

# Wall mounted air conditioning units

## Models

Part N°	Description
91173AA	WA210 Wall Air Conditioner
91175AA	WHP 210 Wall Air Conditioner and Heat Pump
91174AA	WA 245 Wall Air Conditioner
91154AA	WHP 245 Wall Air Conditioner and Heat Pump

Installation Manual and Instructions for Use

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## CHAP. 1.1 GENERAL INFORMATION

We wish to thank you, first of all, for purchasing an Xpelair Digitemp air-conditioner.

We are sure you will be happy with it because it represents the state of the art in the technology of home air conditioning.

This manual serves to provide you with the instructions and explanations you need to make the best possible use of your air-conditioner.

We suggest that you read it carefully before starting to use the appliance.

By following the instructions and suggestions provided in the manual, your air-conditioner will give you years of smooth operation and comfort at the lowest cost in terms of power consumption.



#### **ATTENTION**

The manual is divided into 3 sections or chapters:

#### **CHAP. 1 GENERAL INFORMATION**

Contains information for the installer and end user.

The information, technical data and important warnings must be known before installing and using the air-conditioner.

#### **CHAP. 2 INSTALLATION**

Contains information exclusively intended for the installer.

The information contained in this chapter is necessary for installation of the air conditioner.

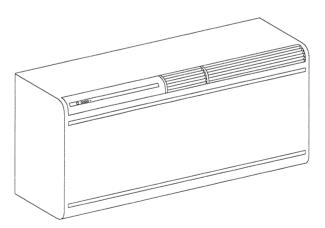
This appliance <u>must</u> only be fitted by a competent installer. Failure to comply with these instructions may invalidate your warranty.

## CHAP. 3 USE AND MAINTENANCE (by user)

Contains all information and instructions for proper use and programming of the air-conditioner, as well as instructions for simple maintenance and troubleshooting.



Our machines are subject to change and some parts may appear different from the ones shown here, without this affecting the text of the manual in any way.



Read this manual carefully before performing any operation (installation, maintenance, use) and follow the instructions contained in each chapter.

THE MANUFACTURER IS NOT RESPONSIBLE FOR DAMAGES TO PERSONS OR PROPERTY CAUSED BY FAILURE TO FOLLOW THE INSTRUCTIONS IN THIS MANUAL.

The manufacturer reserves the right to make any changes it deems advisable to its models, although the essential features described in this manual remain the same.



The installation and maintenance of air-conditioners like this one may be hazardous as they contain a cooling gas under pressure as well as powered parts.

Therefore, the installation, first startup and subsequent maintenance should be carried out exclusively by a qualified or competent person.



Routine maintenance of the filters and general external cleaning can be done by the user as these operations are not difficult or dangerous.

Please refer to this manual when considering installation or maintenance.



Always wear gloves and protective goggles when performing any operations on the refrigerating side of the units.



Air conditioners must not be installed in places containing inflammable gasses, explosive gasses, or in very humid environments (laundries, greenhouses, etc.), or in places where there are machines that generate very high heat.



In case of replacement of parts, use only original XPELAIR parts.



#### IMPORTANT!

To prevent any risk of electrocution, always disconnect the main circuit breaker before making electric connections or performing any maintenance on the units.



The following instructions must be made known to all personnel involved in the machine's transport and installation.

#### CHAP. 1.2 SYMBOLS

The diagrams in the next chapter provide the necessary information for correct, safe use of the machine.

#### 1.2.1 Editorial diagrams



#### Service

Refers to situations in which you should inform the SERVICE department in the company:

XPELAIR TECHNICAL SERVICE Technical Phone N° 08709 000430

Technical Fax N° 08709 000530



#### Index

 Paragraphs marked with this symbol contain very important information and recommendations, particularly as regards safety.

Failure to comply with them may result in:

- danger of injury to the operators
- loss of the warranty
- refusal of liability by the producer.



#### Raised hand

- Refers to actions that absolutely **must not** be performed.

#### 1.2.2 Safety diagrams



#### Danger of high voltage

- Signals to the personnel that the operation described could cause electrocution if not performed according to the safety instructions.



### Generic danger

- Signals to the personnel that the operation described could cause physical injury if not performed according to the safety instructions.



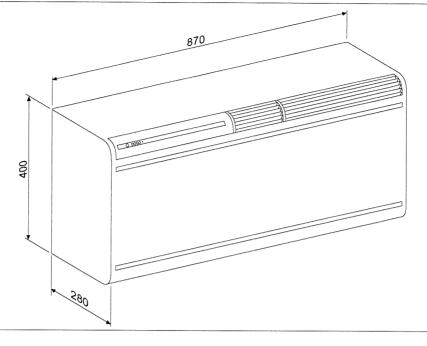
### Danger due to heat

 Signals to the personnel that the operation described could cause burns if not performed according to the safety instructions.



## CHAP. 1.3 TECHNICAL DATA

1.3.1 Overall dimensions



1.3.2 Technical features

		WA 210	WHP 210	WA 245	WHP 245
Cooling capacity	kW	2,1	2,1	2,45	2,45
Heating capacity	kW		1,9		2,035
Capacity absorbed during cooling	W	790	790	1100	1100
Absorption during cooling	A	3,47	3,47	4,83	4,83
Absorbed power during heating	W		720		1080
Absorption during heating	Α		3,16		4,75
Max. absorbed power (*)	W	930	930	1320	1320
Maximum absorption (*)	Α	4,12	4,12	5,85	5.85
Energy efficiency ratio (during cooling)		2,66	2,66	2,23	2,23
Energy efficiency class during cooling		A	Α	С	С
Coefficient of performance (during heating)			2,64	-	1,88
Energy efficiency class during heating		-	С		F
Annual energy consumption in cooling mode	kWx500h	395	395	550	550
Dehumidification capacity	l/h	1	1	1,2	1,2
Cooling Gas		R410a	R410a	R410a	R410a
Power supply voltage	V-Hz	230-50	230-50	230-50	230-50
Internal unit ventilation speed	Num.	3	3	3	3
Maximum delivery of air during cooling (indoor unit)	m <sup>3</sup> /h	350	350	390	390
Maximum air delivery OUTDOOR UNIT	m³/h	480	480	550	550
Dimensions of indoor unit (Lxhxw)	mm	870x400x280	870x400x280	870x400x280	870x400x280
Weight of indoor unit	kg	43	43	46	46
Weight of outdoor unit	kg		-	_	_
Maximum range of remote control	m	8	8	8	8

(\*) Maximum text conditions at high load

### 1.3.3 Technical notes

The powers indicated refer to the following conditions (ISO 5151 reference standards): in cooling and dehumidifying mode:

Air entering the inside unit at 27°C d.b. and 19°C w.b. with air entering the outside unit at 35°C d.b. in heating mode:

Air entering the inside unit at 21°C d.b. and 19°C w.b. with air entering the outside unit at 7°C d.b. and 6°C w.b. (d.b = dry bulb. w.b. = wet bulb).

## 1.3.4 Proper use

The air-conditioner should be used for the exclusive purpose of producing hot or cool air (on demand) for the sole purpose of obtaining a comfortable temperature in the room.

Improper use of the machine (outside and inside units) causing damage to persons, property or animals relieve XPELAIR of any liability.



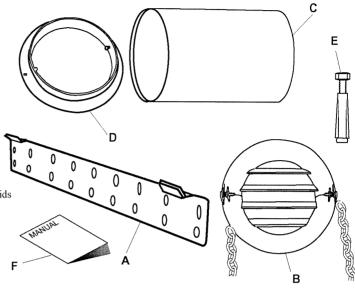
## CHAP. 1.4 LIST OF ACCESSORIES SUPPLIED

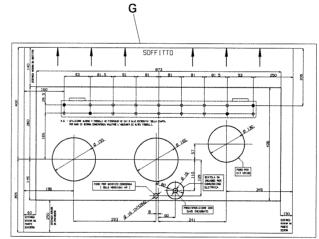
The two units that make up the airconditioner are packed separately in cartons.

Packaging may be transported per single units, by hand by two authorized persons, or loaded on a trolley, even piling up to a maximum of three packs.

The supply includes the parts listed in the table below. Before beginning to assemble the unit, make sure all the parts are within easy reach.

- A Wall fastening bracket 1
- B External air intake/outlet grids (2) complete with chains
- C 2 tubes to insert into holes on wall, 50 cm long
- D Pipe fastening inner flange 2
- E Kit of screws and anchor bolts
- F Manual of instructions for use and maintenance, and warranty
- G Paper template to make holes





1.4.1 Storage Store the cartons in an enclosed area protected against outside weather conditions and raised off the floor by planks or a pallet.



DO NOT TURN THE CARTON UPSIDE DOWN.

#### 1.4.2 Receipt and unpacking

The packing is made of suitable material and is done by expert personnel.

The units are delivered complete and in perfect condition, however we suggest that you perform the following controls of the quality of the shipping service:

- on receipt of the cartons check them for any damage and, if any is found, accept the goods with reservation, and keep photographic evidence of any damage found.
- unpack and check the contents against the packing list.
- make sure none of the parts have been damaged during shipment; in case of damage you must report it to the shipping company within 3 days of receipt, by registered letter with return receipt, presenting photographic documentation.

Copy of notice should also be sent by fax to XPELAIR SALES. (Fax N° 08709 000520). No notice of damage will be accepted after 3 days from delivery.



#### Important note:

Keep the packing at least through the warranty period, in case you need to ship the air-conditioner to the service centre for repair.

# Xpelair CHAP. 2 INSTALLATION

## CHAP. 2.1 INSTRUCTIONS FOR INSTALLATION



To obtain the best results and optimum performance, follow the instructions for correct installation provided in this manual. Failure to follow the instructions and apply the rules indicated may cause malfunction of the appliance and relieves the producer, XPELAIR of any form of guarantee and liability for damages to persons, animals or property.



The electrical system must comply with the regulations and rating data in the technical sheet, including an earth connection.

## CHAP. 2.2 SELECTION OF POSITION OF THE UNIT

The position for installation of the inside unit, to obtain the best performance and prevent breakdowns or hazards, must have the following requisites:

- It is recommended that the bottom of the unit is at least 2 meters off the floor and no more than 3 (fig. 1).
  - (If the unit is mounted at heights less than 2 m avoid siting it where the cooled air output may cause discomfort to people nearby).
- The wall on which the inside unit is installed must be sturdy and able to withstand its weight.
- It must be possible to leave room around the unit for any maintenance operations that may be necessary.
- There should be no obstacles to the free circulation of air on the intake side and, especially, on the air outlet side; on this side, in particular, there should be no obstacles closer than 2 m.
   This could cause turbulence that would interfere with correct operation of the unit.



The air conditioner must be installed on a wall that connects with the outside.



Caution: After determining the best place for installation as described above, check to make sure that the wall can be drilled in that point without interfering with other structures or installations (beams, piers, pipes, wires, etc.).

Check again to make sure there are no obstacles to air circulation through the holes to be drilled due to plants and their leaves, slats or panelling, blinds, gratings or grids too dense, etc.).



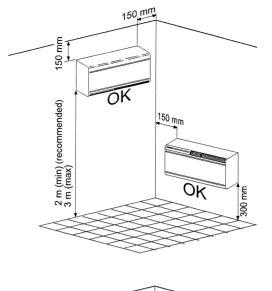
Before installing the air conditioner, it is essential to make an accurate calculation of the heat load in summer (and cold load in winter for models with heating pump) at the site of installation.

The more accurate this calculation is made the better the air conditioner will be able to do its job.

To make these calculations, refer to industry standard tables or computerised calculators.

For particularly significant applications, we recommend contacting our Application Design Service :

Technical Phone N° 08709 000430 Technical Fax N° 08709 000530



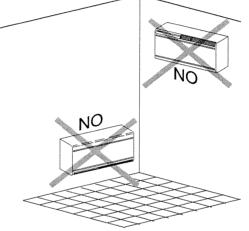


Fig.1

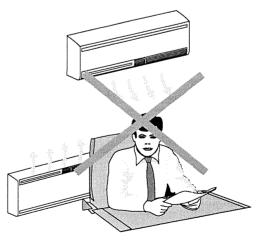


Fig. 2



As far as possible, in any case, it is important to try and reduce major thermal loads by the following means: Large glass panes exposed to sunlight should be provided

with curtains on the inside or shades on the outside (Venetian blinds, verandas, refracting films, etc.)

The air-conditioned room should be closed as much of the time as possible.

Halogen spotlights or other electrical equipment with high power consumption should not be used in the room (toasters, steam irons, hot plates for cooking, etc.).

- It should not be installed in a position where the air flow can strike the people underneath directly (fig. 2).
- Itshould not be directly over another appliance (television set, radio, refrigerator, etc.), or over a source of heat (fig. 3).
- There should be no obstacles for reception of signals emitted by the remote control (fig. 4).

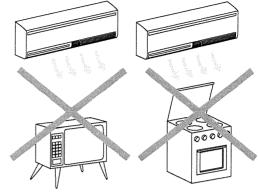


Fig. 3

#### **CHAP. 2.3 INSTALLATION OF THE UNIT**

#### 2.3.1 Drilling the wall

This operation should be carried out using the proper tools to facilitate your work and prevent excess damage or disturbance to your client.

The best tools for drilling large holes in walls are special drills called core borers with very high twisting torque and adjustable rotation speed depending on the diameter of the hole to be drilled.

To prevent the creation of large amounts of dust and rubble due to drilling, the core borer can be fitted with a vacuum system applied by means of suction cups to the drilling zone.

Core drills and accessories are available from tool suppliers to the construction industry.



To drill the holes, proceed as follows:

Fasten the drilling template to the wall leaving the necessary space from the ceiling, floor and side walls as shown on the template. Use adhesive tape to fasten it in place.

Use a small drill or punch to mark, with extreme care, the exact centre of each of the holes to be drilled.

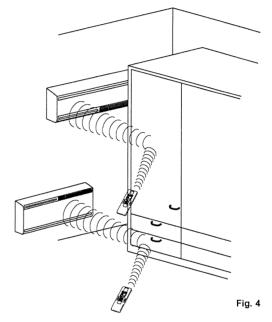
Using a core boring head measuring at least 152 mm to drill the two holes for entry and exit of the air.

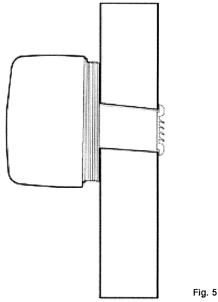


Note: The holes should have a slight downward inclination to prevent any backflow of water from the pipes (see fig. 5).

Most of the removed material is expelled outwards, therefore make sure that it does not hit any person or object when it falls out.

In order to avoid as much as possible outer plaster breaking, it is necessary to proceed carefully with the last part of hole execution, decreasing pressure on core borers.







Next, drill the holes for anchoring the fastening brackets to the wall using as a first option the 4 holes on the ends of the bracket as shown on the drilling template (see fig. 6).

If the wall is not very solid, it is advisable to use some extra anchor bolts.

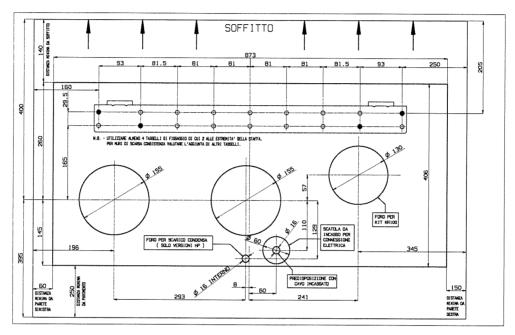


Fig. 6

As you can see, the bracket can be fastened in a number of different ways and positions. The air conditioner is heavier on the left-hand side, so it is best to make sure of a solid anchorage on that side. The anchor bolts provided require holes with a diameter of 10 mm. In any case, the wall should be inspected carefully to determine the best possible anchorage and type of bolts suitable for particular situations.



Warning: The manufacturer is not liable in case of underestimation of the structural consistency of the anchorage made at the time of installation. We therefore recommend that you perform this operation with the maximum care as, if not done properly, it can cause serious damage to persons and property.

When installing models equipped with heating pump, if no drainage well for condensate has been provided built into the wall (see paragraph 2.3.2), it will be necessary, to allow for drainage of the condensate, to drill a hole through the wall measuring 16 mm in diameter in the position shown on the template (see fig.6).



2.3.2
Provision for draining condensate for machines with heat pump.

When the machine is heating, it produces condensate that has to be drained through a specific drain line, otherwise the machine will not work. Drainage occurs by gravity. For this reason, it is essential for the drain line to have a minimum inclination of at least 3% throughout its length. The pipe can be rigid or not, with a minimum internal diameter of 16 mm.

If the line drains into a sewer system, it should be provided with a trap ahead of the main outlet.

The trap should be at least 300 mm lower than the inlet opening on the air conditioner (fig. 7).

If the drainpipe drains into a vessel (tank or other container), this container should not be sealed and the drainpipe should not remain immersed in the water (see fig. 8).

The correct position for the pipe inlet on the machine is shown on the template for drilling and positioning the machine (see also fig. 6).

The air conditioner is equipped with a pipe with an external diameter of 14 mm for drainage of condensate.

This pipe protrudes from the machine for a length of about 400 mm.

The pipe should be fitted inside the one provided by you for a distance of at least 200 mm, without any sharp bends that could obstruct it.

When draining toward the outside, the pipe can be inserted through the wall (always making sure to give it a suitable inclination) (see fig. 5).



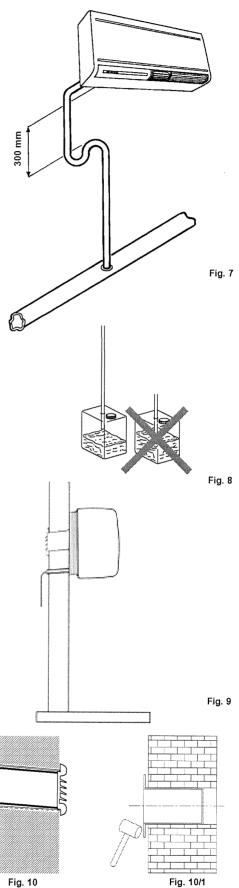
Caution: make sure, in this case, that the water expelled outward does not damage or disturb persons or property. During the winter this type of drainage may cause sheets of ice to form.



After drilling the holes, the plastic pipes supplied with the air conditioner have to be fitted through them. The pipe with insulation on the inside has to be fitted in the right-hand hole with the insulated part toward the inside as indicated on the label applied to it. The length of the pipes should be 55 mm less than that of the wall. To cut the pipe, a normal handsaw can be used. After cutting the pipes, fit the ends into the two internal anchoring flanges (fig. 10).

The tube diameter is nearly the same as those carried out using the 152 mm nominal diameter core drill. In order to introduce the tubes, they must therefore be forced slightly using, in the most difficult cases, a normal rubber hammer (fig. 10/1). Having the hole internal diameter extremely similar to the tube external diameter avoids air gaps which may generate humidity leaks or air noises. Should it prove too difficult to insert then widen the the hole slightly using the drill and core bit.

Next, fit the pipes into the holes in the wall and fasten the flanges with 4 screws, diameter 6, taking care to keep the two fastening holes in a horizontal position.





To position the external grids, proceed as follows:

- Fit the small eyelet of the spring, with the long stem, on the cap pin (on both components) (fig. 10/2).
- Fit the two caps (with spring), from the front part of the external grid, on the two housings, pulling until a click is heard (fig. 10/3) and attach the two chains to the large eyelet of the spring.
- Using one hand, grip the two chains connected to the grid.
- Bend the external grids back, gripping these with your free hand where the bend is and introducing your fingers inside the single fins (fig. 10/4).

Introduce your arm into the pipe until the grid protrudes completely outwards.

- Allow the grid to reopen, being careful to keep your fingers inside the fins.
- Turn the grid until the fins are fully horizontal and tilted towards the outside.
- Pull the chain, tensioning the spring, and fasten the ring of the chain onto the pin of the inner washer (fig. 11).
- Using a pair of nippers, cut the excess chain links (fig. 12).



Warning: If the external grille is accessible, to prevent the hazards resulting from its possible removal (insertion of the hands into the pipes and touching moving or powered parts) it is absolutely essential to fasten it to the wall with 4 screws with a diameter of 6 mm.



The air conditioner is equipped with a power supply cable for connection to a switched fused outlet.



WARNING: This appliance must be EARTHED Refer to rating plate for voltage.

All installations and wiring must be supervised by a qualified electrician.

Installations and wiring must conform to the current edition of BS 7671 (IEE wiring regulations).



Warning: This appliance must be connected to a double pole fused (13A) isolating switch which can be switched off when not in use. Switches should maintain a contact separation of at least 3mm in all poles.



## Important:

The wires in the mains lead fitted to the appliance are coloured in accordance with the following code:

GREEN AND YELLOW — EARTH
BLUE — NEUTRAL
BROWN — LIVE

Should the mains lead ever require replacement, it is essential that this operation be carried out by a qualified electrician. It should be replaced with a cable of adequate size (minimum 1.5mm<sup>2</sup> cross section).



Caution: these operations should be performed with the machine already positioned on the bracket.

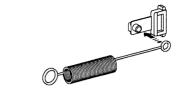
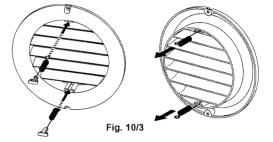
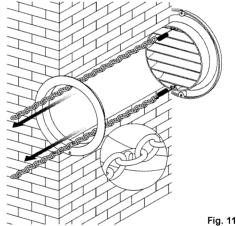
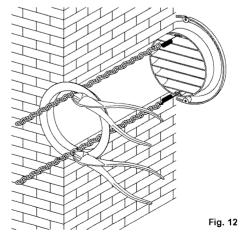


Fig. 10/2











#### 2.3.5 Fitting the unit on bracket

After checking again that the fastening bracket is securely fastened to the wall, and that any necessary preparations for electric connection and condensate drainage have been made, you can fasten the air conditioner to its supporting bracket. Lift it up holding the sides of the bottom (see fig. 13).

To facilitate the operation of fastening it to the bracket, tilt it slightly toward you.

To make the electrical connection and fasten the drainpipe, place a wedge between the air conditioner and the wall (see fig. 14).

After these operations have been carried out, the air conditioner can be pushed firmly against the wall so that the stud on the bracket catches.

When you have finished, inspect carefully to make sure there are no gaps at the back of the air conditioner (the insulating gasket must fit firmly against the wall) particularly in the zone where air enters and leaves the machine.

## CHAP. 2.4 PREPARATION FOR ASSEMBLY/INSTALLATION WALL TOP PART

## 2.4.1 Introduction

The air conditioner is assembled in the factory ready to be installed low on the wall.

The air outlet, in this case, is at the top of the air conditioner with the recycle grille and control panel.

In order to prepare the product for installation on the top part of the wall, follow the instructions below.

## 2.4.2 Removal of front casing



Note: if the air conditioner has not been installed on the wall yet, place it on its back. Do not apply heavy pressure to the bottom of the device as this could dent or scratch the casing.

Use a small blade screwdriver to remove the horizontal strips on the casing, applying gentle leverage in the slits along the sides. (see fig. 15).

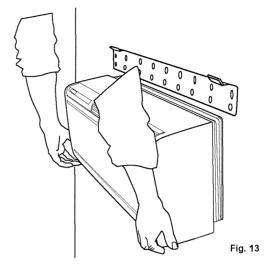
Take care not to scratch the strips or casing with the screwdriver point.

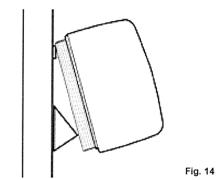
Unscrew the  $8\, \rm self\text{-}threading$  screws that fasten the casing to the air conditioner.

Lift the casing off carefully, pulling it toward you by about 50 cm (see fig. 16).

Disconnect the fastener on the right that fastens the wires to the airflow deviation baffle adjustment motor (see fig. 17).

Now you can remove the casing completely.





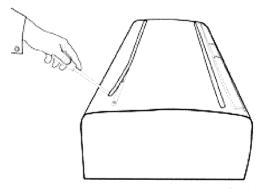


Fig. 15

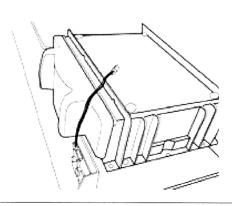


Fig. 17

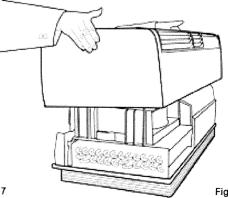


Fig. 16



## 2.4.3 Preparation of

Unscrew the bracket supporting the small circuit board with display lights and reinstall it on the bottom opposite, where you will find two holes on the base (see fig. 18-19).

Make sure the connection plate is securely fastened on the inside of the air conditioner, and apply some insulating tape if necessary. Remove the styrofoam enclosure on the lower right-hand side under the air recycle fan and fit it against the opening above the fan (see fig. 20-21).

Remove the air outlet grille by removing the fastening screws. Remove the control panel (see fig. 22).

When performing this operation place the casing on a secure surface so as not to scratch or dent it. Remove the plastic plate with the logo and transparent screen for display of the lights from the control panel by pressing on the hooks at the rear. Turn it over (rotate by 180°) and reinstall it on the panel.

Reassemble the parts in the opposite position from the original installation, reversing the air outlet grille with the control panel grille.

Turn the casing over so that the air outlet grille is on the lower right-hand side of the device.

Connect the plug on the motor of the grille.

Fit the casing back on the air conditioner carefully, taking care to hold the wires for the stepper motor to one side so that they do not interfere with the inner part of the air outlet grille.

Check that all the couplings on the inside of the case latch into the rear frame, so that the casing fits smoothly and evenly all around.

Fasten the casing with its eight screws and replace the strips in their slots.

After completing installation, the electronic parts of the air conditioner have to be configured so as to take into account the stratification of heat in the room. This procedure is outlined in paragraph 2.5 (Operating tests and diagnosis of possible malfunctions).

WORKING TESTS AND IDENTIFICATION OF POSSIBLE MALFUNCTIONS

The program introduced in the microprocessor of this device makes it possible to run a brief self-test to ensure that the machine functions normally by starting each of

- Power the air conditioner and make sure it is on stand-by.

- Use a small screwdriver to press the switch located under the hole on the left of the control

- At the beginning and end of the self-test procedure the status of configuration of the machine will be displayed

its internal components.

To run the self-test, proceed as follows:

panel for at least 10 seconds.

for a few seconds as follows:

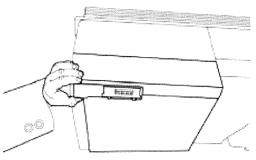


Fig. 18

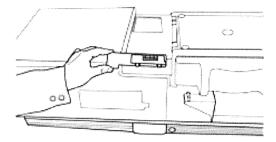


Fig. 19

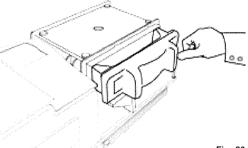


Fig. 20

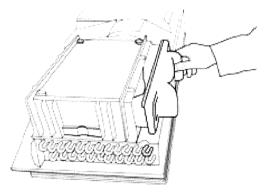
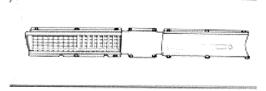


Fig. 21



ia. 22

**CHAP. 2.5** 



red light (filter): off = WA 210 / 245 units.

on = WHP 210 / 245 units. (with heat pump).

green light (compr.): off = with correction of room tem-

perature

on = without correction of room temperature

orange light (timer): off = without correction of room

temperature on = with correction of room tem-

perature

green light (power): = stand-by in case of black-

out

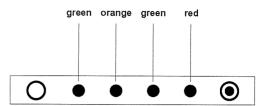
on = restart in case of black-out

- Check after a few seconds to see whether the equipment heats normally (if equipped with heat pump function) for about 2 minutes and then, after a few seconds, that it cools for another 2 minutes. Before concluding the self-test, the electronic part tests

the temperature probes to make sure they are operating normally. If any of these should not be working, the corresponding signal light remains lit for 20 sec. (see table on below).

Should there be a an obstruction or fault in the air conditioning system the indicator panel will display one of the light codes shown in the table below. Please be ready to refer to the Service Centre which lights are flashing in order that a diagnosis can be made.

Starting from the left:



CODE ALARM	DESCRIPTION POWER	green LED TIMER	orange LED COMPR.	green LED FILTER	red LED
1-FS	dirty filter				0
2-HTI	air inlet radiator overheated			0	
3-HTE	air outlet radiator overheated			0	0
4-LT	air inlet radiator low temp.		0		
5	pump working continuously		0		0
6-CF/RL	radiator temp. not reached		0	0	
7-OF	water level		0	0	0
8-CKS	eeprom parameters not valid	0			
9	-	0			0
10-TSF	short on room sensor	0		0	
11-TSF	room sensor disconnected	0		0	0
12-TSF	short on evaporator sensor	0	0		
13-TSF	evap. sensor disconnected	0	0		0
14-TSF	short on condenser sensor	0	0	0	
15-TSF	condenser sensor	0	0	0	0

The end of the self-test will be signalled by all the leds lighting up at once and blinking ten times, as well as by an acoustic signal.

At this time, you can adjust the temperature reading on the room temperature sensor. This correction is important if the air conditioner is installed high on the wall in a room where the warm air tends to stratify upward (as in rooms with high ceilings or other sources of heat besides the air conditioner). The sensor will read a temperature 3°C lower than the effective one, in this case, to compensate for the difference between the lower inhabited part of the room and the temperature at the height of the sensor.

To enter or remove this correction proceed as follows:

- 1 Check the status of the machine as described previously, and if no correction has been made, press the button on the console while the acoustic signal is on at the end of the self-test.
- 2 To remove the correction, press the button while the acoustic signal is on at the end of the self-test.



The machine is set in the factory without correction of the temperature.

In addition to the self-test (that can be made under any conditions of room temperature) we recommend that you also test the product in the various operating modes accessible to the user (see the user manual). One important test you should make concerns regular evacuation of condensation water on the models with heat pump. To check this, keep the machine running for at least 4-5 hours in the heating mode. If the water does not drain, there should be an "overflow" alarm.

#### 2.5.1 Evacuation of condensation water in case of emergency

If there should be a malfunction in the condensation water drain system, the air conditioner stops working and signals, with flashing orange, green and red lights (the second and third leds from the left), the alarm status.

To enable the air conditioner to work temporarily until the service personnel arrives, you can drain the water out by following these simple instructions:

- Grasp the rubber cap on the bottom centre of the air conditioner behind the edge of the frame facing the wall between your thumb and forefinger.
- between your thumb and forefinger.

   Pull the rubber tube closed by the cap out by a few centimetres.
- Remove the cap after placing a bucket or other container underneath it (at least five litre capacity) to collect the water (see fig. 23).
- water (see fig. 23).

  After eliminating the malfunction the service personnel will take care of closing the evacuation tube.

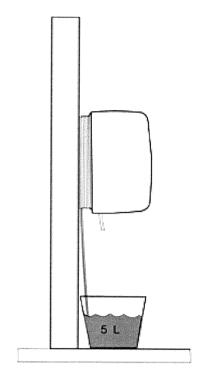


Fig. 23

#### CHAP. 2.6 PERIODICAL MAINTENANCE

Air conditioners of this type do not require any particular routine maintenance except:

- Cleaning or washing the room air filter when the red light comes on (see user manual).
- Cleaning of air inlet radiator, to be done as needed, depending on the amount of dirt in the external air, once or twice a year. To do this, you must **isolate** the unit and then remove the front casing and the noise insulation on the inside.
- Cleaning can be done using a vacuum cleaner or soft brush, taking particular care not to damage the aluminium heat exchanger baffles. It may be necessary to use a damp cloth and detergents to remove heavily encrusted dirt.



Note: after cleaning the radiator replace the noise insulation carefully matching the edges and gaskets with their reference markings.

Before you leave the site of installation you should gather up all packing material and use a damp cloth to remove any traces of dust that may have deposited on the machine during assembly (fig. 24).

To prevent unnecessary calls by the user, before you leave the site of installation it is also a good idea to:

- Explain the contents of the Instruction Manual to the user.
- Show him how to clean the filter.
- Explain when and how he should contact the Service Department

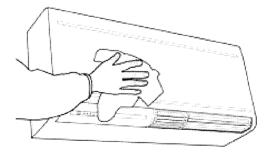


Fig. 24

## CHAP. 3 USE AND MAINTENANCE (for the user)



#### **CHAP. 3.1** Important Recommendations



Installation and connection of the air conditioner should be carried out by a qualified or competent person.



The instructions for installation are provided in the specific manual.



No structural object (furniture, curtains, plants, leaves, blinds, etc.) should ever obstruct the normal flow of air from either the internal or external grille.



Never lean or, worse yet, sit on the casing of the air conditioner as this could cause serious damage to the external parts.



Do not turn the horizontal airflow baffles by hand. Always use the remote control to adjust baffle position.



If the unit leaks water, switch it off immediately and disconnect it from the power mains.

Call the XPELAIR TECHNICAL SERVICE

Technical Phone N° 08709 000430 Technical Fax N° 08709 000530



When the air conditioner is heating, it has to periodically eliminate any ice that could form on the air outlet radiator. While it is doing this, the machine keeps running but does not heat the room. This lasts for a brief period of time, from 3 to a maximum of 10



The air conditioner **<u>must not</u>** be installed in rooms where explosive gasses develop or where there are conditions of heat and humidity beyond the maximum limits indicated in the installation manual.



Clean the air filter periodically, as described in the specific paragraph.

#### NAMES OF PARTS

## 3.2.1

## List of Units

- Air outlet grille.
- Louvers for lateral adjustment of airflow.
- Motor-operated air baffles for upward airflow
- Alarm display console.
- Air intake grille.
- Grips for removal of air filter.
- Rubber hose with cap on end for evacuation of condensation water in case of emergency.
- Power cable

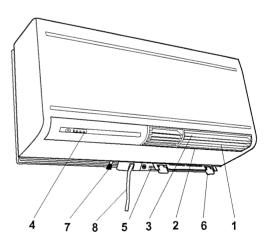


Fig. 25

#### 3.2.2 Description of signal console

- Remote control lense.
- Green led indicating machine is running (When the machine is on stand-by this light is off).
- Orange led indicates on/off programming is in use.
- Green led indicates cooling compressor is on.
- Red led indicates air filter clogged.
- Service switch (RESET).

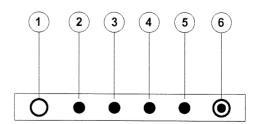


Fig. 26



## 3.3 CONTROL OF AIR CONDITIONER USING THE REMOTE CONTROL UNIT

#### 3.3.1 Remote control

The remote control supplied with the air conditioner is designed to be extremely sturdy and to ensure excellent performance in use, but it should nevertheless be handled with some care.



#### For example, do not:

- leave it out in the rain, spill water on its keyboard or drop it into water.
- subject it to impacts or drop it onto hard surfaces.
- leave it exposed to direct sunlight.
- place obstacles between the remote control and the air conditioner while using it.

#### Furthermore:

- if other devices operated by remote control (TV, radio, stereo systems, etc.) are located in the same room as the air conditioner, there may be interference,
- electronic and fluorescent lighting may interfere with communications between the remote control and the air conditioner,
- remove the batteries in case of prolonged disuse of the remote control.

#### 3.3.2 Insertion of batteries

Use only 2 dry cell batteries type LR03 with 1,5 V (supplied with the remote control unit). Dispose of used batteries according to local authority regulations.



### Replace both batteries at the same time.

To insert the batteries remove the spring-latch cover on the back of the remote control.

The batteries have to be inserted according to the positive and negative pole markings in the bottom of the battery compartment.

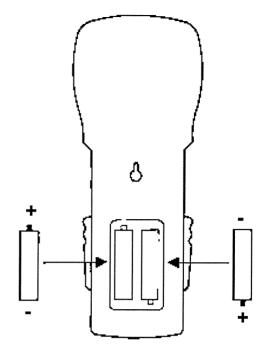
Close the spring-latch cover after inserting the batteries.

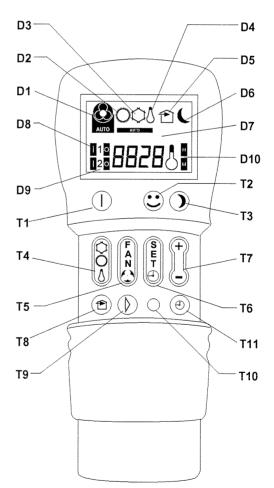
## 3.4 REMOTE CONTROL

The remote control is the interface between the user and the air conditioner. It is therefore particularly important to familiarize yourself with the parts of the remote control that relate to this interface.

#### 3.4.1 Description of the remote control

- T1 On/Off.
- T2 Well being mode (Automatic)
- T3 Night well-being mode
- T4 Operating mode selector.
- T5 Fan speed selector.
- T6 Button for setting timer and programs.
- T7 Button for increasing (+) or decreasing (-) the temperature/time settings.
- T8 Button to start external air intake (functions only if the air conditioner is equipped with this accessory).
- T9 Movable baffle adjustment On/Off button.
- T10 Reset button.
- T11 Program start button.
- D Display: shows operating status and settings as they are made.
- D1 Fan speed or automatic operating mode indicator (AUTO).
- D2 Heating.
- D3 Cooling.
- D4 Dehumidifier only.







- D5 External air intake switch.
- D6 Night operation switch.
- D7 Automatic operation switch.
- D8 First operating program switch.
- D9 Second operating program switch.
- D10 Temperature indicator (thermometer) or time indicator (H M).

The remote control is also equipped with a cover with a cursor that can be positioned so as to permit access only to the ON/OFF, AUTOMATIC MODE and NIGHT MODE buttons

With the cover in this position the air conditioner can be used but none of the settings can be altered.

#### 3.4.2 Switching on and control of operation

In order to operate the machine via the remote control, the power to the unit should be switched on.

Once these operations have been carried out, the machine may be regulated using the remote control.

To send commands to the air conditioner, point the front of the remote control toward the air conditioner control panel.

The device emits a beep when it receives a command. The maximum distance for transmission of commands is about 8 meters.

#### 3.4.3 Switching the unit on and off (button T1)

This button turns the machine on or off.

The machine's control system has a memory, therefore any setting will not be lost when it is turned off.

This button serves to switch the air conditioner on or off for brief periods of time.

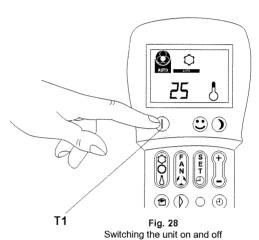
In case of prolonged stop of the machine, it must be deactivated turning the main switch off or unplugging the machine from the mains.



By means of this button the machine is automatically regulated in order to create an optimal comfort temperature in the air-conditioned room.

The machine's temperature is automatically regulated according to the room's temperature.

The fan speed is also automatically regulated according to the set temperature (except in dehumidification use).



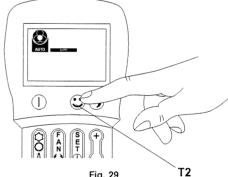


Fig. 29
Well being mode (Automatic)

## 3.4.5 Cooling function

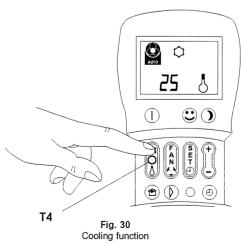
When used in this mode, the air conditioner dehumidifies and cools the room.

Button T4 is used to select the operating mode.

Press until the snowflake symbol appears on the display. First set the desired temperature and fan speed (see the relative paragraphs).

After three minutes (maximum time), the compressor should start up and the air conditioner should start cooling the room.

When the compressor starts you will see a green LED light up on the control panel.





#### 3.4.6 Dehumidifier only

When used in this mode, the air conditioner only eliminates the humidity in the room, practically without changing the temperature.

This function can be extremely useful between seasons, particularly on rainy days when the temperature is not uncomfortable but the excess humidity feels unpleasant.

When used in this mode, the air conditioner ignores the temperature and fan speed settings, which are not shown on the display in this case.

To operate the air conditioner in this mode, press Button T4 until the droplet symbol appears on the display with automatic ventilation.

In this operating mode it is normal for the air conditioner to function intermittently.

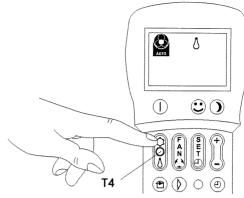


Fig. 31 Dehumidifier only

### 3.4.7 Fan only

When used in this mode the air conditioner does not act on the either the temperature or the humidity in the room, but only keeps the air in circulation.

This operating mode is selected by pressing button T4 until the fan symbol appears on the display.

At this stage you can select the fan speed (see paragraph 3.4.10).

## 3.4.8 Heating function (only models with heat pump)

When used in this mode the air conditioner heats the room. This function is only available on models with a heating pump (WHP210 and WHP245).

To select this mode press button T4 (operating mode selection switch) until the sun symbol appears on the display. First set the desired temperature and fan speed (see the specific paragraphs). After three minutes (maximum time) the compressor should start and the air conditioner starts heating the room. When the compressor starts you will see a green LED light up on the control panel.



Note: The air conditioner has to defrost its battery periodically (about once every half hour). During this operation (about 3-8 minutes) the air conditioner does not heat the room, though its internal parts remain on except for the room air fan. When the outdoor temperature is very low, there may be a slight delay (about three minutes) for passage from the minimum to the medium or maximum speed from when the command is sent to the machine with the remote control.

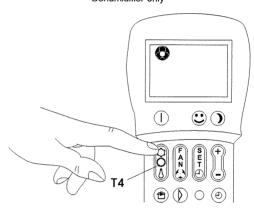


Fig. 32 Fan only

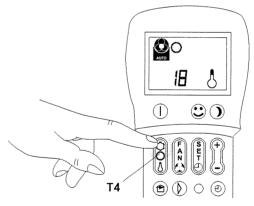


Fig. 33
Heating function (only models with heat pump)

#### 3.4.9 Control of air flow direction

The airflow can be controlled in both its horizontal and vertical direction. Control of the horizontal direction cannot be carried out with the remote control and must be made manually by adjusting the position of the fins on the outlet opening.



IMPORTANT: Adjustment of horizontal airflow should only be made when the movable grille is not moving.

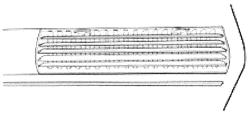


Fig. 34
Control of air flow direction

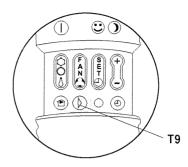


To adjust vertical airflow you can operate in two ways:

- continuous oscillation of airflow, obtained by pressing button T9 which starts and stops the movable grille.
   This enables the fins on the grille to turn completely around.
- stop the movable grille in the desired position by pressing button T9 again while the fins are in motion.
   Pressing button T9 will start automatic turning of the baffle.



IMPORTANT: The baffle must not be turned by hand.



#### 3.4.10 Control of fan speed

Fan speed is controlled by button T5.

Pressing this button gives the following sequence: once=Low, twice=Medium, three times=High, four times=Automatic.

The higher the speed setting, the greater the output of the air conditioner but also the louder its operation.

If you select Automatic mode, the microprocessor in the air conditioner adjusts the speed automatically, keeping it as high as needed to reach the temperature setting with respect to the effective room temperature.

As the room temperature nears the setting, fan speed is reduced automatically.

When the unit is operating in dehumidification mode, fan speed adjustment is not possible as it can only function at low speed.

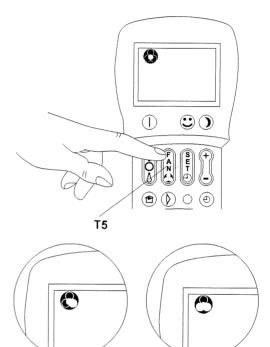


Fig. 35 Control of fan speed

#### 3.4.11 External air intake

This function is available only on devices equipped with the optional external air intake, that is an exclusive feature for this type of air conditioner.

Press button T8 once to start the microfan on the external air intake and open the shutter to refresh the air in the room.

Press button T8 again to close the shutter.

It should be borne in mind that opening the external air intake reduces the cooling effect of the air conditioner.

This is also true of the heating effect for machines equipped with a heat pump.

For this reason, if you want to maintain a constant flow of external air with the air conditioner in operation, you should first make sure your unit is powerful enough to operate this way.

If not, you should close the external air intake when the temperature outside is extreme.

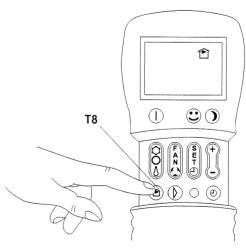


Fig. 36 External air intake



#### 3.4.12 Night well-being mode

Use button T3 to select Night well-being Mode, which includes the following functions:

- Gradual increase of the temperature set for cooling.
- Gradual reduction of the temperature set for heating (only HP models).
- Reduction of noise level.
- Lower energy consumption at night.

To select Night well-being mode press button T3 after selecting the operating mode using button T4 and setting the temperature using button T7.

Ideally, you should start night well-being mode operation just before you fall asleep.

In cooling mode, the set temperature is held for one hour after starting Night well-being mode operation.

For the next hour, the setting is allowed to increase gradually up to 2°C over the original setting, while the fan speed setting is low.

After the second hour, the temperature and fan speed settings are not changed.

In heating mode, the set temperature is held for one hour after starting Night well-being mode operation.

For the next hour the setting is lowered gradually to 4°C below the original while the fan speed setting is low.

After the second hour, the temperature and fan speed settings are not changed.

Night well-being mode operation is not available for dehumidifying only.

Night well-being mode operation can be halted at any time (ideally when you wake up in the morning) by pressing button T3 again.

At this stage the temperature and fan speed settings made prior to starting Night well-being mode operation go back into effect.

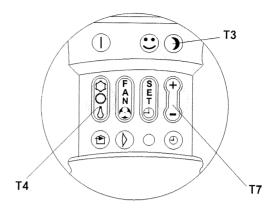


Fig. 37 Night well-being mode

### 3.4.13 Setting programs for operation

The air conditioner logic provides the user with a choice of two operating programs that can be set to start and stop at programmed times, for example you might want the air conditioner to start shortly before you return home so that it is cool when you get there.

To use these functions it is first necessary to set the exact time on the remote control and then set the time for the programs to start.

#### 3.4.14 Setting of correct time

To set the exact time proceed as follows:

- a) Press button T6 Time and Program Setting, as many times as necessary to display the hour indicator (H).
- b) Press the toggle button T7 to increase or decrease the numerical display until it shows the exact hour.
- c) Press button T6 again to display the minute indicator (M).
- d) Press toggle button T7 to increase or decrease the numerical display until it shows the exact time in minutes.

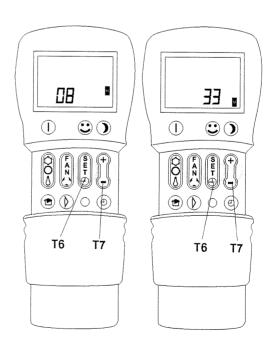
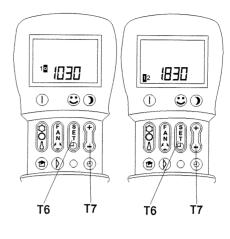


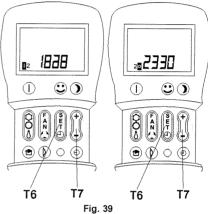
Fig. 38 Setting of correct time



3.4.15 Setting of time schedules for 1st and 2nd Operating Program (PROGR. 1 and PROGR. 2) To set the times for starting and stopping the two air conditioner programs, proceed as follows:

- a) Press button Time and Program Setting (T6), as many times as necessary to display the PROGR 1 ON indicator (Time to start 1st program).
- Press toggle button T7 to increase or decrease the numerical display of the time when you want program 1 to start.
  - Every time you press one end of the toggle button the time setting increases or decreases by 30 minutes.
- Press button T6 Time and Program Setting, as many times as necessary to display the PROGR. 1 OFF indicator (Time to stop 1st program).
- d) Press toggle button T7 to increase or decrease the numerical display of the time when you want program 1 to stop. Every time you press one end of the toggle button the time setting increases or decreases by 30 minutes.
- e) Press button Time and Program Setting (T6), as many times as necessary to display the PROGR 2 ON indicator (Time to start 2nd program).
- Press toggle button T7 to increase or decrease the numerical display of the time when you want program 2 to start.
  - Every time you press one end of the toggle button the time setting increases or decreases by 30 minutes.
- g) Press button T6 Time and Program Setting, as many times as necessary to display the PROGR. 2 OFF indicator (Time to stop 2nd program).
- h) Press toggle button T7 to increase or decrease the numerical display of the time when you want program 1 to stop. Every time you press one end of the toggle button the time setting increases or decreases by 30 minutes.
- To return to the normal operating mode just press button T6 as many times as necessary to cancel the program indications from the display.





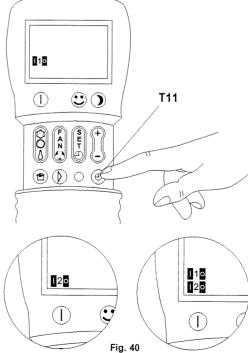
Setting of time schedules for 1st and 2nd Operating Program (PROGR. 1 and PROGR. 2)

3.4.16 Starting and stopping operating programs After making the settings for the operating programs, they can be used or not, as needed.

Either or both of the programs can be used. In particular, when you press T11 to run the

In particular, when you press T11 to run the programs, the following things occur:

Use of Program no. 1 only Use of Program no. 2 only Use of Programs 1 and 2 Disuse of both programs.



Starting and stopping operating programs



3.4.17 Resetting all functions of remote control Press button T10 to reset all the settings on the remote control.

This will cancel all the settings of the timer and the remote control will use the default settings.

In addition, by pressing T10 you will display all possible indications so that you can verify the proper conditions of the display.

3.4.18 Control of Air Conditioner if remote control is not available If you lose the remote control unit, or the batteries are dead or it is not working for any other reason, you can still control the air conditioner in the automatic mode using the microswitch on the console, that is the same switch that has to be used to reset the clogged filter alarm light. To do this, proceed as follows:

- Make sure the red clogged filter alarm LED is not on.
   If it is on, clean the filters and reset the indicator light as described in paragraph 3.5.1 Cleaning of air filter.
- Use a sharp object to press the microswitch located under the hole on the console.
- The air conditioner will function in "AUTO" mode.
   To restore normal operation under the control of the remote control unit, you need only give any command with the remote control unit when it becomes available again.

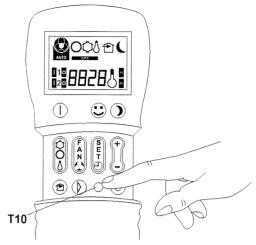


Fig. 41
Resetting all functions of remote control

## 3.5 MAINTENANCE

Your air conditioner has been designed to reduce operations of routine maintenance to a minimum and ensure that they can be performed easily by any user. The only operations required are the three types of cleaning illustrated below.

#### 3.5.1 Cleaning air filter

To ensure effective internal air filtration and satisfactory operation of your air conditioner, the air filter has to be cleaned periodically.

The need to perform this important operation is signalled after a prolonged period of use by a red led lighting up on the control panel (see fig. 26).

The filter is located on the front of the air intake grille on the back of the machine.

To remove it, press on the two fastening hooks and pull the filter toward you (see fig. 42).

Wash the filter by forcing a jet of water in the opposite direction from that of dust accumulation.

In case of dirt that is hard to remove (such as grease or other encrusted dirt) you may have to soak the filter first in a solution of water and neutral detergent.

Before replacing the filter shake it to eliminate the wash water.

The last part of this operation consists of briefly pressing, with a sharp object, the microkey located on the control panel.

The red led goes off and lights up again after the air conditioner has been in operation for a few days.

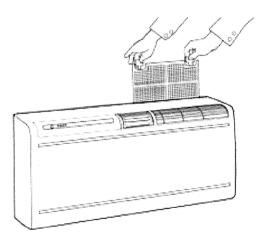


Fig. 42 Cleaning air filter



## 3.6 TROUBLESHOOTING

It is extremely important for the user to know when behaviour that seems like a malfunction really isn't. Among these are some (that we will indicate) that the user can easily correct following our simple instructions, while in other cases it is necessary to get in touch with our service personnel.

We also wish to remind you that any attempts to repair the equipment made by unauthorized personnel will immediately invalidate the warranty.

#### 3.6.1 Functional aspects that should not be mistaken for malfunctions

The compressor does not start up again immediately after a stop (it takes about three minutes to start again).

The operating logic of the device provides for a delay between stoppage of the compressor and starting up again.

This is to safeguard the compressor.

 When heating, on versions with the heating pump, the machine does not start emitting heat until a few minutes after the compressor starts.

If the fan should go into operation at the same time as the compressor, for the first few minutes it would emit cold air into the room (and this could disturb the occupants) as the heating function needs some time to warm up.

This is why the fan startup is delayed until after the compressor has started.

## CHAP. 3.7 RECOMMENDATIONS FOR ENERGY SAVINGS

- Always keep the filters clean (see chapter on maintenance and cleaning).
- Keep the doors and windows closed in the airconditioned rooms.
- Keep sunlight out of the room by using curtains, lowering the shades or closing the shutters.
- Do not obstruct the air flow (intake and outlet) on the units; this in addition to reducing the performance of the system, will jeopardize correct operation and could cause irreparable damage.



## CHAP. 3.8 TROUBLESHOOTING



In case of malfunctions of the air-conditioner, check the items in the table below

If, after making the suggested check the problem is not solved, contact  $\,$  XPELAIR  $\,$  TECHNICAL  $\,$  SERVICE Technical Phone N°  $\,$  08709  $\,$  000430  $\,$  Technical Fax N°  $\,$  08709  $\,$  000530

- The air conditioner does not switch on. This may be due to:
- lack of power;

what to do:

- Make sure power is being supplied (by switching on a light in the house, for example).
- Make sure the main circuit breaker is closed and the fuse is not burnt out (replace the fuse if necessary).
   If instead of a circuit breaker you have installed a cutoff switch, make sure it has not been tripped (reset it if necessary).
   If the problem persists, contact our Service Department and do not try to start the air conditioner.
- The batteries in the remote control are dead.

If the batteries are dead you will notice the absence of indications on the display and the failure of the air conditioner to beep when you try to send it a command. In this case, replace the batteries.

- The device no longer cools satisfactorily, this could be due to:
- The temperature set on the remote control being too high or too low (for models with heat pump); what to do:
- check and, if necessary, correct the temperature setting on the remote control.
- The air filter is clogged before the alarm indicator lights up. what to do:
- check and clean if necessary...
- Something is obstructing the airflow to the inside or to the outside; what to do:
- remove anything that could obstruct airflow.
- There has been an increase in the heating or cooling load (for example a door or window has been left open or a device that dissipates a large amount of heat has been installed in the room);

what to do:

- make sure the doors and windows are closed; if a heat source has been installed in the room that raises the temperature
  excessively and for which the air conditioner is unable to compensate, the only solution is to install another air conditioner
  or replace the existing one with a more powerful model.
- The air conditioner stops and the second and third led from the left on the control panel (orange, green and red lights) start flashing;

If there should be a malfunction in the condensation water drain system, the air conditioner stops working and signals, with flashing orange, green and red lights (the second and third leds from the left), the alarm status.

To enable the air conditioner to work temporarily until the service personnel arrives, you can drain the water out by following these simple instructions:

- Grasp the rubber cap on the bottom centre of the air conditioner behind the edge of the frame facing the wall between your thumb and forefinger.
- Pull the rubber tube closed by the cap out by a few centimetres.
- Remove the cap after placing a bucket or other container underneath it (at least 5 litre capacity) to collect the water.
- After eliminating the malfunction the service personnel will take care of closing the evacuation tube.



IMPORTANT: If you are unable to classify the problem as one of those described above, you should immediately get in touch with our Service Department without attempting to make any repairs yourself.



## **GUARANTEE**

We, Xpelair, guarantee that should this air conditioning unit prove to be defective by reason of faulty workmanship or material within 24 months of the date of purchase or commencement of hire purchase we will replace the defective part free of charge on condition that:

- a) The appliance has been correctly installed and used only on the supply circuit or voltage stamped on the rating label.
- b) The appliance has been used in accordance with these instructions and has not been tampered with or otherwise subject to misuse, neglect or accident.
- c) The appliance has not been taken apart, modified or repaired except by a person authorised by us.
- d) Evidence of the date of purchase in the form of an invoice, receipt (or hire purchase documents) is included with the appliance if returned under guarantee.

This guarantee does not affect your statutory rights Full details of Terms and Conditions of guarantee are available on request from

XPELAIR SALES SERVICE Sales Phone N° 08709 000420

Sales Fax N° 08709 000520

XPELAIR TECHNICAL SERVICE Technical Phone N° 08709 000430

Technical Fax N° 08709 000530



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