is off and timing counter will recount time.

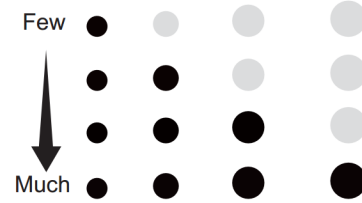
Display of Dust Degree and Odor Degree

The sensor built-in can sense quality of air and change of odor. Through qty of LED lamps, air quality and odor content can be known.

Dust



Odor



<LED lamp for Dust Sensor >

- In below conditions, the LED lamps will be on for the first second which are irrelevant to air quality.
- ① Operation after installing front panel
- ② Operation after plugging attaching plug
- When dust sensor lags in response, please revise setting of sensitivity degree of sensor.

<LED lamp for Odor Sensor >

- In below conditions, the LED lamps will be on for the first second which are irrelevant to air quality.
- ① Operation after installing front panel
- ② Operation after plugging attaching plug.
- In first 2 minutes after turning on the unit, the odor sensor is pre-heating. In that case, odor sensor may not respond.
- Except alkaline air, the sensor may not respond to some odor, like odor of pet or garlic.
- Because people have different feelings about odor, someone may still feel there is odor when Green LED lamp is on. In that case, please manually switch fan speed to high speed.

※ Setting for Sensitivity Degree of Dust Sensor

- ① In standby mode;
- ② Press SLEEP+ AUTO buttons simultaneously for over 1 seconds and then release them;
- ③ The unit enters adjustment mode for sensitivity degree of dust sensor. In that case, d1, d2 or d3 will be displayed. In initial setting, d1 will be displayed. Number 1, 2, 3 means sensitivity degree. Number 1 means lowest sensitivity degree, number 2 means medium sensitivity degree and number 3 means highest sensitivity degree.
- ④ Press +/- button to adjust sensitivity degree.
- ⑤ Quit: if there is no operation for 3 seconds, the system will keep the current setting of sensitivity degree and quit the setting mode.

※ Setting for Sensitivity Degree of Odor Sensor

- ① In standby mode;
- ② Press FAN + HUMIDIFY buttons simultaneously for over 1 seconds and then release them;
- ③ The unit enters adjustment mode for sensitivity degree of odor sensor. In that case, o1, o2 or o3 will be displayed. In initial setting, o1 will be displayed. Number 1, 2, 3 means sensitivity degree. Number 1 means lowest sensitivity degree, number 2 means medium sensitivity degree and number 3 means highest sensitivity degree.
- ④ Press +/- button to adjust sensitivity degree.
- ⑤ Quit: if there is no operation for 3 seconds, the system will keep the current setting of sensitivity degree and quit the setting mode.

5.3 Buttons Function Introduction



ON/OFF

For turning on or turning off the unit. Press this button once to turn on the unit and press it again to turn off the unit.



FAN

Adjust fan speed of the unit and the sequence of fan speed is:

Silence → Low → Med. → High



HUMIDIFY

Press this button to turn on humidify mode. LED lamp for humidify mode will be on. Press this button again to cancel humidify function and LED lamp for humidify will be off; In humidify mode, press button "+" or "-" to adjust set humidity.



AUTO

Press auto button to enter auto mode. LED lamp for auto mode will be on and other functions will quit. Based on air quality sensed by sensor, the unit will automatically adjust function and fan speed of the unit. Press this button again to cancel auto mode and LED lamp will be off.



SLEEP

Press this button to enter sleep mode. LED lamp for sleep will be on and other functions will quit. Based on air quality sensed by sensor, the unit will be automatically adjusted. Press this button again to cancel sleep mode and LED lamp for sleep mode will be off.



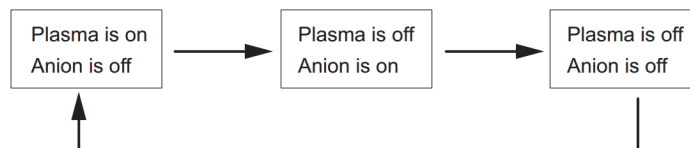
TIMER

When the unit is turned on, press timer button to activate timer off and the LED lamp for timer will be on. Press button + or – to set time for turning off the unit. When pressing timer button again, LED lamp for timer will be off and timer will be canceled. In standby status, press timer button to activate timer on and LED lamp for timer will be on. Press button + or – to set time for turning on the unit. When pressing timer button again, LED lamp for timer will be off and timer will be canceled.



PLASMA / ANION

Press this button and plasma and anion will change as follows:



ELECTROSTATIC

Press button of electrostatic dust removal to activate dust removal function and LED lamp for dust removal will be on. (There is no such button for model GCF220BKNA)



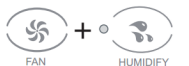
+/-

In humidify mode, it is used for setting humidity; in timer mode, it is used for setting timer.



Buttons for adjusting sensitivity degree of dust.

(Refer to page 11 for more details.)



Buttons for adjusting sensitivity degree of odor.

(Refer to page 11 for more details.)



Buttons for light

When the unit operates and child lock is off, press auto and timer buttons simultaneously for 2 seconds to turn on or turn off nixie tube and LED lamps on front panel.



Buttons for resetting time

When the unit is in standby mode and child lock is off, press sleep and timer buttons simultaneously to clear time of timing counter.

1. When accumulated time for cleaning and replacing filter doesn't reach, they will be cleared after resetting time.
2. When one kind of accumulated time reaches, it will be cleared by resetting time. And the other one will keep accumulating time.
3. When both of them are reached, they will be cleared after resetting time. After clearing, LED lamps on front panel will be on for 2 seconds.

5.4 Description of each Control Operation

1. AUTO Mode

In auto mode, according to quality of air, the fan speed, switches of plasma, anion and static dedust will be automatically adjusted. If changing to superior level from inferior level, there is no delay; If changing to inferior level from superior level, it has to wait for 40 seconds. Such timing will be cleared when turning off the unit or quitting the mode.

In AUTO mode, if pressing button sleep, anion, humidify or electrostatic dedust, the AUTO mode will automatically quit.

(1) Control of Motor

If detecting that the humidity is not more than 40% for continuous 3 minutes, motor is turned on for humidification.

If detecting that the humidity is not less than 70%, motor stops operation and stops humidification.

When there is need for humidification but the water level is low, the motor will not operate.

When changing to Auto mode from other mode or during Auto mode, if humidity is between 40%~70%, the current operation status of motor will not change.

(2) During Auto mode, if pressing Fan speed button, there is an alarm.

(3) Functions of Plasma, Anion and Static Dedust

■ Function of Plasma

It is for sterilization

■ Function of Anion

It produces anion. Proper concentration of anion has the below functions:

① Purify blood and improve respiratory function.

② Improve metabolism.

③ Adjust endocrine secretion and mitigate intensity.

④ Remove stimulation to the body (like trachea, bronchus) caused by positive charge.

■ Function of Static Dedust

It is for removing dust. The efficiency of dust removal can reach 90% or above.

2. SLEEP Mode

In SLEEP mode, the fan speed and switches of plasma, anion and static dedust will be automatically adjusted based on the current air status. If changing to superior level from inferior level, there is no delay; If changing to inferior level from superior level, it has to wait for 40 seconds. Such timing will be cleared when turning off the unit or quitting the mode.

In SLEEP mode, if pressing button sleep, anion, humidify or electrostatic dedust, the SLEEP mode will automatically quit.

(1) Control of Motor

If detecting that the humidity is not more than 40% for continuous 3 minutes, motor is turned on for humidification.

If detecting that the humidity is not less than 70%, motor stops operation and stops humidification.

When there is need for humidification but the water level is low, the motor will not operate.

When changing to SLEEP mode from other mode or during SLEEP mode, if humidity is between 40%~70%, the current operation status of motor will not change.

(2) In SLEEP mode, if there is no operation on any button for 10s, all lights will be off.

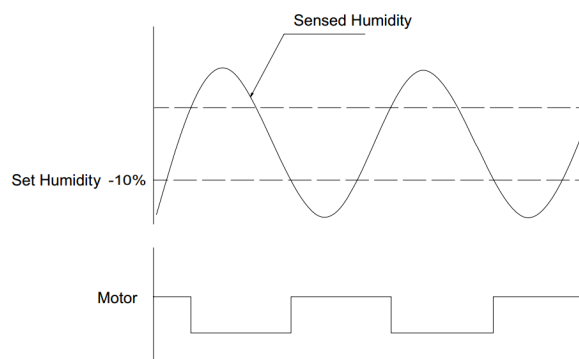
Child Lock is turned on: after all lights are off, to operate front panel or remote control will be invalid. The display of SLEEP mode will be resumed and LED lamp of child lock blinks as reminder. In 10s later, lights will be off.

Child Lock is turned off: after all lights are off, if operating front panel or remote control, nixie tube and corresponding LED lamp will be on. Buzzer will sound and corresponding function of button being pressed will be activated.

(3) Please refer to "AUTO mod" for functions of plasma, anion and electrostatic dedust.

(4) During SLEEP mode, if pressing fan speed button, alarm will be given out.

3. HUMIDIFY Mode



(1)Control of HUMIDIFY Mode

Turn on HUMIDIFY mode, the control of motor is as follows:

If room humidity $\leq$ set humidity-10%, the LED lamp for water shortage is off, the motor will operate for humidifying;

If room humidity reaches set humidity, the motor will stops operation.

If set humidity > Room Humidity > Set Humidity-10%, the motor will keep its operation status.

When HUMIDIFY mode, AUTO mode, and SLEEP mode are off, motor will be turned off.

Effective detection range: 30%~90% (It is detected under 25℃. If ambient temperature is different, the value shall be corrected. If it is less than 30%, take room humidity as 30%; if it is more than 90%, take the room humidity as 90%). The room humidity is displayed as default. Display Range: 30%~90%.

Note: when 00 is displayed, the possible cause: the room humidity is less than 30% or humidity sensor has open circuit.

(2) In HUMIDITY mode, medium speed of fan is automatically set.

(3) LED Lamp for Water shortage

When HUMIDITY mode is turned on or there is need for humidifying during AUTO or SLEEP mode:

Blinking---If conditions for starting up motor satisfy, but the water level is low, the LED lamp for water shortage is blinking;

Off---When conditions for turning off motor satisfy, the LED for water shortage will be off.

If conditions for starting up motor satisfy and the water level is high, the LED lamp for water shortage will be off.

4. Electrostatic Dedust Mode

(1) Control of E-DEDUST Mode

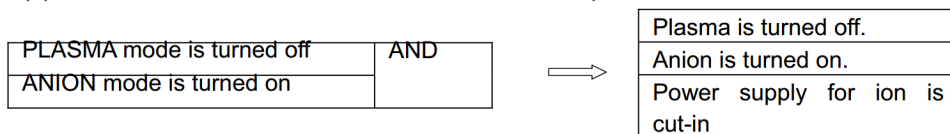
Turn on E-DEDUST mode to activate the electrostatic deduster.

When E-DEDUST mode, AUTO mode and SLEEP mode are turned off, the electrostatic deduster will be turned off.

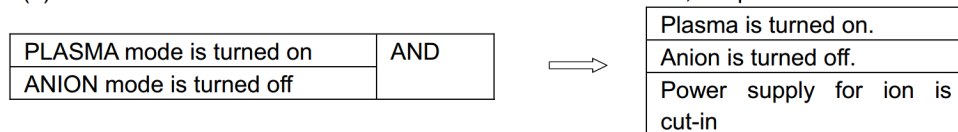
Medium speed of fan is automatically set in E-DEDUST mode.

5. PLASMA and ANION Modes

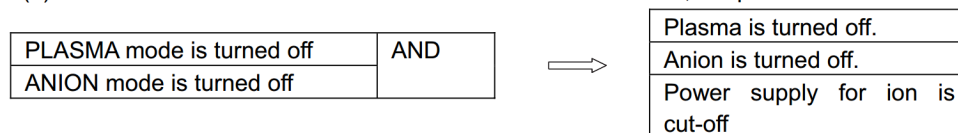
(1) If PLASMA mode is off and ANION mode is on, the plasma is turned on and anion is turned off.



(2) If PLASMA mode is turned on and ANION mode is turned off, the plasma is turned on and anion is turned off.



(3) If PLASMA mode is turned off and ANION mode is turned off, the plasma is turned off and anion is turned off.



(4) Low speed of fan is set automatically in PLASMA and ANION modes.

6. Dust Detection and Adjustment for Sensitivity Grade

(1) Dust Level and Sensitivity Grade

①There are 3 kinds of sensitivity Grades. Grade 1 means low sensitivity; Grade 2 means medium sensitivity; Grade 3 means high sensitivity.

②There are 4 dust levels. From level 1 to level 4, air quality gradually goes worse and worse.

(2) The dust sensor doesn't work within 5s after the unit is turned on and the dust level is grade 1.

(3)Dust sensor will be adjusted automatically based on the dust condition and display the condition by a respective grade.

Note: Dust sensor has to be preheated for 5s after the unit is turned on. Within the 5 seconds, it is acquiesce that the dust level is grade 1.

(4) Adjustment for Sensitivity Grade for Dust Detection

①Enter: Hold buttons " AUTO" and "SLEEP" simultaneously;

②Display: Nixie tube displays the current sensitivity grade of dust detection, such as "d1, d2 and d3".

③Operate: Nixie tube displays the current sensitivity grade of dust detection which can be adjusted by button UP/DOWN. The adjustment range is 1-3;

④Quit: Within 3s after adjustment is completed, the adjusted sensitivity grade will be saved automatically. Then quit the adjustment for sensitivity grade

When sensitivity grade of dust detection is displayed, press buttons "AUTO" and "SLEEP" again to save the adjusted sensitivity and quit the adjustment status.

⑤Buzzer sound a warning:

Due to pressing button UP when current grade is d3;

Due to pressing button DOWN when current grade is d1;

Press buttons FAN SPEED + HUMIDIFY (for adjusting sensitivity grade of odor detection) within 3s: buzzer sound a warning and others will not be activated.

7. Odor Detection and Adjustment for Sensitivity Grade

(1) Odor Level and Sensitivity Grade

① There are 3 kinds of sensitivity Grades for Odor. Grade 1 means low sensitivity; Grade 2 means medium sensitivity; Grade 3 means high sensitivity.

② There are 4 dust levels. From level 1 to level 4, air quality gradually goes worse and worse.

(2) The odor sensor doesn't work within 2 minutes after the unit is turned on and the odor level is grade 1.

(3) Odor sensor will be adjusted automatically based on the odor condition and display the condition by a respective grade.

Note: Dust sensor has to be preheated for 2 minutes after the unit is turned on. Within the 2 minutes, it is acquiesce that the odor level is grade 1.

(4) Adjustment for Sensitivity Grade for Odor Detection

① Enter: Hold buttons "FAN SPEED" and "HUMIDIFY" simultaneously;

② Display: Nixie tube displays the current sensitivity grade of odor detection, such as "o1, o2 and o3".

③ Operate: Nixie tube displays the current sensitivity grade of odor detection which can be adjusted by button UP/DOWN. The adjustment range is 1-3;

④ Quit: Within 3s after adjustment is completed, the adjusted sensitivity grade will be saved automatically. Then quit the adjustment for sensitivity grade

When sensitivity grade of odor detection is displayed, press buttons "FAN SPEED" and "HUMIDIFY" again to save the adjusted sensitivity and quit the adjustment status.

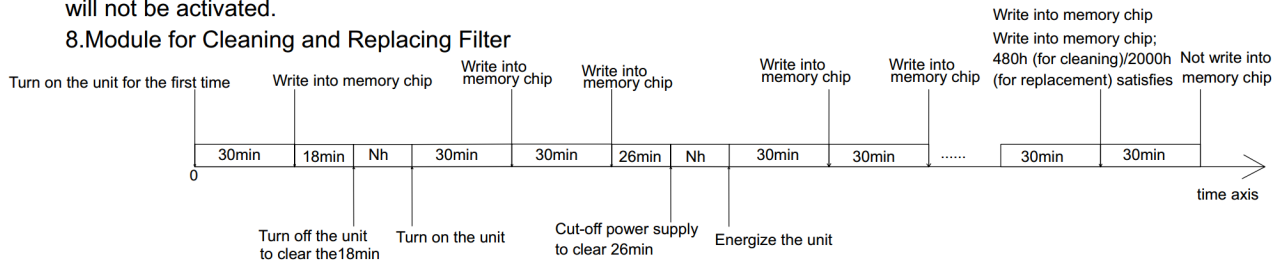
⑤ Buzzer sound a warning:

Due to pressing button UP when current grade is o3;

Due to pressing button DOWN when current grade is o1;

Press buttons AUTO + SLEEP (for adjusting sensitivity grade of dust detection) within 3s: buzzer sound a warning and others will not be activated.

8. Module for Cleaning and Replacing Filter



(1) Remind customer of cleaning filter-----electrostatic dedust filter or fore filter

① Timing: when fan continuously operate for 30 minutes, the time will be cleared but will be written into memory chip. If turning off the unit or de-energize the unit when fan hasn't operated for continuous 30 minutes, the time will not be memorized. When 480 hours reaches, the timing for cleaning filter will not continue.

② Enter: when the unit has operated for accumulated 480 hours, the LED lamp for cleaning filter will blink.

Note: If the unit is turned on, the LED lamp will blink; if the unit is turned off, the LED lamp will not blink.

Replacement of filter-----Health filter

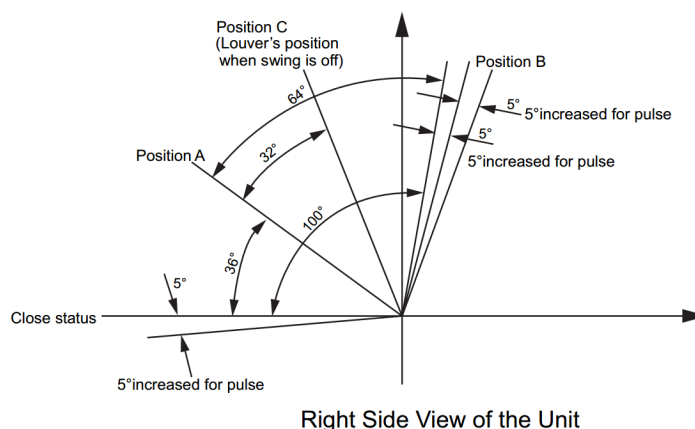
① Timing: when fan continuously operate for 30 minutes, the time will be cleared but will be written into memory chip. If turning off the unit or de-energize the unit when fan hasn't operated for continuous 30 minutes, the time will not be memorized. When 2000 hours reaches, the timing for replacing filter will not continue.

② Enter: when the unit has operated for accumulated 2000 hours, the LED lamp for replacing filter.

Note: If the unit is turned on, the LED lamp for replacing filter will blink; if the unit is turned off, the LED lamp for filtering will not blink.

(3) Reset of Accumulated Time: Refer to "Buttons for Resetting Time" in "Buttons Function Introduction".

9. Swing Module



Control of louver: Reset of louver; turn the louver to position C when the unit is turned on; turn the louver to position O when the unit is turned off; Turn on swing function when the unit is operating.

The angle of each position Position O-0°; Position A-36°; Position C-68°; Position B-100°.

(1) Swing Control after Energization

① Louver is reset to position O and the reset angle is $110^{\circ}+5^{\circ}$ (115°).

② The operation of louver is determined by ON/OFF status of the unit and the swing function.

If the unit is off status after energization, the louver will rotate to position O;

If the unit is operating but swing function is off after energization, the louver will rotate to position O firstly, then rotate to position B and at last rotate to position C.

If the unit is operating and swing function is turned on, the louver will rotate to position O firstly, then rotate to position B and after that, rotate to position C. Taking position C as center, the louver will swing between position A and B.

(2) Control of Swing when Turning on/off the unit:

If the swing function is turned off when the unit is turned on, the louver will rotate to position B and then rotate to position C;

When turning off the unit, the louver will rotate to position O to close.

(3) Turn on/off swing function when the unit is operating.

Turn on the swing function when the unit is operating: swing rang: Position A---Position B;

Turn off the swing function when the unit is operating: the louver will stops at its current position.

If malfunction occurs when the unit is operating, the swing function will not be affected.

Fan will not operate when swing is reset. Fan shall be turned on after the reset of swing is completed and angle of louver is 68°.

Whenever turning on the unit by remote control or button, no matter where the louver it is, the fan shall be turned on after louver rotates to 68°.

Control of Fan Speed

(1) Maintain previous fan speed

If one or more modes among E-DEDUST, HUMIDIFY, PLASMA and ANION modes are turned on and then another one mode among them is turned on, fan speed will not change. If more than one mode operate at the same time and then only one mode operates after the others are cancelled, fan speed will not change. All modes are turned off, fan speed will not change.

(2) The unit operates at defaulted fan speed

During AUTO or SLEEP mode, if turning on E-DEDUST mode, HUMIDIFY mode, PLASMA mode, or ANION mode, the fan speed will be automatically set according to respective mode. After that, the fan speed can be adjusted. If all modes are turned off and then turning on E-DEDUST, HUMIDIFY, PLASMA, or ANION mode, the fan speed will be automatically set according to respective mode. After that, the fan speed can be adjusted.

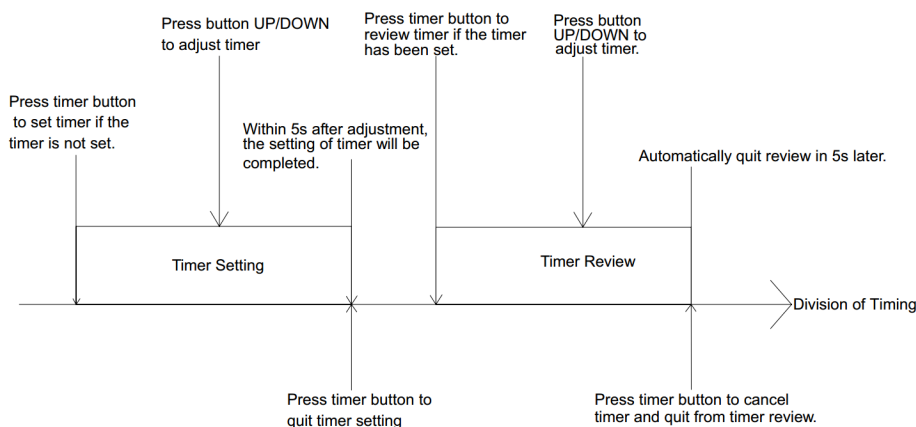
(3) The unit operates at set fan speed

When AUTO and SLEEP modes are turned off, press fan speed button to adjust fan speed. The unit will operate at set fan speed.

(4) Notes If operating remote control or pressing button on front panel to turn on the unit when the unit keeps being energized, the unit will operate at previous fan speed.

Press fan speed button to effectively adjust fan speed and the unit will operate at set fan speed which will be also written into memory chip. Once the fan operates, the fan will operate at medium speed and then change to corresponding fan speed.

11. Timer Module



(1) Timer Setting

① Enter: Press timer button to set timer. (when it's not timer setting status, not timer setting status, not humidity adjusting status.)

② Display: nixie tube displays setting of timer (If the setting is 0, the nixie tube will display "—") and LED lamp of timer will blink.

Operation: Press button UP/DOWN to adjust timer. The adjustment range is 0-24hours.

③ Quit: Timer is set: when adjustment is completed, the setting of timer within 0.5-24h will be automatically confirmed within 3s.

Timer is not set: during timer setting, press timer button to quit and cancel timer.

If adjusted timer is 0, in 5s later, the timer setting will quit automatically and be cancelled.

During timer setting, press ON/OFF button to quit timer setting, but if there is no timer setting, the unit will be turned on/off

④Note:

- a. The range of timer setting is 0.5-24 hours.
- b. The increment for each press is 0.5 if the timing is within 10 hours. The increment for each press is 1 hour if the timing exceeds 10 hours.
- c. When timer setting quits, nixie tube will return to display sensed humidity. If timer is set, the LED lamp for timer will be on; if timer is not set, the LED lamp for timer will be off.
- d. If timer setting is X.5h but the actual timing operation is larger than Xh and less than X.5h, when pressing timer button to review timer, the display will still be X.5h.

(2) Review for Timer

①Enter: Press timer button to review timer if the timer is set.

②Display: nixie tube displays time remaining (If the setting is 0, the nixie tube will display “—”) and LED lamp of timer will blink.

Operation: Press button UP/DOWN to adjust timer. The adjustment range is 0-24hours.

③Quit:

Timer is set: after entering timer review, if the timer has not been adjusted within 5s, the timer review will quit. If entering timer review and adjusting timer within effective range, the timer review will quit in 5s later after adjustment has been completed. The unit will operate according to the newly adjusted timer.

Timer is not set: during timer review, if adjusted timer is 0, in 5s later, the timer review will quit automatically and the timer will be cancelled.

During timer review, press ON/OFF button to quit timer review, cancel timer and turn on/off the unit.

④Note: After timer review quits, the LED lamp will be on if the timer is set; the LED lamp will be off if the timer is not set.

(3)Others:

①Timer-on: the timer-on can be set when the unit is turned off. The set range is 0.5~24 hours. When timer-on reaches, the unit will operate at preset mode and fan speed.

②Timer-off: timer-off can be set when the unit is turned on. The set range is 0.5~24 hours. When timer-off reaches, the unit will stop operation.

③Before timer reaches, the timer can be adjusted or cancelled. If the timer is adjusted, the timer will re-start the timing.

④Timing is decreased once for each 30 minutes.

⑤How to cancelling timer:

a. Press ON/OFF button to turn on/off the unit after the timer has been set.

b. Press timer button during timer review or timer setting.

c. During timer setting or timer review, to press ON/OFF button to quit the timer setting or timer review will cancel timer and turn on/off the unit.

12. Memory Module

Conditions for memorization: when there is effective input by remote control or button;

when timing for cleaning and replacement reaches continuous 30 minutes;

Timer reaches.

(2) Memory Content: Mode, Light, Set Humidity, Set Fan Speed, Swing, Odor Grade, Dust Grade, Time for Cleaning Filter, Time for Replacing Filter.

If power failure occurs, the unit will operate according to memorized content after power is restored. If the timer had been set but didn't reach when power failure occurs, the timer will be automatically set again after power is restored.

(3) Reading memory: the unit will read memory after energization.

(4)Content of read memory is the same as that of written memory.

(5) Abnormality of reading memory: when memory chip is null or fails to be read; the unit operate at AUTO mode after the unit is turned on, set humidity is 60%RH and there is no timer and swing;

The sensitivity grades for dust and odor are 2; the timing for cleaning and replacing filter is 0.

(6) Note:

For model with memory function, the timing for cleaning and replacing filter will be updated for every 30 minutes.

Note 1: If power failure occurs during AUTO or SLEEP mode, when power is restored, fan speed will be set according to dust grade and odor grade other than memorized fan speed.

6.Troubleshooting

(1) Malfunction of Humidity Sensor

Detection-when detected AD sampling value is no less than 250 for continuous 5s, there is malfunction of humidity sensor.

Display-when humidity sensor has malfunction, nixie tube displays L1.

Treatment-If humidity sensor has malfunction during AUTO, SLEEP or HUMIDIFY mode, motor will stop operation and other loads will work normally.

Note: 00 is displayed on nixie tube. Possible cause: the ambient humidity is less than 30% or humidity sensor has open circuit.

(2)Malfunction of Temperature Sensor

Detection-when detected AD sampling value is no less than 250 or no more than 5 for continuous 5s, the temperature sensor has malfunction.

Display-when temperature sensor has malfunction, nixie tube displays F1.

Treatment- If temperature sensor has malfunction during AUTO, SLEEP or HUMIDIFY mode, motor will stop operation and other loads will work normally.

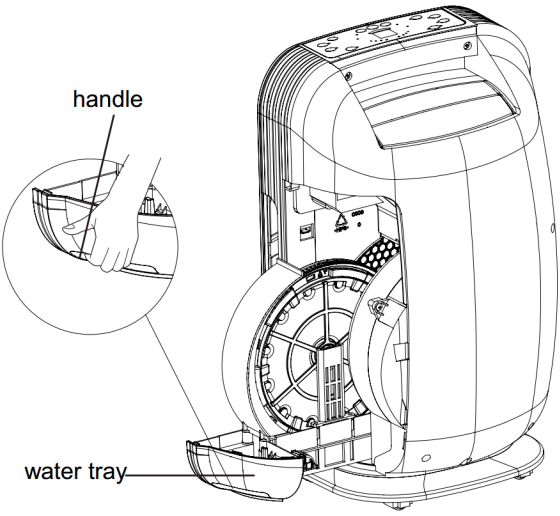
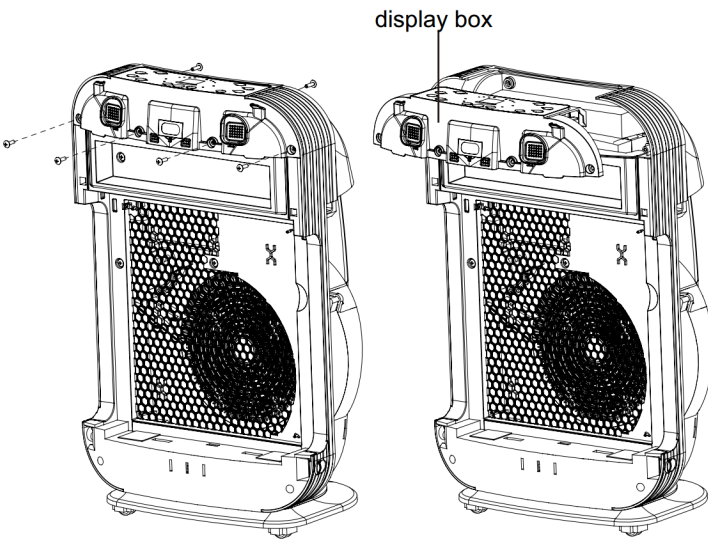
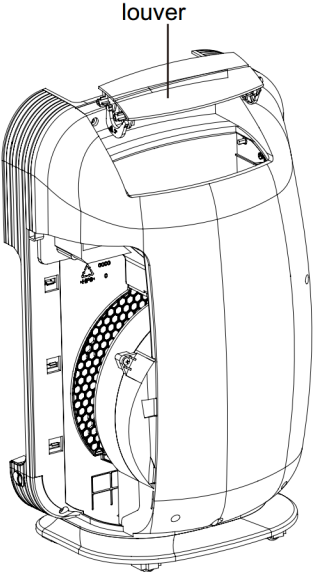
7. Removal Procedure

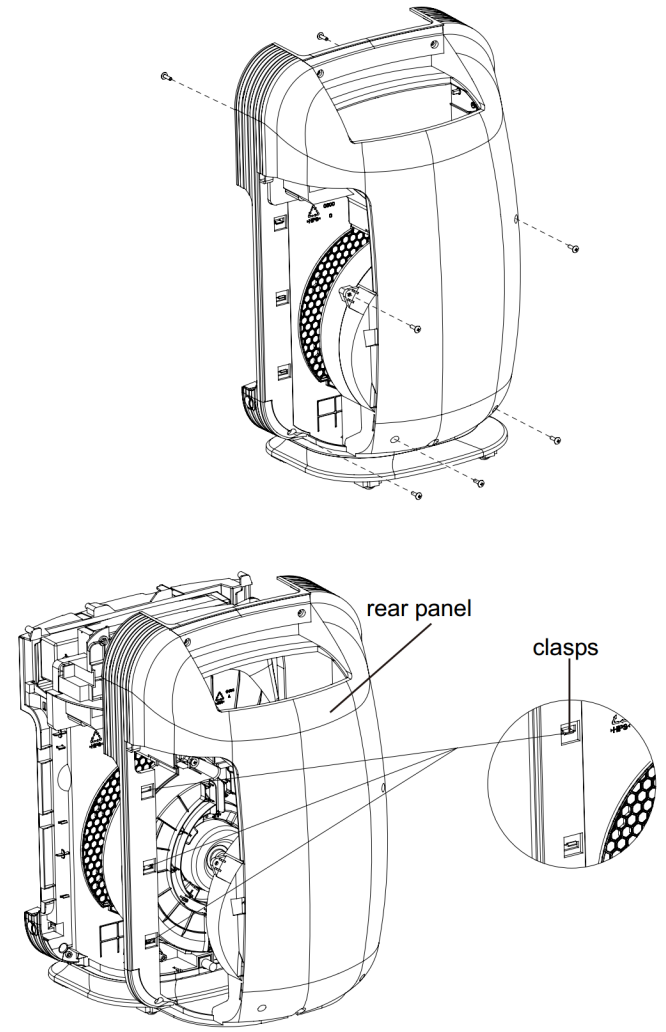
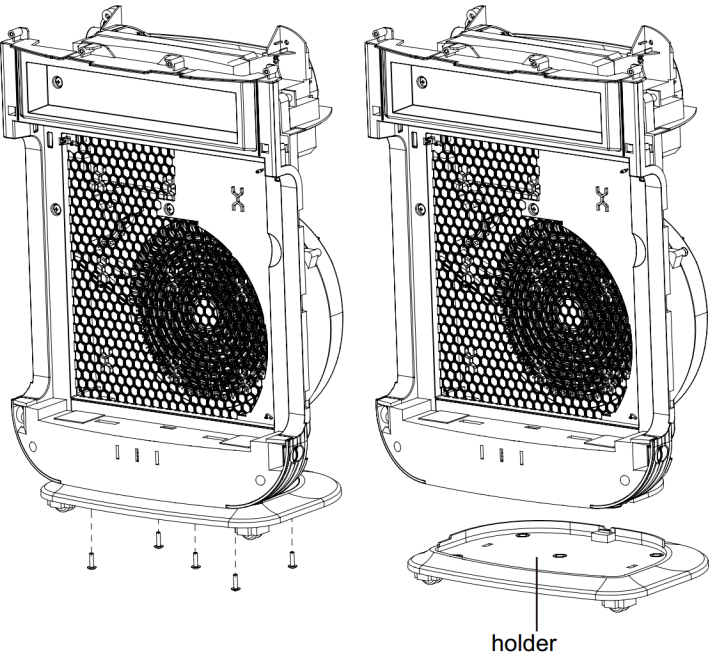


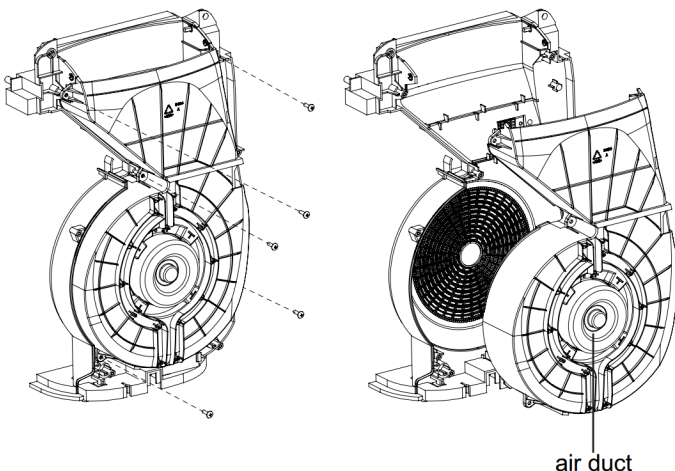
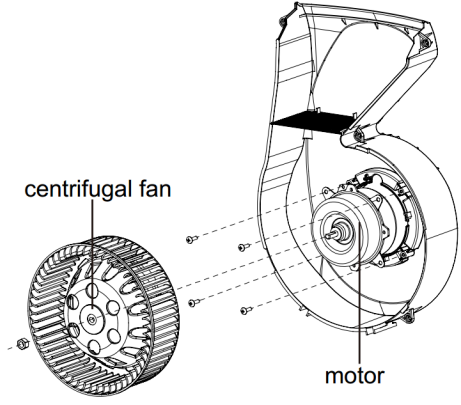
Warning

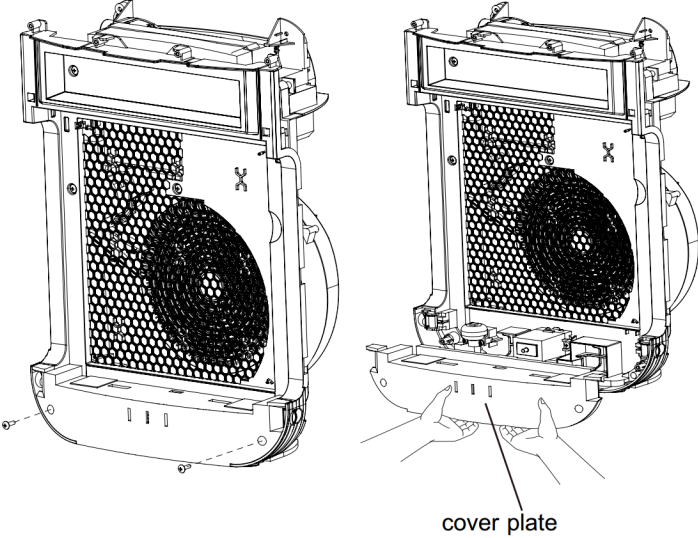
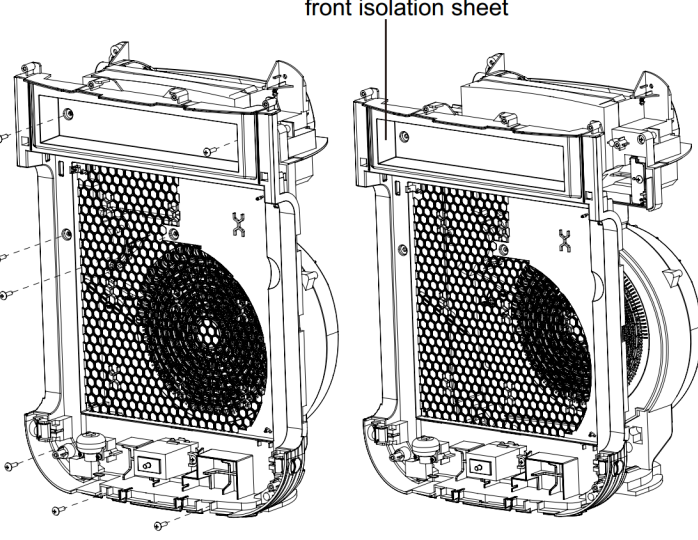
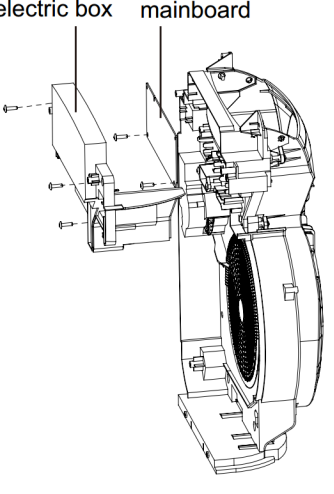
Be sure to wait for a minimum of 10 minutes after turning off all power supplies before disassembly.

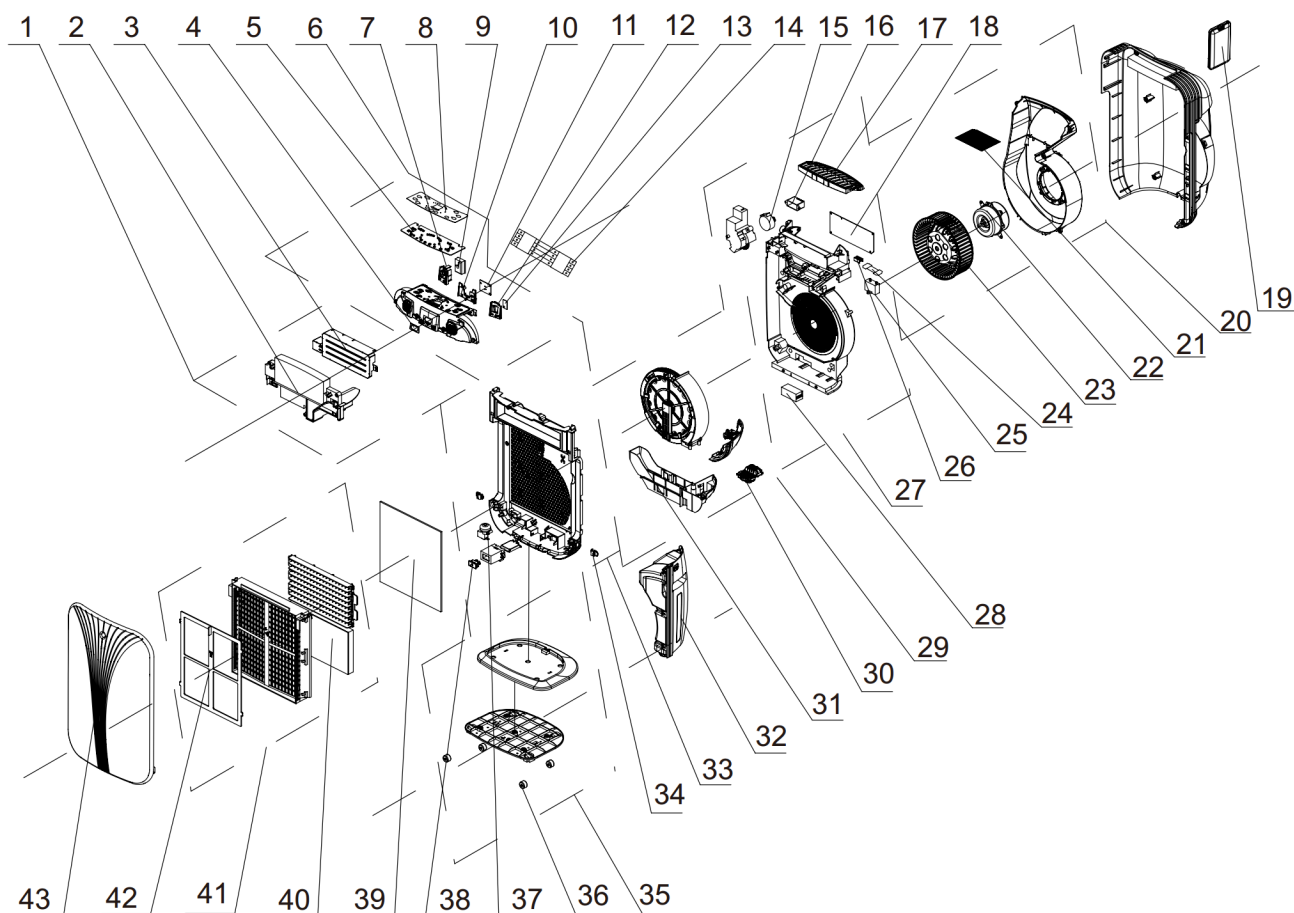
Step	Procedure	
1. Remove front panel	Slightly press clasps on both sides of front panel and draw the front panel outward. Then remove front panel.	
2. Remove dust collecting frame		
3. Remove water tank	Hold handles on dust collecting frame and slightly draw it outward to remove the dust collecting frame.	
	Press button PUSH on the upper of handle. Then draw the water tank outwards to remove it.	

Step	Procedure
4. Remove water tray	 Diagram illustrating the removal of the water tray. A hand is shown pulling the handle outward to lift the water tray out of the bottom of the device.
Hold handle and draw it outward to remove water tray.	
5. Remove display box	 Diagram illustrating the removal of the display box. The left view shows the display box being unscrewed from the top of the device. The right view shows the display box removed, revealing the internal fan and filter.
Remove screws fixing display box and then remove display box.	
6. Remove louver	 Diagram illustrating the removal of the louver. The louver is shown being bent slightly and lifted up to be removed from the top of the device.
Slightly bend the louver and lift it up to remove louver.	

Step	Procedure
7. Remove rear panel Remove 5 screws fixing rear panel and 2 screws fixing front case. Then remove rear panel. Note: during disassembly, don't damage the clasps.	
8. Remove holder Remove 5 screws fixing holder and then remove holder.	

Step	Procedure
12. Remove air duct Remove 5 screws fixing air duct and then remove air duct.	 air duct
13. Remove centrifugal fan and motor Remove retaining nut fixing fan blade and then remove centrifugal fan blade. Remove 4 screws fixing motor and then remove motor.	 centrifugal fan motor

Step	Procedure
9. Remove cover plate	Remove 2 screws fixing cover plate. Then hold the bottom of cover plate to draw it outwards to remove cover plate.  cover plate
10. Remove front isolation sheet	Remove 7 screws fixing isolation sheet and then remove front isolation sheet.  front isolation sheet
11. Remove electric box	Remove 3 screws fixing front isolation sheet and then remove electric box. Remove 2 screws fixing mainboard. Then remove mainboard.  electric box mainboard



No.	Description	Part Code	Qty
		SP-240A	
1	Electric Box Assy	01406251	1
2	Electric Box	20116040	1
3	Shield Cover of Electric Box	01596011	1
4	Membrane	63026169	1
5	Display Board	30560035	1
6	Display Box Assy	20116048	1
7	Dust sensor supporter	24216063	1
8	Membrane	6051600302	1
9	Dust Sensor	32210131	1
10	Supporter of receiver	24216064	1
11	Receiver Board	30040205	1
12	Humidity sensor supporter	24216065	1
13	Detecting Plate	30070018	1
14	Filter cotton	75136015	1
15	Synchronous Motor	15216002	1
16	Plasma Generator	11146001	1
17	Air Outlet Grille	22416056	1
18	Main Board	30130133	1
19	Remote Controller	30510433	1
20	Air Flue Assy	10106037	1
21	Rear Grill	01476029	1
22	Fan Motor	15016215	1
23	Centrifugal Fan	10316067	1
24	Fuse	46010055	1
25	Capacitor CBB61	33010026	1
26	Radiator	49010252	1
27	Front Case Assy	20006143	1
28	High Pressure Generator	11140017	1
29	Water Tray Assy	20186145	1
30	Antibacterial Agent Box Sub-assy	20186168	1
31	Water Tray	20186146	1
32	Water Tank Assy	20186247	1
33	Front Clapboard Assy	20056134	1
34	Front Panel Clip	26256002	2
35	Base Frame Assy	26156070	1
36	Castor	24236551	4
37	Dumpage switch	45010033	1
38	Button Switch	45010601	1
39	Filter	11126025	1
40	Packaging assy	50116048	1
41	Dust Collector Assy 2	24216061	1
42	Filter Sub-Assy	11126083	1
43	Front Panel Assy	20006127	1

The data above are subject to change without notice.

NOTE CONCERNING PROTECTION OF ENVIRONMENT



This product must not be disposed of via normal household waste after its service life, but must be taken to a collection station for the recycling of electrical and electronic devices. The symbol on the product, the operating instructions or the packaging indicate such disposal procedures. The materials are recyclable in accordance with their respective symbols. By means of re-use, material recycling or any other form of recycling old appliances you are making an important contribution to the protection of our environment. Please ask your local council where your nearest disposal station is located.

PRODUCER

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