2. Functions

Indoor Unit

Operation ON/OFF by Remote controller

Sensing the Room Temperature

• Room temperature sensor. (THERMISTOR)

Room temperature control

• Maintains the room temperature in accordance with the Setting Temp.

Starting Current Control

• Indoor fan is delayed for 5 sec at the starting.

Time Delay Safety Control

• Restarting is inhibited for approx. 3 minutes.

Indoor Fan Speed Control

• High, Med, Low, CHAOS

Operation indication Lamps (LED)

Signal Receptor
Receives the signals from the remote control.(Signal receiving sound: two short beeps or one long beep.)
Operation Indication Lamps

⏻	On/Off	: Lights up during the system operation.
☆	Sleep Mode	: Lights up during Sleep Mode Auto operation.
🕒	Timer	: Lights up during Timer operation.
✳	Defrost Mode	: Lights up during Defrost Mode or Hot Start operation.

Soft Dry Operation Mode

• Intermittent operation of fan at low speed.

Sleep Mode Auto Control

• The fan is switched to low(Cooling), med(Heating) speed.
• The unit will be stopped after 1, 2, 3, 4, 5, 6, 7 hours.

Natural Air Control by CHAOS Logic

• The fan is switched to intermittent or irregular operation
• The fan speed is automatically switched from high to low speed.

Airflow Direction Control

• The louver can be set at the desired position or swing up and down automatically.

Defrost(Deice) control (Heating)

• Both the indoor and outdoor fan stops during defrosting.

Hot-start Control (Heating)

• The indoor fan does not rotate until the evaporator pipe temperature will be reached at 28°C.

3. Operation Details

Function of Controls

DISPLAY

1) High quality LCD remote controller supplied

Operation Indicator

- On while in appliance operation, off while in appliance pause

Timer Indicator

- On while in timer mode (on/off) and in sleep timer mode, off when timer mode is completed or canceled

Defrost Indicator

- Off except when hot start during heating mode operation or while in defrost control.

Plasma Indicator

- On while in plasma mode, off while plasma mode is canceled.

Auto restart Indicator

- On while auto restart mode, off while auto restart mode is canceled.

Auto restart

- In case the power comes on again after a power failure, Auto Restarting Operation is the function to operate procedures automatically to the previous operating conditions.
  If your want to use this operation, press the Auto Restart Button.

Power(Forced Operation)

- Operation starts, when this button is pressed and stops when you press the button again.

■ Cooling Mode Operation

- When the intake air temperature reaches 0.5°C below the setting temp, the compressor and the outdoor fan stop.
- When it reaches 0.5°C above the setting temp, they start to operate again.

  Compressor ON Temp=> Setting Temp+0.5°C

  Compressor OFF Temp => Setting Temp-0.5°C
- While in compressor running, operating with the airflow speed set by the remote controller. While in compressor not running, operating with the low airflow speed regardless of the setting.

■ Healthy Dehumidification Mode

- When the dehumidification operation input by the remote controller is received, the intake air temperature is detected and the setting temp is automatically set according to the intake air temperature.

  26°C ≤ Intake Air Temp => 25°C

  24°C ≤ Intake Air Temp < 26°C => Intake Air Temp-1°C

  18°C ≤ Intake Air Temp < 24°C => Intake Air Temp-0.5°C

  Intake Air Temp < 18°C => 18°C
- While in compressor off, the indoor fan repeats low airflow speed and pause.
- While the intake air temp is between compressor on temp. and compressor off temp., 10-min dehumidification operation and 4-min compressor off repeat

  Compressor ON Temp. => Setting Temp+0.5°C

  Compressor OFF Temp. => Setting Temp-0.5°C
- In 10-min dehumidification operation, the indoor fan operates with the low airflow speed.

■ Heating Mode Operation

- When the intake air temp reaches +3°Cabove the setting temp, the compressor is turned off. When below the setting temp, the compressor is turned on.

  Compressor ON Temp. => Setting Temp. +2˚C

  Compressor OFF Temp. => Setting Temp.+4°C
- While in compressor on, the indoor fan is off when the indoor pipe temp. is below 26®¨C , when above 28°C , it operates with the low or setting airflow speed (while in sleep mode, with the medium airflow speed).
- While in compressor off, the indoor fan is off when the indoor pipe temp is below 33°C , when above 35°C , it operates with the low airflow speed.
- If overloaded while in heating mode operation, in order to prevent the compressor from OLP operation, the outdoor fan is turned on/off according to the indoor pipe temp.
- While in defrost control, both of the indoor and outdoor fans are turned off.

■ Defrost Control

- While in heating mode operation in order to protect the evaporator pipe of outdoor unit from freezing, reversed to cooling cycle to defrost the evaporator pipe of the outdoor unit.
- Defrost control is available 30 minutes later since heating mode operation started, and it will not polong over 6 minutes.
- Deicing starts only when the outdoor pipe temperature falls below -6°C after 30 minutes passed from starting of heating operating and more than 10 minutes operation of compressor.
- Deicing ends after 6 minutes passed from starting of deice operation or when the outdoor pipe temperature rises over 12°C even if before 6 minutes.

■ Fuzzy Operation (Outdoor unit C/O Model)

- According to the temperature set by Fuzzy rule, when the intake air temp is 0.5°C or more below the setting temp, the compressor is turned off. When 0.5°C or more above the setting temp, the compressor is turned on.

  Compressor ON Temp => Setting Temp+0.5°C

  Compressor OFF Temp => Setting Temp+0.5°C
- At the beginning of Fuzzy mode operation, the setting temperature is automatically selected according to the intake air temp at that time.

26°C ≤ Intake Air Temp => 25°C

24°C ≤ Intake Air Temp<26°C => Intake Air Temp+1°C

22°C ≤ Intake Air Temp<24°C => Intake Air Temp+0.5°C

18°C ≤ Intake Air Temp<22°C => Intake Air Temp

Intake Air Temp<18°C => 18°C

- When the Fuzzy key (Temperature Control key) is input after the initial setting temperature is selected, the Fuzzy key value and the intake air temperature at that time are compared to select the setting temperature automatically according to the Fuzzy rule.
- While in Fuzzy operation, the airflow speed of the indoor fan is automatically selected according to the temperature

■ Fuzzy Operation (Outdoor unit H/P Model)

- When any of operation mode is not selected like the moment of the power on or when 3 hrs has passed since the operation off, the operation mode is selected.
- When determining the operation mode, the compressor, the outdoor fan, and the 4 way valve are off and only the indoor fan is operated for 15 seconds. Then an operation mode is selected according to the intake air temp at that moment as follows.

24°C ≤ Inatake Air Temp => Fuzzy Operation for Cooling

21°C ≤ Inatake Air Temp<24°C => Fuzzy Operation for Dehumidification

Inatake Air Temp<21°C => Fuzzy Operation for Heating

- If any of the operation modes among cooling / dehumidification / heating mode operations is carried out for 10 sec or longer before Fuzzy operation, the mode before Fuzzy operation is operated.

1) Fuzzy Operation for Cooling

- According to the setting temperature selected by Fuzzy rule, when the intake air temp is 0.5°C or more below the setting temp, the compressor is turned off. When 0.5°C or more above the setting temp, the compressor is turned on.

Compressor ON Temp => Setting Temp+0.5°C

Compressor OFF Temp => Setting Temp+0.5°C

- At the beginning of Fuzzy mode operation, the setting temperature is automatically selected according to the intake air temp at that time.

26°C ≤ Intake Air Temp => 25°C

24°C ≤ Intake Air Temp<26°C => Intake Air Temp+1°C

22°C ≤ Intake Air Temp<24°C => Intake Air Temp+0.5°C

18°C ≤ Intake Air Temp<22°C => Intake Air Temp

Intake Air Temp < 18°C => 18°C

- When the Fuzzy key (Temperature Control key) is input after the initial setting temperature is selected, the Fuzzy key value and the intake air temperature at that time are compared to select the setting temperature automatically according to the Fuzzy rule.
- While in Fuzzy operation, the airflow speed of the indoor fan is automatically selected according to the temperature.

2) Fuzzy Operation for Dehumidification

- According to the setting temperature selected by Fuzzy rule, when the intake air temp is 0.5°C or more below the setting temp, the compressor is turned off. When 0.5°C or more above the setting temp, the compressor is turned on.

Compressor ON Temp => Setting Temp+0.5°C

Compressor OFF Temp => Setting Temp+0.5°C

- At the beginning of Fuzzy mode operation, the setting temperature is automatically selected according to the intake air temp at that time.

  26°C ≤ Intake Air Temp => 25°C

  24°C ≤ Intake Air Temp<26°C => Intake Air Temp+1°C

  22°C ≤ Intake Air Temp<24°C => Intake Air Temp+0.5°C

  18°C ≤ Intake Air Temp<22°C => Intake Air Temp

  Intake Air Temp < 18°C => 18°C
- When the Fuzzy key (Temperature Control key) is input after the initial setting temperature is selected, the Fuzzy key value and the intake air temperature at that time are compared to select the setting temperature automatically according to the Fuzzy rule.
- While in Fuzzy operation, the airflow speed of the indoor fan repeats the low airflow speed or pause as in dehumidification operation.

3) Fuzzy Operation for Heating

- According to the setting temperature selected by Fuzzy rule, when the intake air temp is 3°C or more above the setting temp, the compressor is turned off. When below the setting temp, the compressor is turned on.

  Compressor ON Temp => Setting Temp + 2°C
  Compressor OFF Temp => Setting Temp + 4°C
- At the beginning of Fuzzy mode operation, the setting temperature is automatically selected according to the intake air temp at that time.
  20°C ≤ Intake Air Temp => Intake Air Temp + 0.5°C
  Intake Air Temp < 20°C => 20°C

- When the Fuzzy key (Temperature Control key) is input after the initial setting temperature is selected, the Fuzzy key value and the intake air temperature at that time are compared to select the setting temperature automatically according to the Fuzzy rule.
- While in Fuzzy operation, the airflow speed of the indoor fan is set to the high or the medium according to the intake air temperature and the setting temperature.

■ Airflow Speed Selection

- The airflow speed of the indoor fan is set to high, medium, low, or chaos by the input of the airflow speed selection key on the remote controller.

■ On-Timer Operation

- When the set time is reached after the time is input by the remote controller, the appliance starts to operate.
- The timer LED is on when the on-timer is input. It is off when the time set by the timer is reached.
- If the appliance is operating at the time set by the timer, the operation continues.

■ Off-Timer Operation

- When the set time is reached after the time is input by the remote controller, the appliance stops operating.
- The timer LED is on when the off-timer is input. It is off when the time set by the timer is reached.
- If the appliance is on pause at the time set by the timer, the pause continues.

■ Off-Timer <=> On-Timer Operation

- When the set time is reached after the on/off time is input by the remote controller, the on/off-timer operation is carried out according to the set time.

■ Sleep Timer Operation

- When the sleep time is reached after <1,2,3,4,5,6,7,0(cancel) hr> is input by the remote controller while in appliance operation, the operation of the appliance stops.
- While the appliance is on pause, the sleep timer mode cannot be input.
- While in cooling mode operation, 30 min later since the start of the sleep timer, the setting temperature increases by 1°C After another 30 min elapse, it increases by 1°C again.
- When the sleep timer mode is input while in cooling cycle mode, the airflow speed of the indoor fan is set to the low.
- When the sleep timer mode is input while in heating cycle mode, the airflow speed of the indoor fan is set to the medium.

■ Chaos Swing Mode

- By the Chaos Swing key input, the vane automatically operates with the Chaos Swing or they are fixed to the desired direction.

■ Chaos Natural Wind Mode

- When the Chaos Natural Wind mode is selected and then operated, the high, medium, or low speed of the air-flow mode is operated for 2~15 sec randomly by the Chaos Simulation."

■ Jet Cool Mode Operation (Outdoor unit C/O Model)

- If the Jet Cool key is input at any operation mode while in appliance operation, the Jet Cool mode operates.
- In the Jet Cool mode, the indoor fan is operated at super-high speed for 30 min at cooling mode operation.
- In the Jet Cool mode operation, the room temperature is controlled to the setting temperature, 18°C
- When the sleep timer mode is input while in the Jet Cool mode operation, the Jet Cool mode has the priority.
- When the Jet Cool key is input, the upper/lower vanes are reset to those of the initial cooling mode and then operated in order that the air outflow could reach further.

■ Jet Cool Mode Operation (Outdoor unit H/P Model)

- While in heating mode or Fuzzy operation, the Jet Cool key cannot be input. When it is input while in the other mode operation (cooling, dehumidification, ventilation), the Jet Cool mode is operated."
- In the Jet Cool mode, the indoor fan is operated at super-high speed for 30 min at cooling mode operation.
- In the Jet Cool mode operation, the room temperature is controlled to the setting temperature, 18°C
- When the sleep timer mode is input while in the Jet Cool mode operation, the Jet Cool mode has the priority.
- When the Jet Cool key is input, the upper/lower vanes are reset to those of the initial cooling mode and then operated in order that the air outflow could reach further.

■ Auto Restarting Operation

- When the power is restored after a sudden power failure while in appliance operation, the mode before the power failure is kept on the memory and the appliance automatically operates in the mode on the memory.
- Operation Mode that is kept on the memory

- State of Operation ON/OFF
- Operation Mode/Setting Temp/Selected Airflow Speed
- Sleep Timer Mode/Remaining Time of Sleep Timer (unit of hour)

■ Forced Operation (Outdoor unit C/O Model)

- To operate the appliance by force in case that the remote controller is lost, the forced operation button is on the main unit of the appliance to operate the appliance in the standard conditions.
- Press the forced operation button, the forced operation is carried out.
- Press the forced operation button once again to stop operation.
- The forced operation is carried out in cooling mode with the setting temperature 22°C and the high speed of airflow.

■ Forced Operation (Outdoor unit H/P Model)

- To operate the appliance by force in case that the remote controller is lost, the forced operation selection switch is on the main unit of the appliance to operate the appliance in the standard conditions.
- Press the forced operation button, the forced operation is carried out.
- Press the forced operation button once again to stop operation.
- In the forced operation mode, the indoor fan is operated at low speed for around 15 sec and then the operation condition is set according to the intake air temperature as follows.

24°C ≤ Intake Air Temp => Cooling Mode Operation, 22°C, High Speed

21°C ≤ Intake Air Temp < 24°C => Dehumidification Operation, 23°C, High Speed

Intake Air Temp < 21°C => Heating Mode Operation, 24°C, High Speed

■ Test Operation Control

- To check the condition of the installation when installing the appliance, the appliance is operated at cooling mode, high speed of airflow, compressor-on for 18 min without controlling the room temperature.
- After supplying power to the main body, keep pressing the forced operation button for about 3 seconds.
- While in test operation, a key can be input by the remote controller.
  When a key (operation start/stop, operation mode selection, airflow speed selection, temperature control, Jet Cool) is input by the remote controller, the test operation is canceled and the appliance is operated according to the setting by the remote controller.

■ Protection of the evaporator pipe from frosting

- In the temperrature of the indoor pipe is below 0°C after 7 minutes from starting the compressor, the compressor and outdoor fan are stopped, and 3 minutes delay of operating of the compressor, when the temperature of the indoor pipe is over 7°C, the compressor and the outdoor fan are reoperated.
- Outdoor fan motor stops when indoor pipe temperature is blow 3°C and restarts at the pipe temperature above 6°C or after 90 seconds, if the pipe temperature does not rise to 6°C, outdoor fan motor runs continuously at even below 3°C.

■ Buzzer Sounding Operation

- When the appliance-operation key is input by the remote controller, the short “beep-beep-” sounds.
- When the appliance-pause key is input by the remote controller, the long “beep—” sounds.

■ Air Cleaner Operation

- When an air cleaner function is selected during Air Conditioner operation
  - Plasma air cleaner function will be operated while in any operation mode with selecting the function.
  - The function is to be stopped while it is operating with selecting the function.
- When an air cleaner function is selected during operation off
  - The function will be only operated.
- When inlet grille of air conditioner is opened during plasma operation, High Voltage Generator(H.V.B) is to be stopped. When inlet grille of air conditioner is closed during plasma operation, High Voltage Generator(H.V.B) will be operated again.