position or not sufficiently open, dirty battery, obstacles to the normal air flow, excess temperature of the external or internal air).

8.6 Automatic operating mode

In this operating mode the appliance is automatically set to create optimum thermohygrometric comfort in the conditioned room.
In effect, a function is inserted on the microprocessor installed on the appliance's printed circuit board which, depending on the value of the ambient temperature, generates a different reaction in the appliance (cooling, dehumidification or heating, if a heat pump) and a variable fan speed (except for dehumidification operation) in relation to the size of the deviation between the ambient temperature and the temperature set by the microprocessor. In this way the set temperature value is reached as quickly as possible.

The table which follows summarises the automatic operating logic:

In the Multisplit units one or more internal sections may be operating in the automatic mode, while the others are operating with manual control.

8.7 Operating mode with night-time recalibration

Activation of the operating mode with night-time recalibration of the set temperature can be used to obtain many different results and specifically:

- Gradual increase of the temperature set for cooling.
- Gradual reduction of the temperature set for heating (only for models 7600HP, 9500HP and 12300HP).
- Reduction of the appliance sound level.
- Savings in night-time consumption of electricity.

The programming, activation and deactivation modes for night-time operation are described in paragraph 5.10 of the User Manual and therefore we will not dwell on this subject. Night-time operation is not available for operation only with dehumidification.

8.7.1 Night-time recalibration with cooling

The operation with night-time recalibration with cooling is carried out based on the following operating logic:

a) The set temperature value is maintained for one hour after night-time operation has been activated.
b) In the next hour, the setting is gradually increased up to a value of 2°C above the original setting, while fan operation is set to low speed.
c) After the second hour has elapsed, the temperature setting and the fan setting are no longed modified.

In the Multisplit units, the night-time recalibration setting with cooling can be performed separately for each indoor unit.

8.7.2 Night-time recalibration with heating (only for heat pump Split models)

The operation with night-time recalibration with heating is carried out based on the following operating logic:

a) The set temperature value is maintained for one hour after night-time operation has been activated.
b) In the next hour, the setting is gradually lowered to a value of 4°C below the original setting, while fan operation is set to low speed.
c) After the second hour has elapsed, the temperature setting and the fan setting are no longed modified.

8.8 Programmed activation and deactivation

The appliance logic provides the User with the possibility of using two separate operating programs, thanks to which the appliance can be deactivated and activated (or vice versa) at any time.
The appliance activation program procedures are described in paragraph 5.11 of the User Manual and therefore we will not dwell on this subject.
In the Multisplit units, the operating programs can be set separately for each indoor unit.
To activate this operating mode the indoor unit must be turned on and off at the times set on the selected program.

8.9 Air filter cleaning interval counter

After using a sharp object to press the reset Microswitch of the filter cleaning signal LED located on the indoor unit, the microprocessor begins counting the hours of operation of that indoor unit. It should be recalled that the operating hours with ventilation only are also counted.
After totalling 260 hours, the microprocessor turns on the LED which indicates that the condition of the filters should be checked.

8.10 Alarm states

The electronic logic signals some alarm states due to abnormal operating conditions or defective components.

8.10.1 Primary alarms

There are two of these alarms which the system indicates by simultaneously turning on and flashing the green power supply led and compressor activation leds (first and third from the left on the console).

Initial ambient temperature	Set Operation	Temperature set automatically	Activated ventilation mode
> 28°C	Cooling	26°C	Max. speed
> 27, but < 28°C	Cooling	26°C	Medium speed
> 26, but < 27°C	Cooling	26°C	Min. speed
> 22, but < 26°C	Dehumidification	=====	Min. speed
< 18°C	Heating*	21°C	Max. speed
> 18, but < 20°C	Heating*	21°C	Medium speed
> 20, but < 22°C	Heating*	21°C	Min. speed

* Only for heat pump models.

Unlike what occurs for the secondary alarms, these alarms can be reset only by disconnecting and re-connecting the power supply to the appliance (therefore, through the main machine isolator to another external switch). These alarms are activated as a result of the:

a) Disconnecting or breaking one or more temperature measurement sensors (ntc) (see the specific paragraph in the installation manual).
b) Partial or total block of internal fan rotation due to mechanical (foreign matter, abnormal friction, excessive unbalances) or electric problems (defective microprocessor or burned motor).

8.10.2 Secondary alarms (only for '97 products)

(What is described below was a primary type of alarm for '96 products).

The system displays these alarms by simultaneously turning on and flashing the green "compressor" led and the yellow "programming" led. To reset the alarms, just press the "stand by" button of the remote control, turning the appliance off and on.
This alarm signals the tripping of the protection against overtemperatures of the internal unit battery during heat pump operation according to the procedure described in paragraph 8.5.6.

8.10.3 Alarms on the Multisplit Board

The external board mounted on the multisplit appliance also contains diagnostic logic that signals some operating or electric connection anomalies of that board:

a) If the two temperature sensors are no longer connected, a signal is generated in which the three leds on the board begin flashing simultaneously and all functions are stopped. The same thing occurs in case of damage to the sensors or their connection cables.
b) If the internal units are not correctly connected to the external unit as described in par. 3.7 of the installation manual, even activating the Cooling Function on the internal units (signalled by the third green "compressor" led) will not turn on the relative green led on the board of the external unit indicating that the solenoid valve corresponding to the activated unit has opened.

8.10.4 Signalling (on the Multisplit board version B heating/cooling with display)

A series of functioning states are displayed on this board with letters or numbers combined with the turning on of the LED next to the display.

— = displays the condition of the powered unit;

☼ H **LED on H** = Heating functioning mode inhibited because the outdoor air temperature is too high (if the temperature drops below the limit value of 22°C the alarm resets itself);

☼ 1 **LED on 1** = One unit in the heating functioning mode;

☼ 2 **LED on 2** = Two units in the heating functioning mode;

☼ 3 **LED on 3** = Three units in the heating functioning mode;

C = Cooling functioning mode inhibited because the outdoor temperature is too low (-5°C). If the temperature rises above the limit value the alarm resets itself;

1 = One unit in the Cooling functioning mode;

2 = Two units in the Cooling functioning mode;

3 = Three units in the Cooling functioning mode;

d = Defrosting state "d";

1 FLASHING = the "compressor discharge" sensor is either malfunctioning or not connected (to reset this alarm, remedy the cause for malfunctioning, turn power off and then back on);

2 FLASHING = the "battery" sensor is either malfunctioning or not connected (reset as above);

3 FLASHING = the "outdoor air" sensor is either malfunctioning or not connected (reset as above);

4 FLASHING = temporary tripping of the high pressure switch (automatic reset);

6 FLASHING = signal prior to tripping of the high pressure switch;

t = compressor turning on delay (wait a few minutes);

P FLASHING = the high pressure switch trips 3 consecutive times and the unit shuts down (once the cause for the malfunction has been remedied, reset by turning power off and then on);

F FLASHING = the unit has no refrigerant (check charge and then reset the alarm by turning power off and then on);

7 FLASHING = temporary tripping of the outdoor fan stop pressure switch due to high pressure (automatic reset).

The LEDs on the bottom right of the board, above the connections with the outdoor units, signal that the indoor units have been activated, and more precisely, from left to right:

- green LED ➜ signals activation of the Cooling unit 1;
- yellow LED ➜ signals activation of the Heating unit 1;
- green LED ➜ signals activation of the Cooling unit 2;
- yellow LED ➜ signals activation of the Heating unit 2;
- green LED ➜ signals activation of the Cooling unit 3;
- yellow LED ➜ signals activation of the Heating unit 3;

Thanks to this signalling it is possible to verify if the electrical connections have been done correctly: by turning the various indoor units on the corresponding LEDs should turn on.

8.11 Operating logic of the Multisplit system solenoid valves

Since it must work in a very extensive operating field, the Multisplit system is equipped with a series of devices that will avoid situations that might reduce performances. The activation logic of the valves is a determining factor for this purpose.