SERVICE MANUAL

DRYERS

Condenser dryer with electronic control system

ENV 06 B Class

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SOI

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INDICE

1 Purpose of this Manual

The purpose of this Service Manual is to provide service engineers who already have the basic knowledge necessary to repair dryers with information concerning condenser dryers with electronic control systems ENV 06 with anti-crease system CRM.

The control system features two PCBs: a main one featuring an integrated selector and LCD display, supplied already mounted and tested by the building factory and a control board of the CRM system.

This Service Manual describes the following aspects:

- General characteristics
- Control panel and drying programmes
- Technical characteristics
- Accessibility
- Diagnostics guide

2 IMPORTANT

 WARNING	⇨ Repairs to electrical appliances must be carried out only by qualified service engineers. ⇨ Before touching internal components, always remove the plug from the power socket.

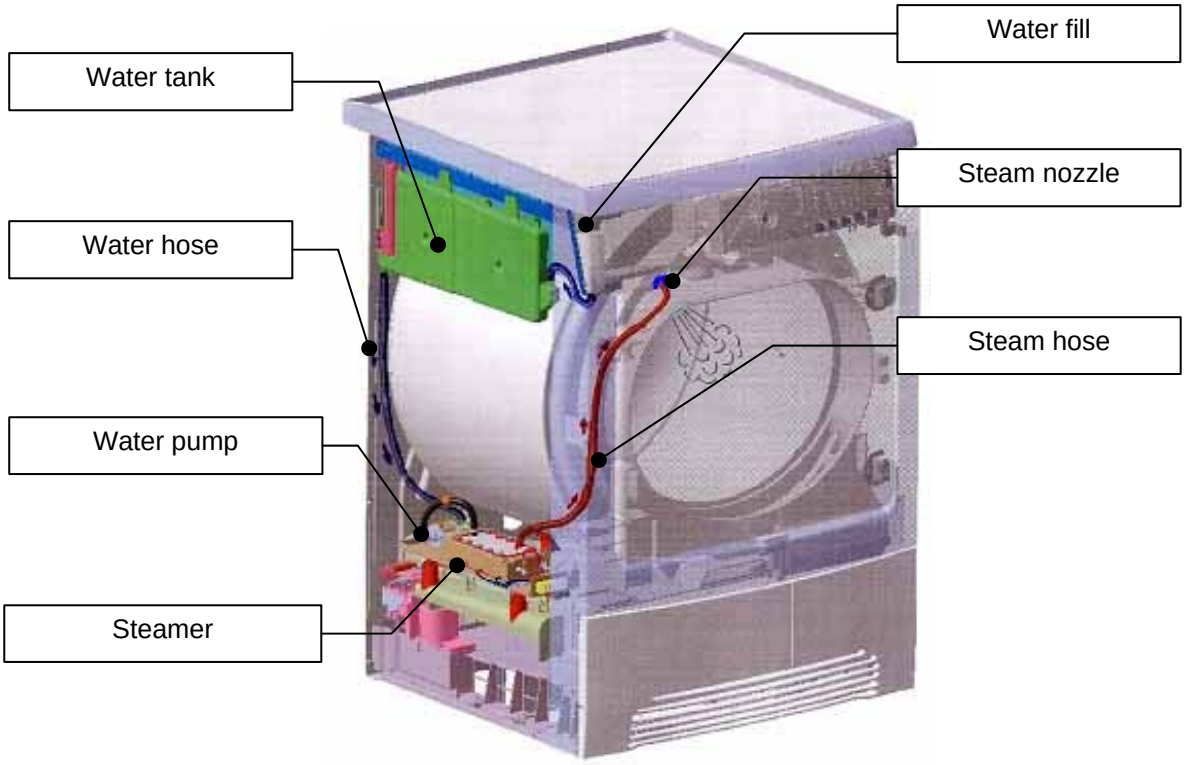
2.1 Installation

⇨ The appliance must be installed on a perfectly level surface in order to ensure that the condensed water flows correctly into the tank.

⇨ The feet must NOT be removed. The gap between the bottom of the dryer and the floor is essential to prevent overheating.

3 GENERAL CHARACTERISTICS

This dryer is featured with a system for the steam generation called CRM.



3.1 Technical data

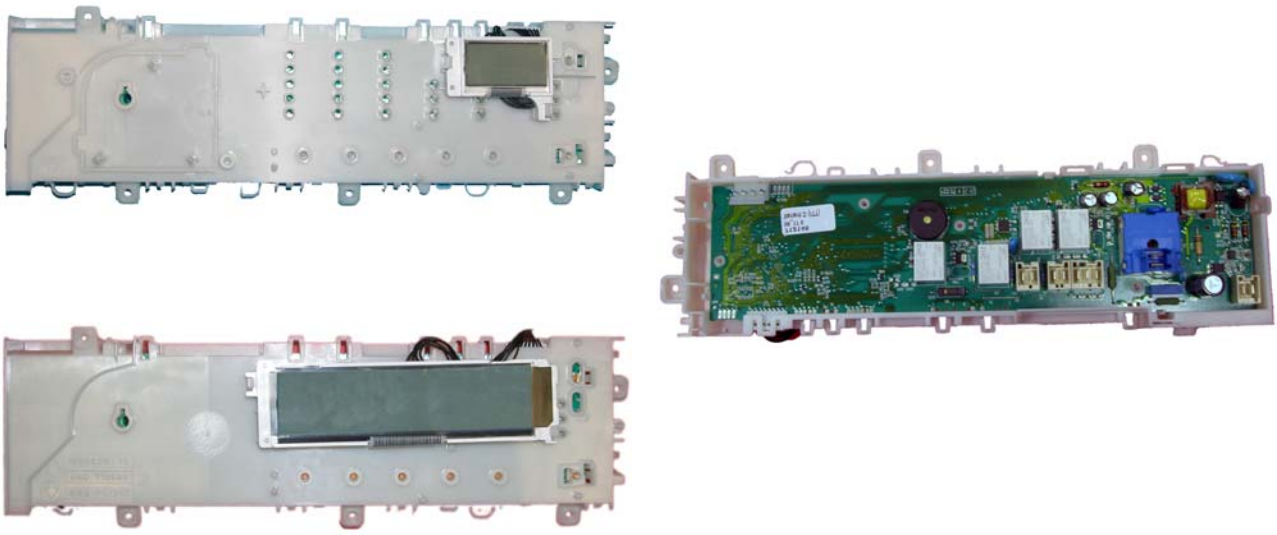
Dimensions of appliance	▪ Height: ▪ Width: ▪ Depth:	85 cm 60 cm 58 cm
Power supply	▪ Volt: ▪ Hz:	220-240 50/60
No. pushbuttons	▪ 7 on models with big LCD ▪ 6 on models with small LCD	
No. LEDs	▪ 3 + 1 on start button on models with big LCD ▪ 9 + 1 on start button on models with small LCD	
Type of display	▪ LCD	
Buzzer	▪ Buzzer incorporated in the PCB	
Serial port	▪ DAAS-EAP protocol up to 230400 baud	
Programme selector	▪ 15 positions with main switch (incorporated in the PCB)	
Drying system	▪ Condensation of humidity by heat exchanger	
Humidity control	▪ Conductimetric sensor	
Motor	▪ Single-phase asynchronous motor with capacitor	
Power of heater unit	▪ Version 220-240V 2200 W	1400 W + 800 W
Temperature control	▪ NTC Sensor	
Capacity of canister	▪ Condensation tank 4l approx. ▪ CRM tank ca 1,2l	
Dimensions of appliance	▪ Synchronous motor	
Steamer	▪ 220-240 V 2000W	

3.2 Control boards

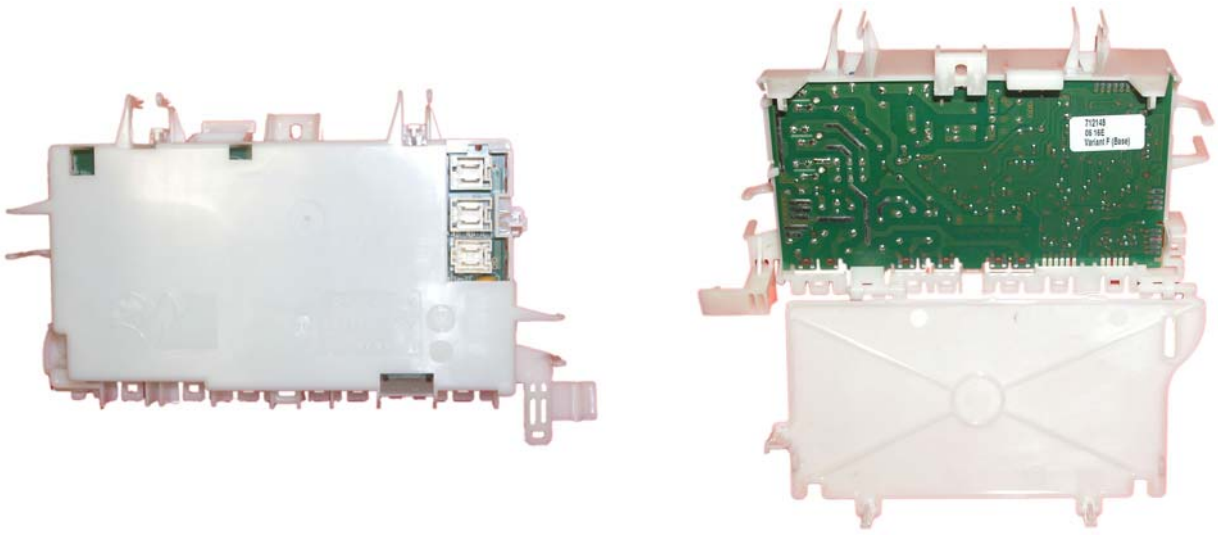
The electronic control consists of two electronic boards, a main one having an integrated selector and a LCD display, supplied already mounted and tested by the building factory and one control board of the CRM system.

The pictures of the board can slightly differ from the ones mounted on the appliance.

Main electronic board



CRM Control board



4 CONTROL PANEL

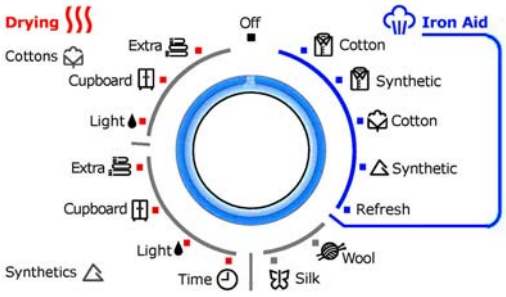
4.1 Stylings

Control panel with small LCD

Control panel with big LCD

4.2 Programme selector

The 15-position programme selector (with incorporated ON/OFF switch) is built into the board.
The symbols represent the different possibilities of drying the various fabrics COTTON SYNTHETICS SILK WOOL and the different programmes with the addition of the anti-crease steam in the final phase (CRM).

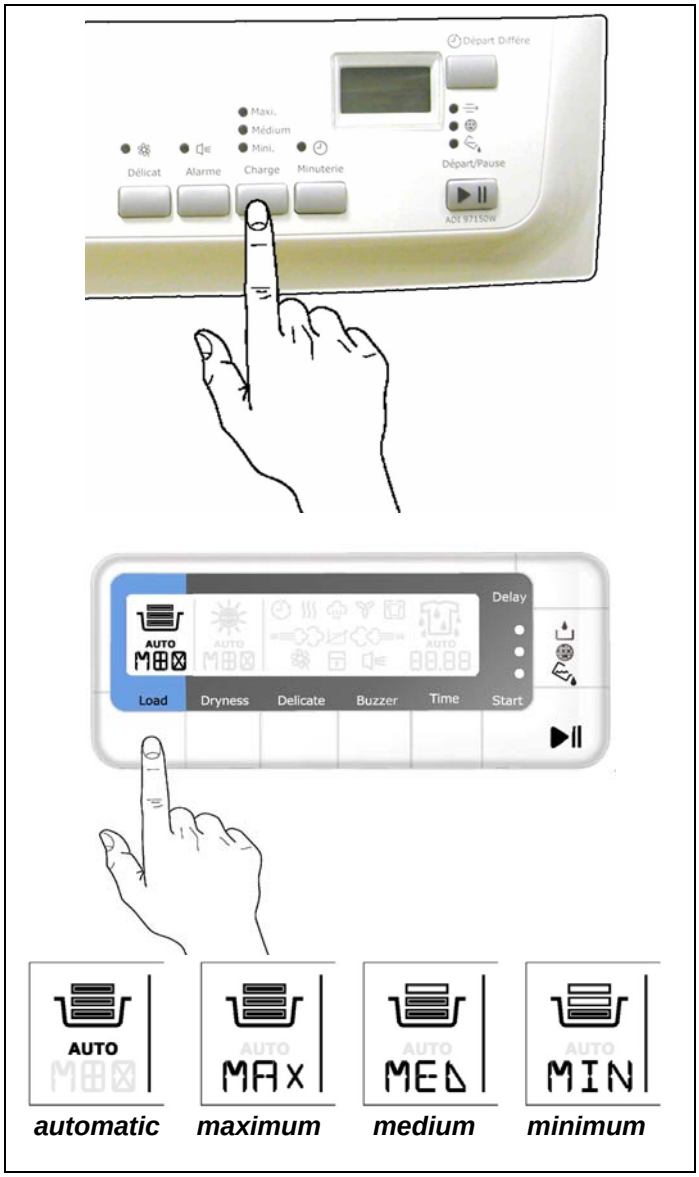


4.3 Buttons

4.3.1 Steam button

If you select an IRON AID programme it is possible to modify the steam quantity which is let into the drum.

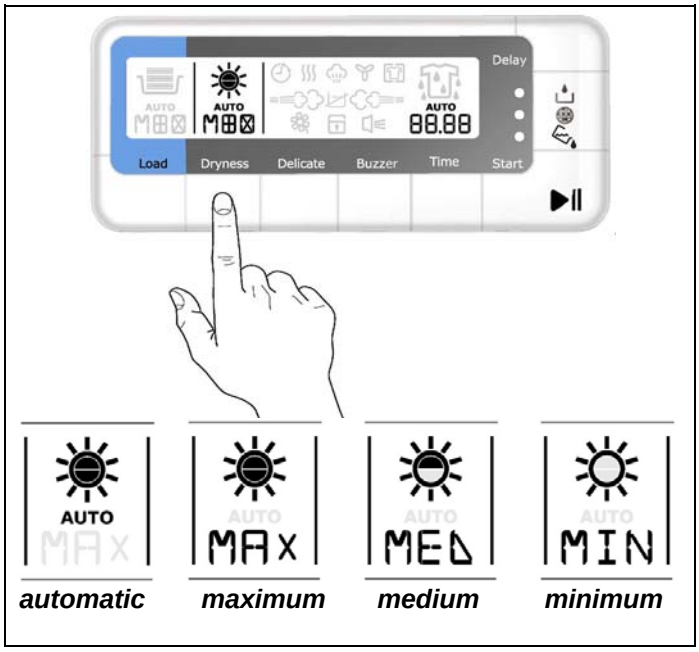
There are three different levels.
By pressing the button, you skip from AUTO position (only in models with big LCD) to MAX MED MIN and so on.



4.3.2 Drying button only in models with big LCD

The type of drying on some programmes can be modified in three different levels manually by pressing the DRYNESS button. Pressing this button sequentially it is possible to set different final humidity degrees in the drying automatic cycles; every level is displayed differently, from AUTO position to MAX MED MIN and so on.

Modifying the humidity degree also the time displayed varies

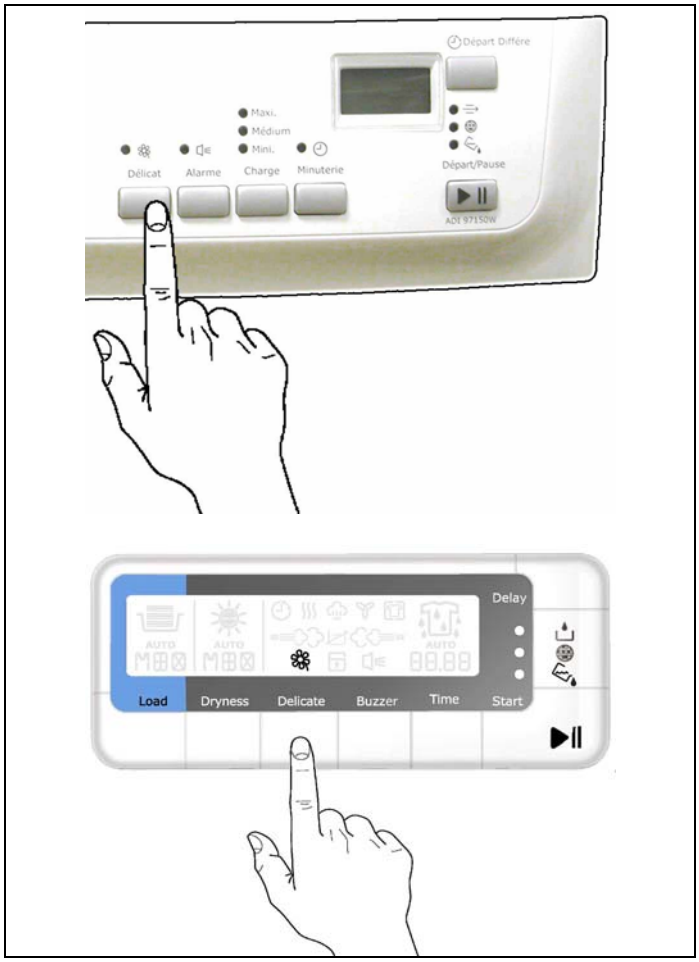


4.3.3 Delicate button

The dryer features a heating unit which consists of two heating elements, and according to the versions the powers are different.

Pressing once the button, the electronic control excludes the less powerful branch of the heating unit and simultaneously on the appliances with big display the relative symbol will appear to indicate that the option has been selected, while on models with small display the relative LED will switch on.

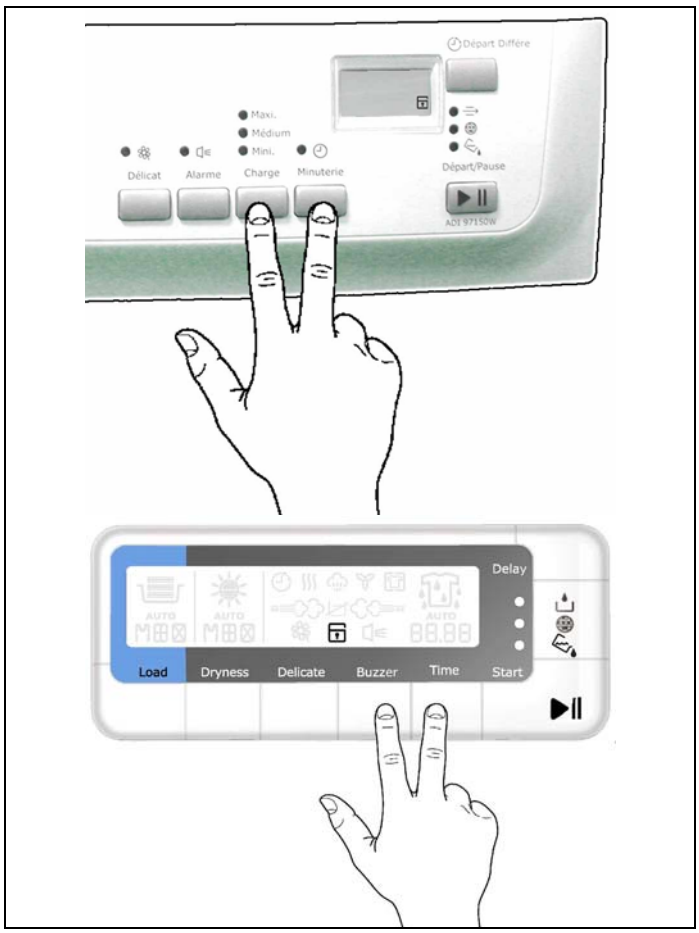
Pressing it again, the option will be deactivated and the previously excluded branch will be powered again.



4.3.4 Key lock button (child safety)

By pressing the indicated buttons simultaneously it is possible to lock the keyboard. The lock is signalled on the display by the switching on of the LOCK symbol.

To unlock the keyboard, push the buttons previously pushed.

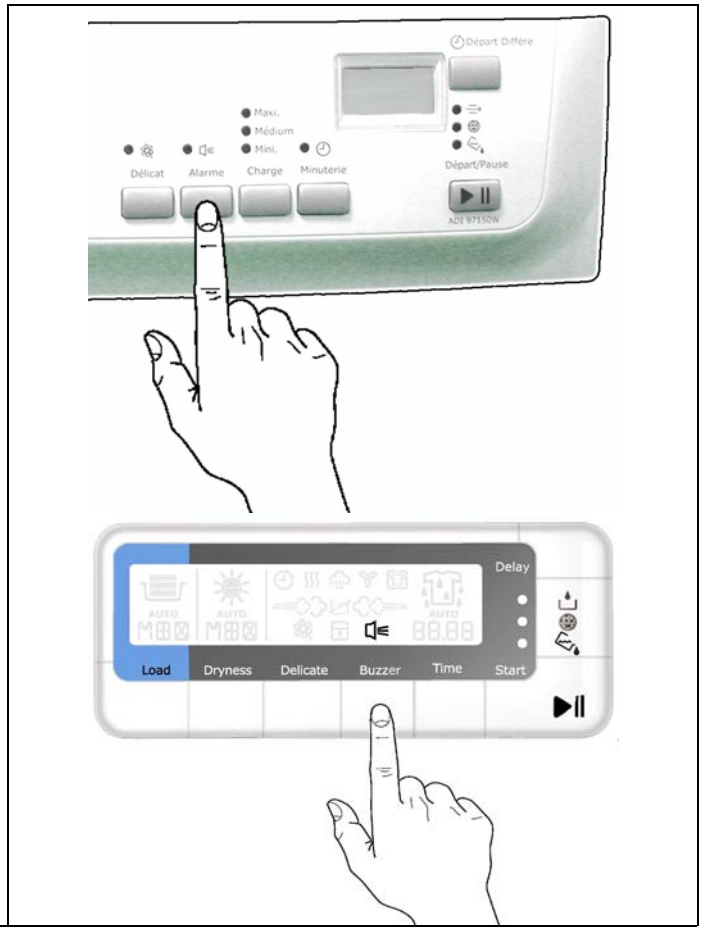


4.3.5 Buzzer button

Press this button to exclude the sound.

The exclusion is signalled by the switching off on the display of the symbol or LED depending on the models.

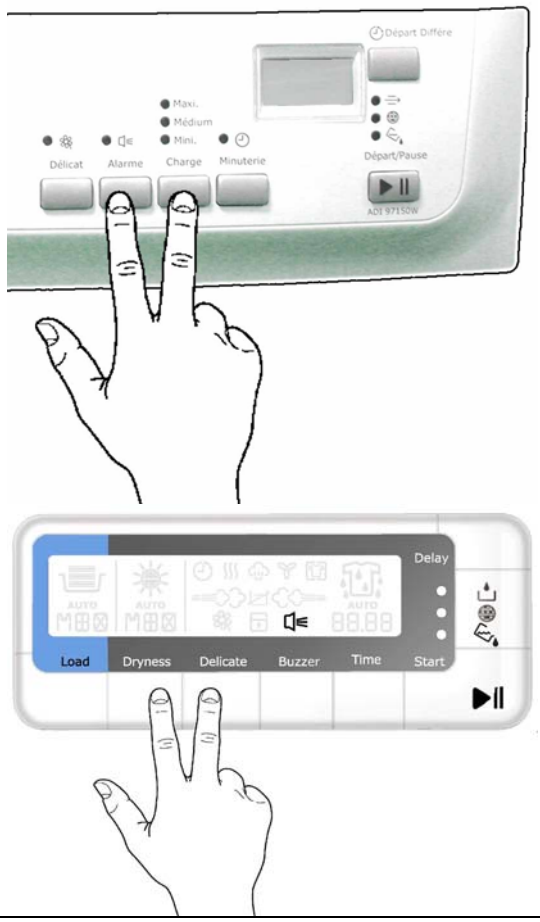
To reactivate the option, push the button and simultaneously the relative symbol switches on again.



It is possible to deactivate the sound pressing simultaneously for two seconds the drying type and delicate buttons.

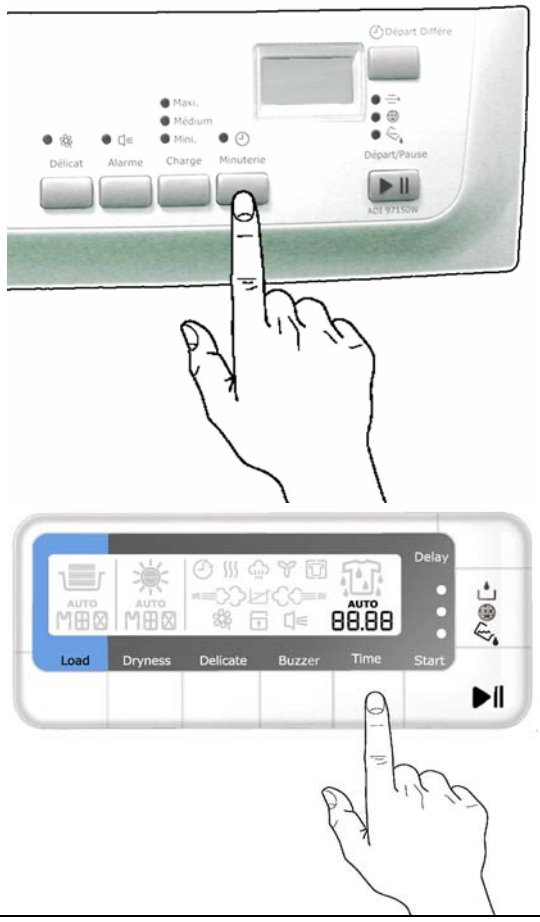
To reset the sound, press the button combination described above till the buzzer emits a “beep”.

Even if the buzzer is excluded, the alarm acoustic signalling remains active.



4.3.6 Time button

When the TIME programme is selected, it is possible to increase the drying time by pressing the TIME button; every time the button is pressed, 10 minutes are increased till a maximum of 3 hours.



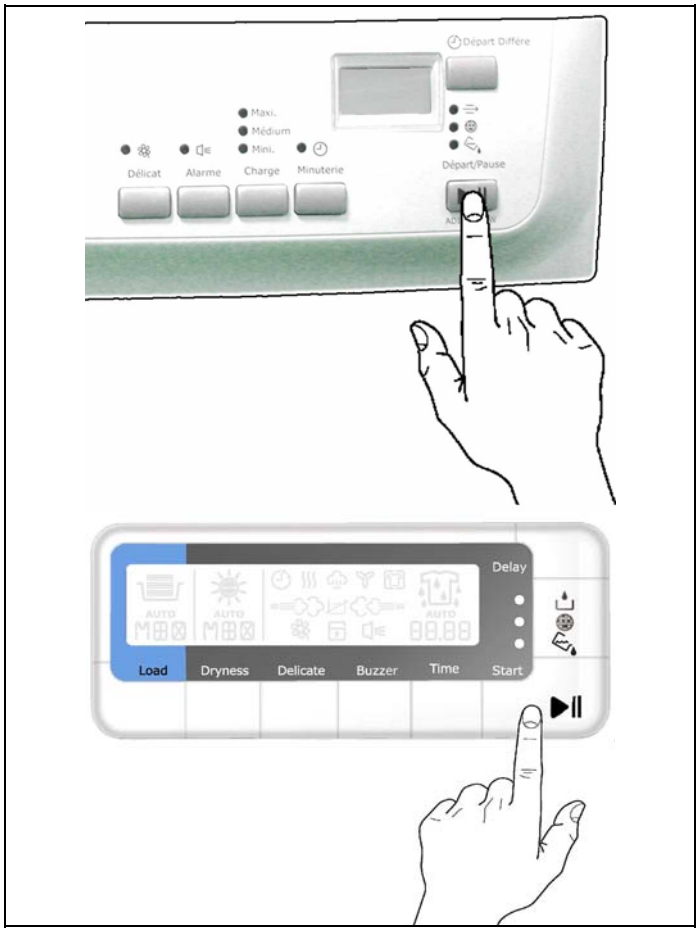
4.3.7 START / PAUSE button

Start

When a drying programme is selected with the selector, the GREEN LED START/PAUSE flashes.
After having selected the options, press this button to start the cycle; the relative GREEN LED remains lit without flashing.

Pause

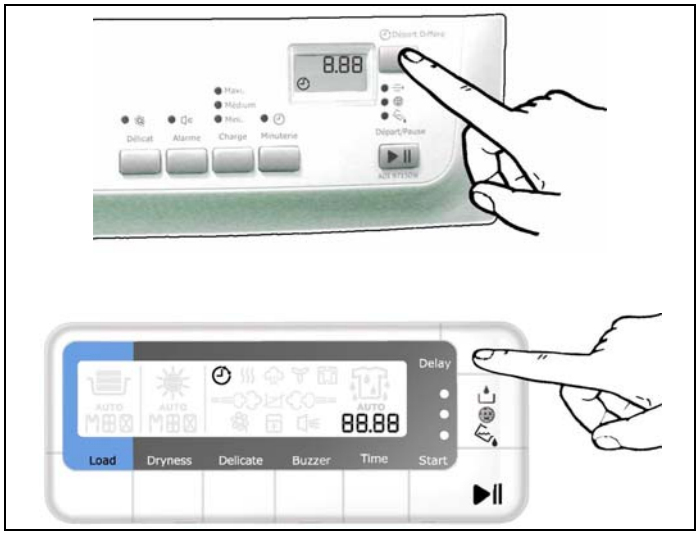
If a drying cycle is being executed, pressing the START/PAUSE button, the dryer interrupts the cycle and is in PAUSE mode; the relative LED becomes RED flashing.
In this condition some options can be changed.
Pressing the START/PAUSE button, the drying cycle starts from the point at which it was interrupted and the LED returns GREEN with steady light.



4.3.8 Delayed start

Pressing this button it is possible to select, during the programme selection phase, a delayed start from 30 minutes to 20 hours.
Every time the button is pressed, the time displayed increases and simultaneously the clock symbol lights up.

- For the first two hours, the step is about half an hour
- Later, the step is one hour
- The max. time that can be selected is 20 hours
- To cancel the delay, move the selector by one position or press the button till the display is reset.



4.4 Adjusting the level of conductivity

The conductivity of the water used to wash the fabrics varies from zone to zone. The conductimetric sensor is calibrated to a standard value: any major variations in the level of conductivity may affect the final drying result (i.e. the washing may be too dry or too humid):

These variations are more noticeable in the "slightly damp" or "iron-ready" cycles; the "cupboard dry cycles are almost entirely unaffected by variations in conductivity.
The sensitivity of the conductimetric sensor can be adjusted according to the conductivity of the water.

4.4.1 Adjustment mode

- **To access adjustment mode:**

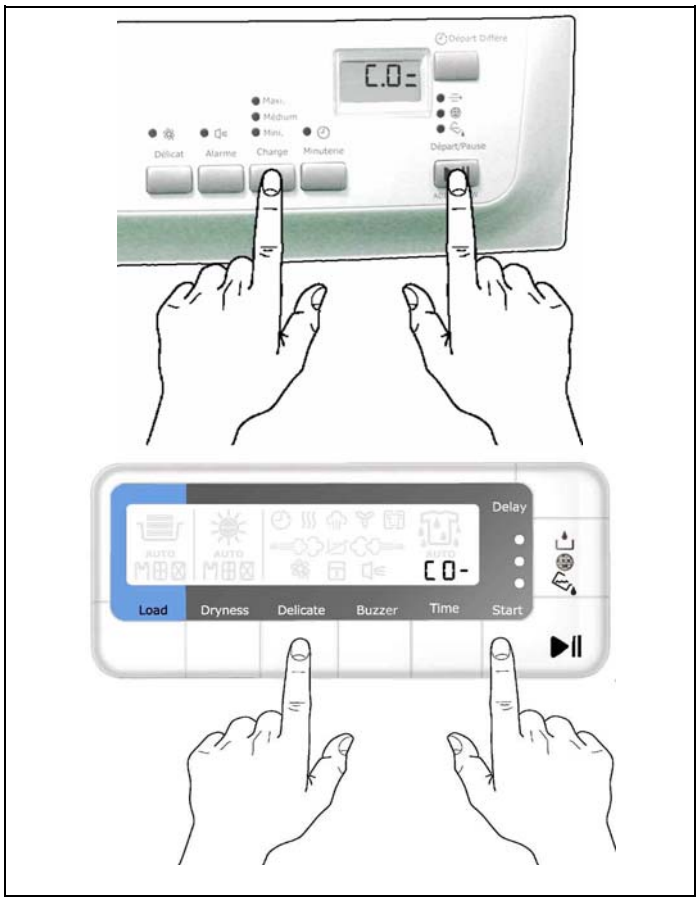
1. Turn the programme selector to switch on the appliance.
2. In selection mode (set-up), simultaneously press buttons **3** (Delicate) and **6** (start/pause).
3. Hold the buttons down till ***"C0"*** appears on the first 2 digits and the buzzer sounds (about 5 seconds).

- **Adjusting the level of conductivity:**

  Press the **5** button sequentially (delay time): the level of conductivity is indicated by the lighting of the horizontal hyphens of the last digit.

- **Memorizing the new setting:**

1. Simultaneously press buttons **3** (Delicate) and **6** (start/pause).
2. Hold the buttons down until the drying cycle reappears on the display and the buzzer sounds (about 5 seconds).

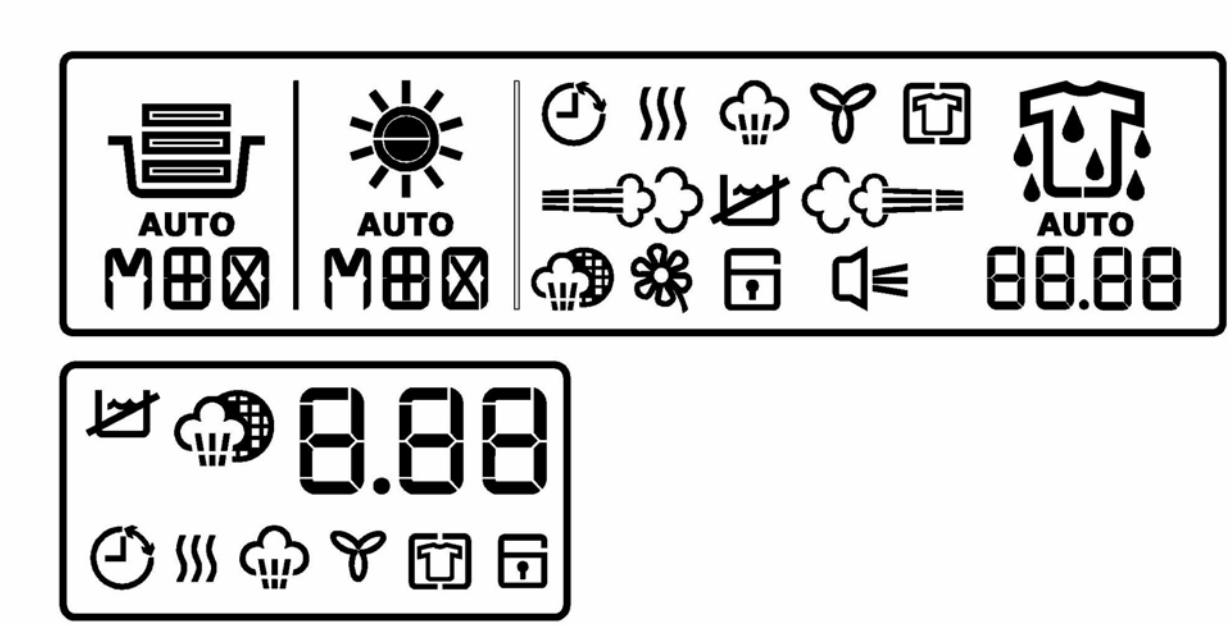


Display	Conductivity	Approximate value (µS/cm)
C.0_	Low	< 300
C.0-	Medium	300 - 600
C.0=	High	> 600

Normally, the appliance is factory-set to the highest level; however, certain models may be configured differently*.*
Your local water supply company can give you information concerning the conductivity of the water in your area.

4.5 LCD

The various icons and writings represented on the LCD display are displayed according to the programme and the phase of the programme being performed.



4.5.1 Icon displaying

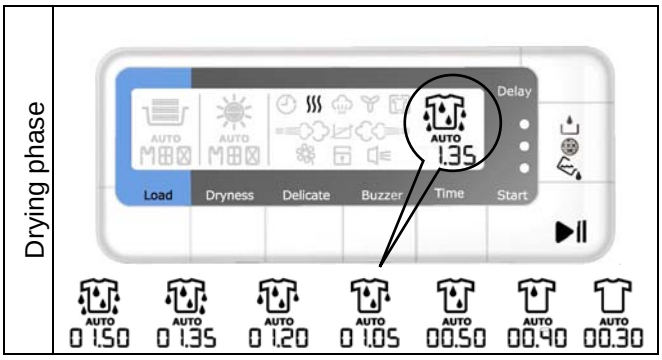
Starting phase

When a programme is selected, all the icons regarding the drying phases light up in the display.

Starting phase

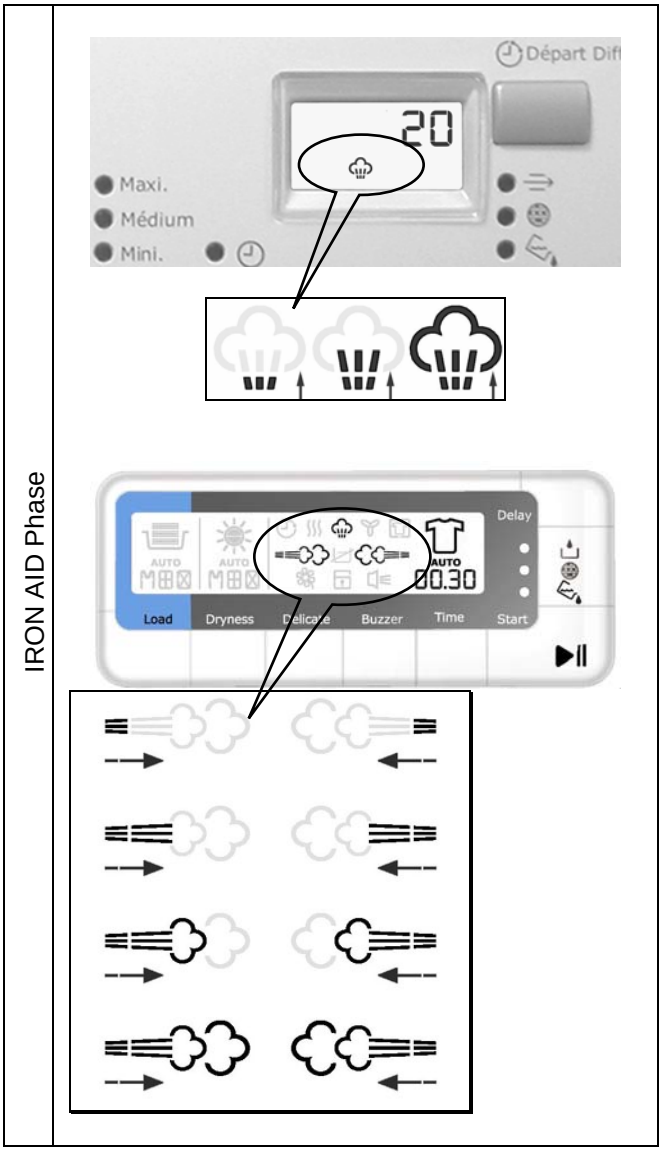
Drying

Pressing the start button, the cycle starts and the various drying phases are displayed. On models with big LCD, on the right side of the display a t-shirt with some moving water drops appears.



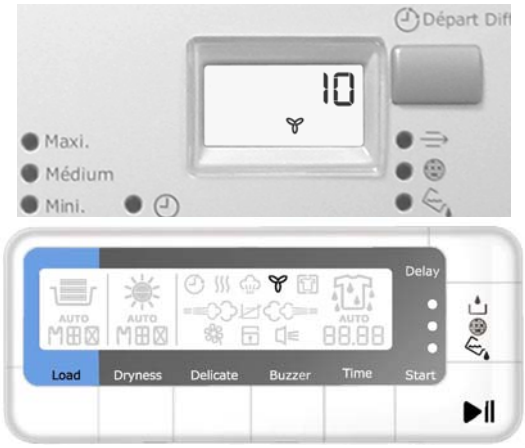
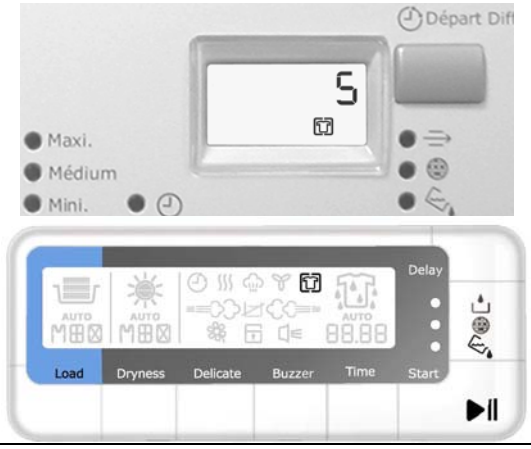
Iron aid

If an IRON AID programme is selected during the vaporization phase, the display will show the following icon with the relative moving clouds.



End of cycle and cooling

At the end of the drying cycle or at the end of the IRON AID cycle, if an IRON AID has been selected, the cooling icon will be displayed and then the anti-crease one.

Cooling phase	
Anti-crease phase	

4.6 LEDs and warnings on the display

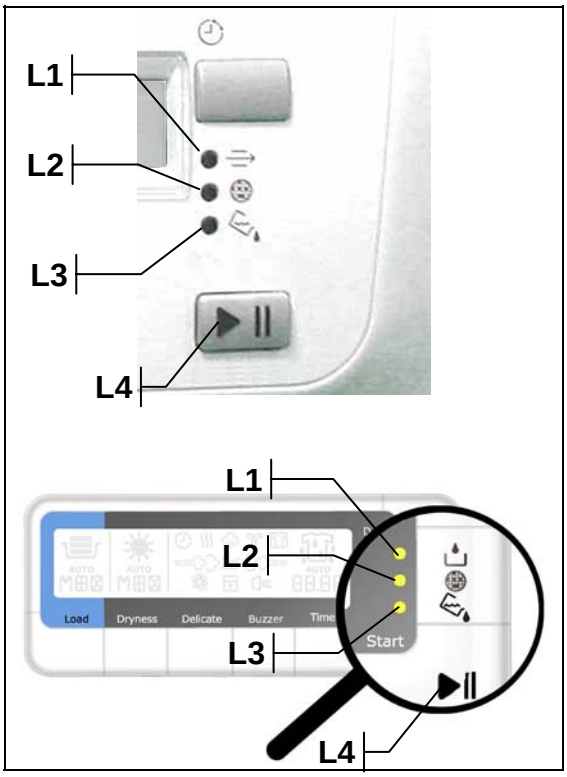
4.6.1 LEDs

L1. Heat exchanger (Condenser) cleaning: lights after 80 drying cycles.
To reset the cycle counter (for this function), open the door with the appliance on, extract the heat exchanger, clean it and close the door.

L2. Filter cleaning: lights when the dryer has completed the cycle to remind the user to clean the fluff filter.

L3. Canister full: lights during the drying cycle if the electronic circuit detects the closure of the floating microswitch, and at the END of the CYCLE to remind the user to empty the canister.

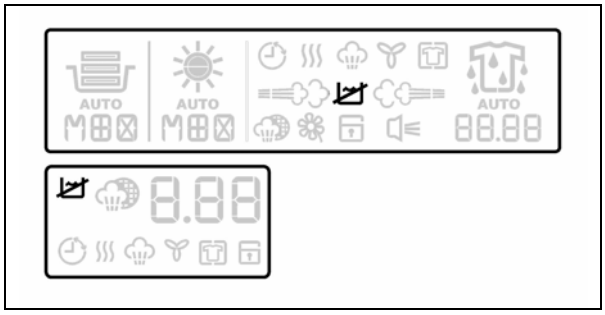
L4. Start / pause: switches on with green flashing light when the cycle is in pause; switches on with green steady light when the cycle is performing regularly. If an alarm occurs, three beeps will be heard which will be repeated after some seconds and the LED becomes red flashing.



4.6.2 Warnings

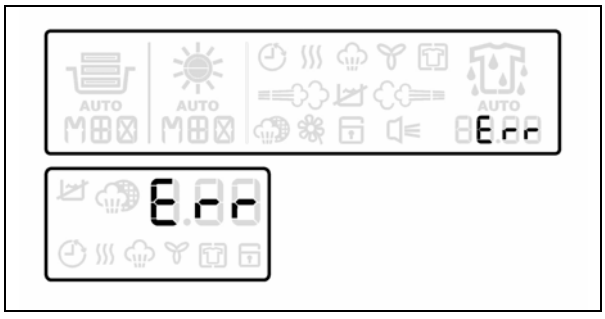
Water tank empty

This alarm appears only if an IRON AID programme is used and the water tank necessary to generate steam is empty.
To eliminate the alarm, fill the tank (with distilled or demineralised water.



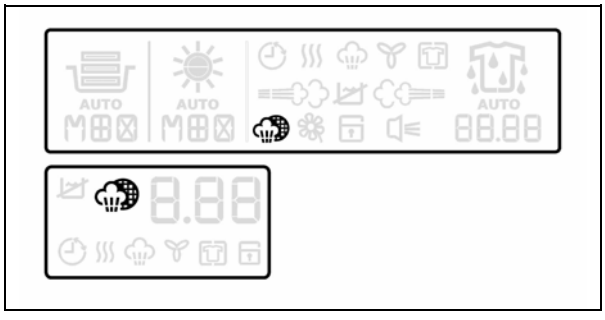
Wrong selection

If during the selection of the drying cycle incorrect buttons are pressed for the chosen programme, the display shows the Err writing flashing.



Automatic recirculation filter cleaning

After about 85 cycles, the automatic recirculation filter cleaning alarm of the water tank appears.



5 IRON AID System

The IRON AID system is an innovative system which introduces into the drum at the end of the drying, a certain quantity of steam which eliminates creases and bad odours from the fabrics.

Before using this system it is necessary to fill the water tank of the steam hydraulic system with distilled water.

Extract the water tank.

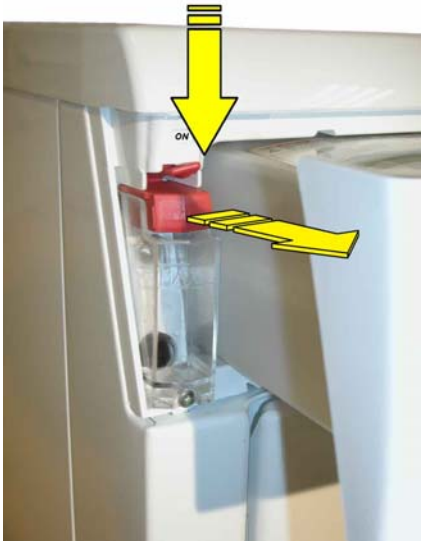
Push the fixing clip of the filter valve.

Extract the filter valve completely.

Fill the water tank IRON AID with distilled water paying attention not to overcome the maximum level indication.

Reinsert the filter valve.

!! USE ONLY DISTILLED WATER !!



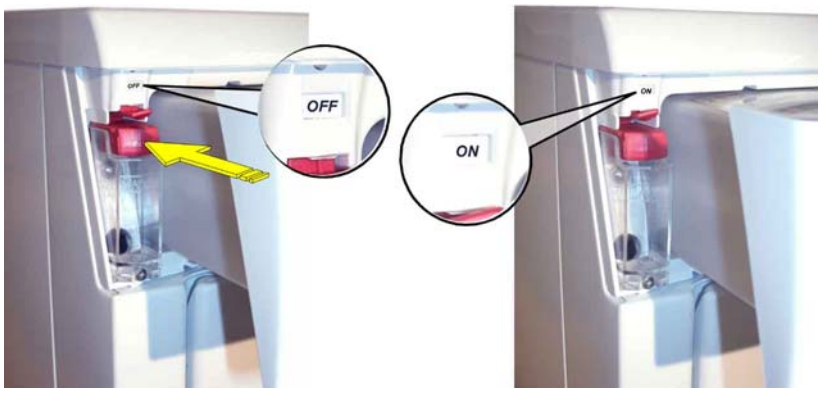
5.1 Water recirculation system

This system allows using automatically the condensation water coming from a drying cycle to fill the water tank IRON AID.

Extract the water tank.

Push the filter valve until OFF disappears and ON appears.

In this way the condensation water formed during the drying cycle goes directly into the tank IRON AID.



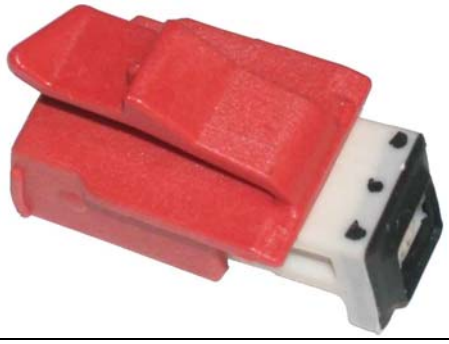
5.2 Cleaning the filter valve

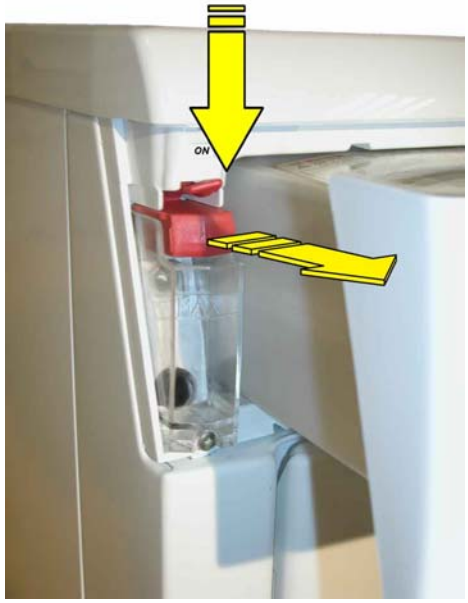
Extract the water tank.

Push the fixing clip of the filter valve.

Extract the filter valve completely.

Wash the filter valve with running water paying attention not to damage the filter.





6 Description of operation of the appliance

When the selector is turned from OFF position to a drying programme, the icons relative to the drying phases light up and the START/PAUSE LED flashes with green light.
During this phase the various options can be entered, and the corresponding LEDs will light.
The display shows the maximum time of drying cycle.
If an option that is incompatible with the selected cycle is entered, the Buzzer sounds and the Display shows Err.
Selecting one or more options the Display shows an increase or decrease of the time.
If the position of the selector is changed after choosing the options, but before pressing START/PAUSE button, the options will be cancelled.

6.1 Operation of a cycle

A drying cycle starts after a programme has been selected using the selector, one option (if necessary) has been selected and the START/PAUSE pushbutton has been pressed.
The LED corresponding to the START/PAUSE button remains lit with green light and, at the same time, the LED corresponding to the phase currently being performed lights and the display shows the maximum drying time.

The drying cycle consists of the following phases:

- **DRYING**
  If the cycle is automatic, its duration will be the time necessary to remove the humidity until the desired degree of final humidity is reached (maximum cycle time 180 minutes at full power and 240 minutes at half power).
  If the cycle is timer-controlled, the duration will be the time selected by the user.

- **IRON AID (if a programme with this function has been selected)**
  The duration will be the time necessary to dry the clothes, till the final humidity degree is reached, plus the time necessary to insert the desired steam quantity.

- **COOLING**
  For timer-controlled cycles, the maximum duration of the cooling phase is 10 minutes; for automatic cycles the duration depends on the temperature inside the drum.

- **ANTI-CREASE**
  The duration of the anti-crease cycle is 30 minutes.

No modifications to the programmes can be entered after the drying programme has started.

If the position of the selector is changed, the green LED of the START / PAUSE button starts flashing, the buzzer sounds to warn the user that an incorrect operation has been attempted and the display shows <<Err>>.
If any button is pressed, the green LED of the START / PAUSE button starts flashing, the buzzer sounds to warn the user that an incorrect operation has been attempted and the display shows <<Err>>.
The options can be selected only after selecting a drying programme at the beginning of the cycle, or during a cycle after pressing the START/PAUSE button.
To cancel a drying cycle, it is necessary to turn the programme selector to OFF.

6.2 Operation in PAUSE mode

If START/PAUSE is pressed while a drying cycle is being performed, the dryer interrupts the current cycle, the green LED of the START / PAUSE button flashes and the display shows time to end.
If the selector is turned, the buzzer warns the user of the error.
In this situation, only certain options can be modified, see table of OPTIONS.
If the button relative to an option that cannot be selected is pressed, the buzzer sounds to warn the user of the error and the display shows <<Err>>.
When START/PAUSE is pressed again, the drying cycle resumes from the point at which it was interrupted.

6.3 Operation in DELAYED START mode

After selecting a drying cycle, press this button to enter the delayed start option (the selected time is indicated on the display). Every time the button is pressed the delay time increases, (for the first 2 hours the time increases of half an hour, then of an hour), the maximum time that can be selected is 20 hours.
To cancel this option move the selector of one position or press the button till the option is cancelled on the display. The start of the cycle is always determined by pressing the START/PAUSE button.

6.4 Power failure

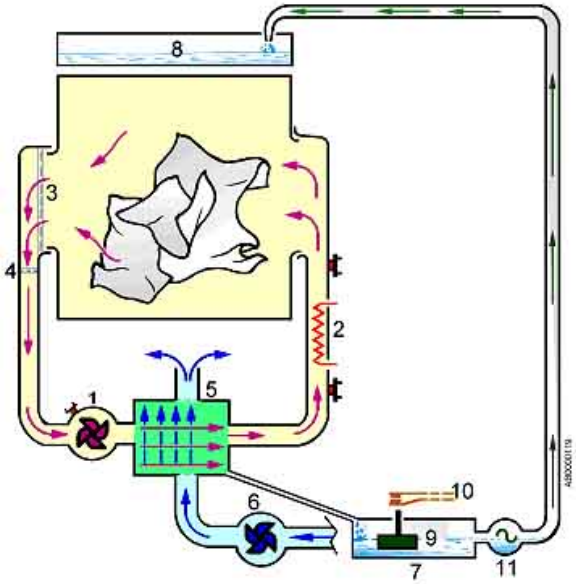
The table below shows how the dryer behaves in the event of a power failure during a drying cycle.

Before the power failure	***After power is restored***
Set-up	Set-up
Drying cycle	Pause
Cycle paused	Pause
Anti-crease phase	End of cycle
Delayed-start cycle	Delayed-start cycle paused
Delayed start cycle paused	Delayed start cycle paused
End of cycle	End of cycle
"Canister full" alarm	"Canister full" alarm

7 TRUCTURAL AND FUNCTIONAL CHARACTERISTICS

7.1 Drying circuit

There are two air circuits inside the dryer, moved by an asynchronous motor:
- the first is a warm-air circuit, which is sealed within the appliance
- the second is an open cold-air circuit, which circulates air from the ambient through certain sections of the appliance)



Operation

In the sealed warm-air circuit, the air circulates inside the appliance:
The fan (1), ducts the air through a heat exchanger (5), and then to the heater unit (2). The heater unit heats the air, which is then ducted into the drum through the perforations in the rear flange of the drum. The warm, dry air passes through the wash load, which is agitated by the rotation of the drum, and removes the humidity from the fabrics; the air, which is now warm and humid, passes then through the front aperture of the drum via the fluff filter (3) and the lower filter (4), then the air is ducted by the fan (1) to the heat exchanger (5), where the humidity is condensed.
The air coming from the heat exchanger is now dry and the cycle continues as described above.

The cold-air circuit (the air circulates in one side of the appliance) is not sealed.
The fan (6) draws in air through an air intake on the rear of the appliance, and ducts the air to the heat exchanger (5), cooling it, after which the air is expelled on the opposite side of the heat exchanger dissipating inside the appliance and exiting from the venting grille in the plinth.

The warm and cold air circuits cross inside the heat exchanger (5), which results in a thermal exchange which condenses the humidity contained in the warm air.

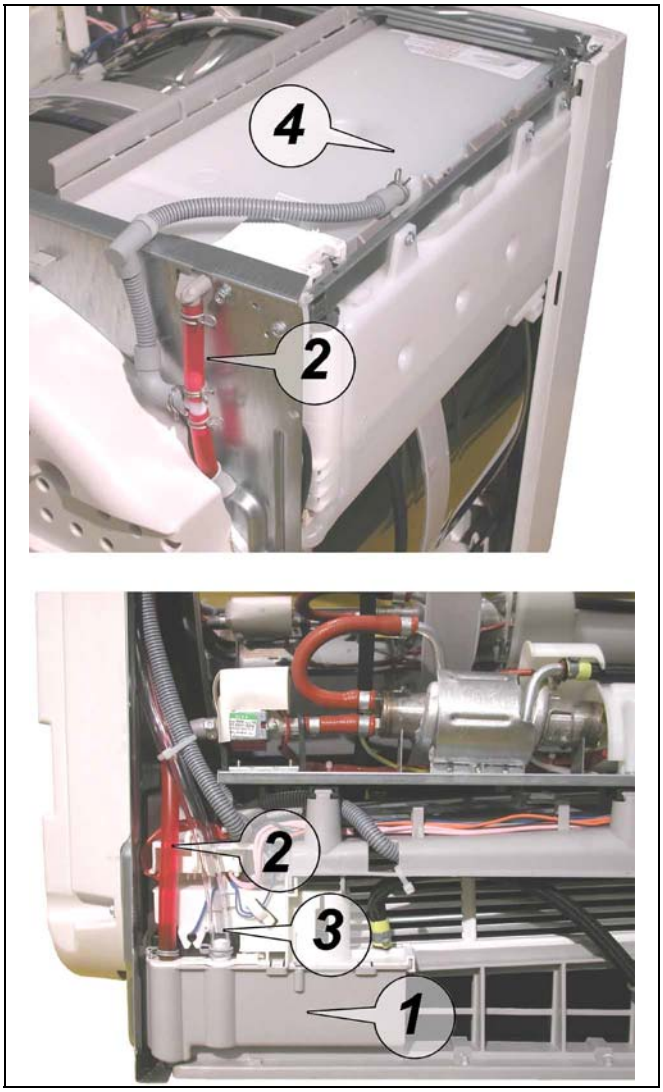
The condensation water, which forms in the heat exchanger, is collected in a sump (7) which contains a float (9). A pump (11) ducts the water from the sump (7) to the canister (8). When the canister is full, any overflow is collected in the canister support and returned through a tube (not shown in the figure) into the sump (7). This causes the float (9) to rise, thus actioning the microswitch (10).

The electronic control system detects the closure of the microswitch, cuts off the power to the appliance and switches on a LED warning the user that the canister is full.

The tank capacity is about 4 lt., which is sufficient for one drying cycle.

7.2 Condensation water Hydraulic circuit

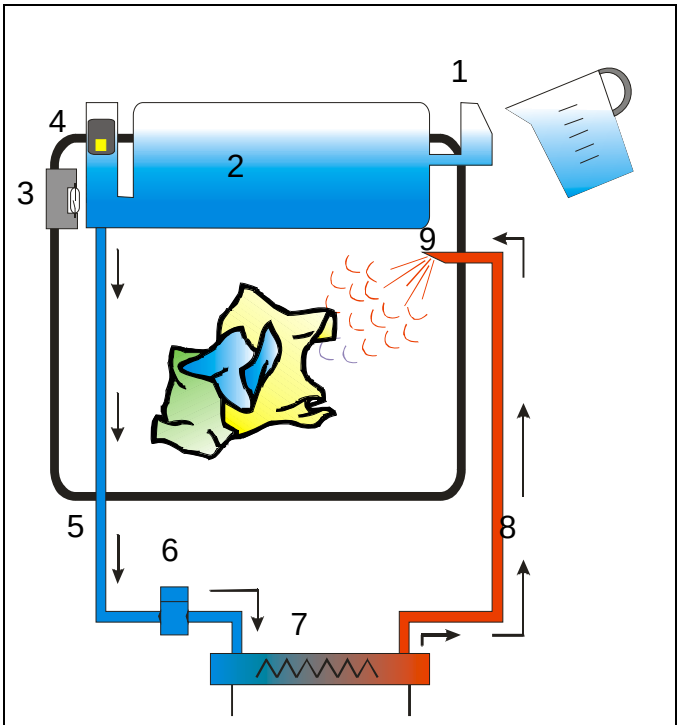
1. *Pump immersed in the sump*
2. *Water fill hose to canister (Red)*
3. *Overflow drain hose (Transparent)*
4. *Canister*

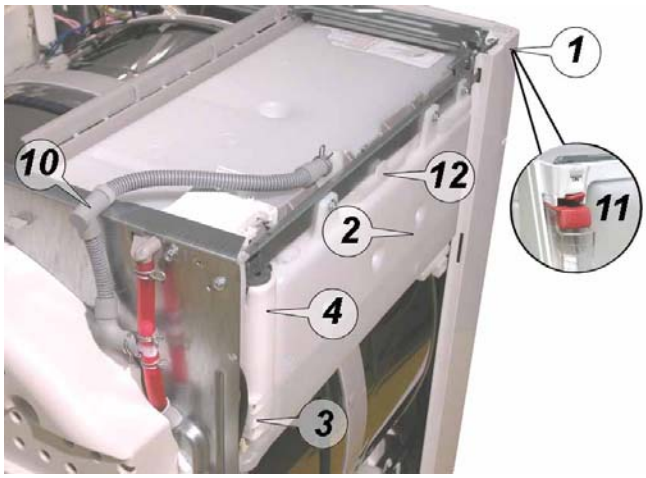


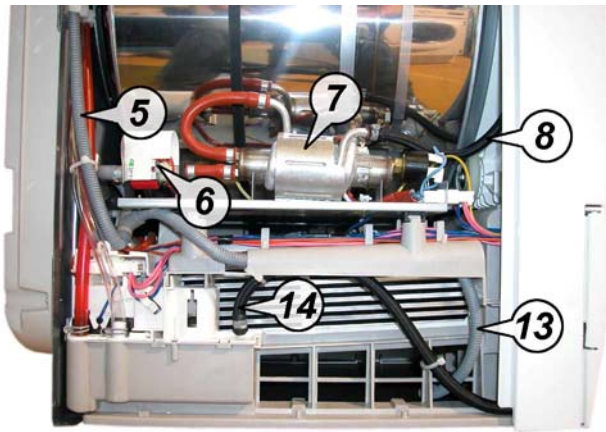
The condensation water is ducted from the sump (1) to the tank (4) by the pump immersed in the sump via the hose (2). When the canister is full the overflow is collected in the canister support and ducted to the sump through the hose (3).

7.3 Steam hydraulic circuit

These dryers feature a steamer composed by a mini boiler (7) powered by pulses and a pump (6) necessary to fill the boiler.
If you wish to use the IRON AID programmes, firstly it is necessary to fill the tank (2) with distilled water through the fill nozzle (1) up to the MAX level about 1,3 litres. This allows the float (4) going away from the magnetic sensor (3) and so eliminating the alarm in the display.
As soon as the drying cycle stops, the membrane pump (6) which operates also as non-return valve of the steam, starts sucting water through the hose (5) and conducting it inside the boiler (7). The warmed water becomes steam, passes through the hose (8) and is let into the drum by means of the nozzle (9).
The steam quantity, which can be selected through the LOAD button, varies the time of operation of the pump and the boiler.
If you position the filter valve (11) in ON position, the condensation water passes through the hose (10 and 12) and fills the tank (2) automatically.
The hose (13) empties the tank (2) completely, while the hose (14) recovers water drops not vaporized inside the drum.







7.4 Steamer

The steamer consists of two main parts, a membrane pump which operates also as non-return valve and a boiler with incorporated heater having a 2000W power.

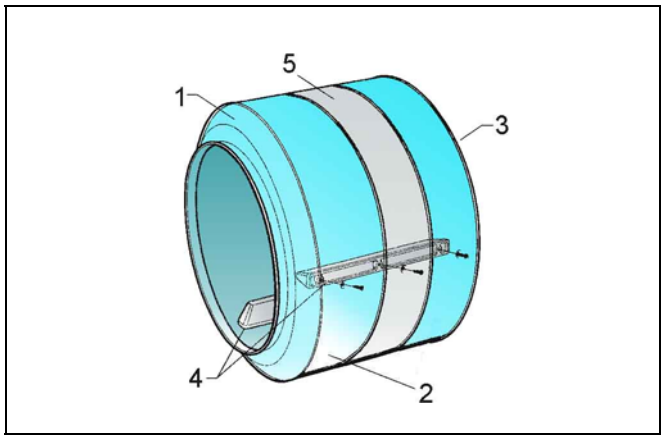
PUMP

BOILER

7.5 Drum

The drum consists of two half-shells (front and rear) which are joined together by a wide plastic band (5).
Separation of the drum into two parts allows the conductimetric sensor to determine the conductivity of the washing inside the drum.
Parts 1, 2 and 3 are connected by crimping.
The plastic lifters are secured by screws to the internal wall of the drum.
The various elements which make up the drum are in sheet steel.
The rear drum shaft is fitted to the rear flange using eyelet rivets.

1. *Front flange*
2. *Drum housing*
3. *Rear flange*
4. *Drum lifters*
5. *Plastic band*



7.6 Air seals and drum shaft supports

Rear air seal

1. Rear seal (fitted to rear panel)
2. Drum
3. Rear panel

Rear drum support

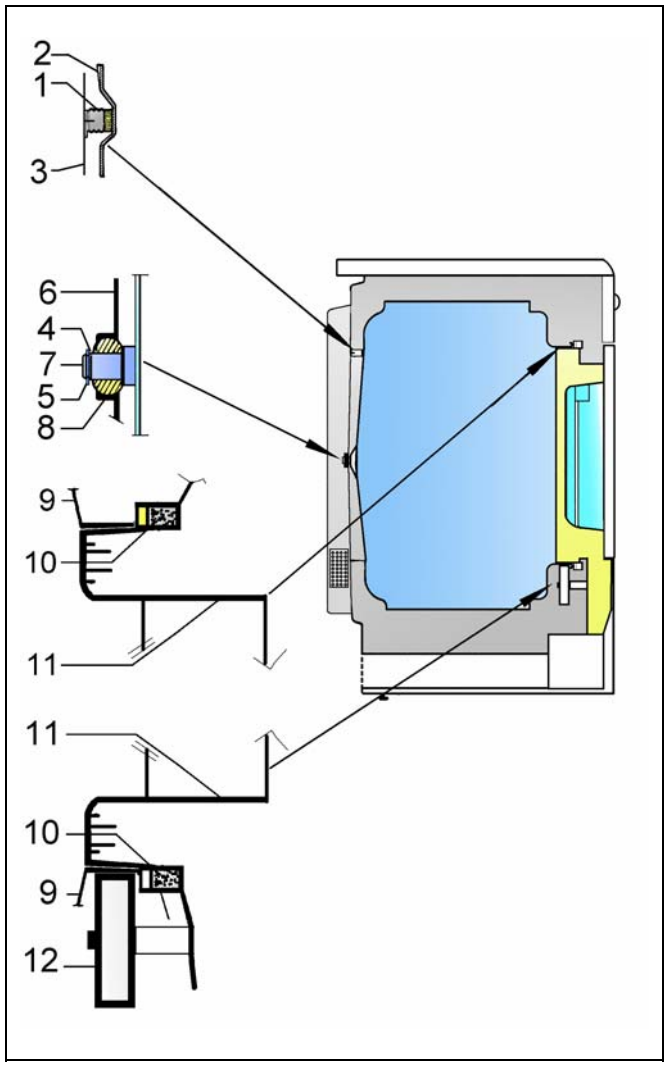
4. Anti-clutching washer
5. Fixing ring (Benzing)
6. Rear panel
7. Drum spindle
8. Support with bushing (fitted to the rear panel)

Front drum support and air seal

9. Drum
10. Felt ring with tubular support
11. Duct

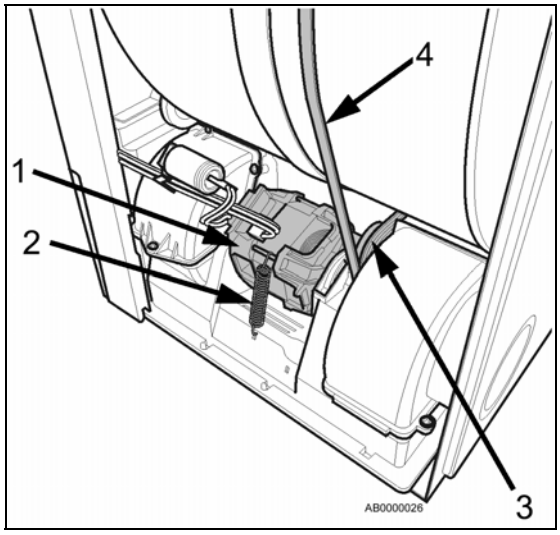
Lower drum support

12. Drum
13. Felt ring with tubular support
14. Duct
15. Drum support roller



7.7 Drum rotation

1. *Belt*
2. *Motor*
3. *Belt tensioner*
4. *Belt tensioner spring*



The drum is rotated by a belt (4), which is driven by the pulley of the drum motor (1) fitted to the base; on the bearing shield there is a belt tensioner (3), which has the function of increasing the winding angle of the belt to the drum and works in conjunction with the belt tensioner spring (2).
Bidirectional operation of the drum rotation is determined by the electronic board which inverts the motor power direction for brief periods. Reversal of the direction of rotation allows the clothes to unroll. During these short periods, the heater unit is switched off.

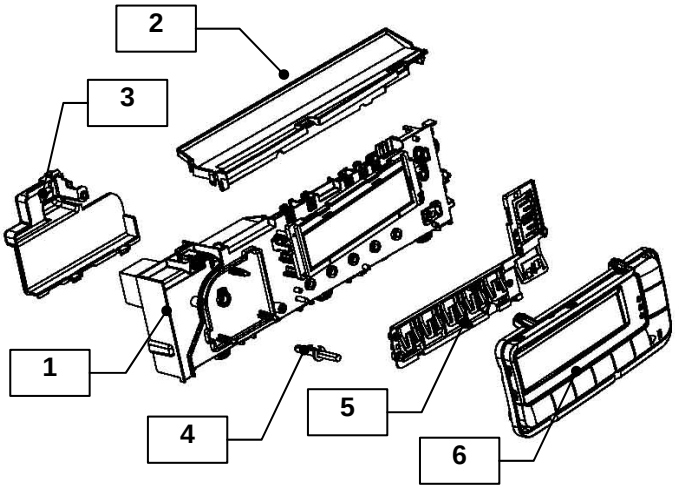
The heat exchanger features a safety device which ensures that, if the panel is opened to check the heat exchanger, a microswitch disconnects the dryer from the power supply.

8 ELECTRICAL COMPONENTS

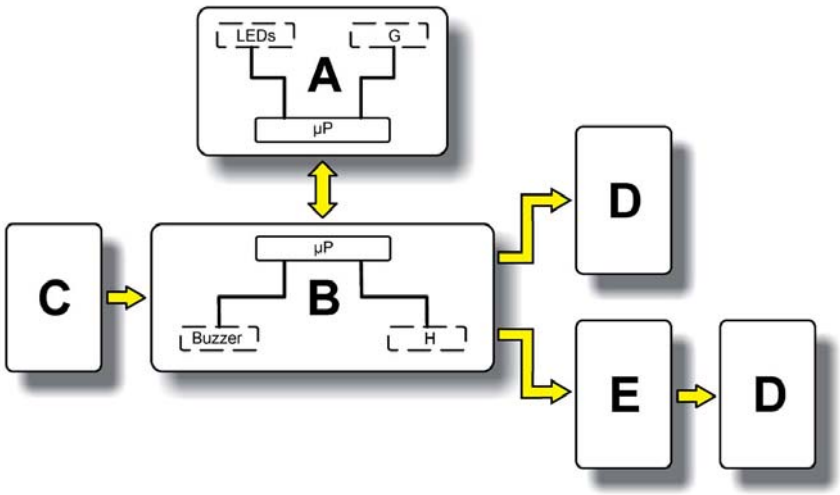
8.1 Electronic control

The electronic control consists of two electronic boards: a main one on which also the displaying board is mounted and one which controls the motor unit and the motor fans.
The main electronic board is fitted into a plastic container, fixed behind the control support; the CRM control board is fitted on the right crosspiece into a plastic container.

1. *Electronic board - casing*
2. *Cover for connectors*
3. *Cover for selector*
4. *Cover for connectors*
5. *Button springing*
6. *Button and visor*



8.1.1 Electronic board functions



A Display board
B Main electronic board
C Sensors
D Electrical loads
E IRON AID Control board
G Buttons
H Programme selector

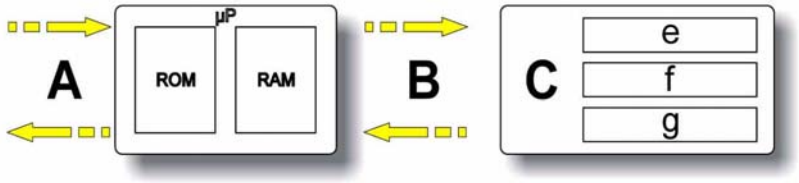
- ⇨ The electronic board receives the controls relative to the drying cycle setting.
- ⇨ The various buttons to select the options of the drying cycle are on this board and the warning LEDs.
- ⇨ The electronic board powers the main components: drum motor, fan motor, pump, heater unit and door lock.
- ⇨ The board also controls the door interlock, the temperature of the air inside the dryer (using an NTC sensor), the level of humidity of the washing (using a conductimetric sensor) and the level in the canisters.
- ⇨ The programme selector and the buzzer are incorporated in the main board.

8.1.2 Display board functions

⇨ The LCD display board is supplied already mounted and tested by the building factory.
⇨ It shows the remaining time of the cycle, the various working phases, the programmes selected with the relative options and the alarms or warnings.

8.1.3 General structure of board memory

The system features an EEPROM, positioned externally to the microprocessor, which memorizes the configuration data, the description of the cycle, the status of the appliance in case of a power failure, and the alarms.



A External asynchronous serial port
B Internal synchronous serial port
C External to the µP
e Power Failure and machine status
f Board configuration
g Description of the cycle

ROM
This area of the memory contains the "firmware" code including the functionalities of the appliance:
⇨ Control of electrical loads (motor, pump, heater)
⇨ Control of the sensors (NTC, conductimetric sensor, door switch status)
⇨ Control of the user interface
⇨ Control of the serial port
⇨ Control of power failures and alarms
⇨ Execution of the drying programme

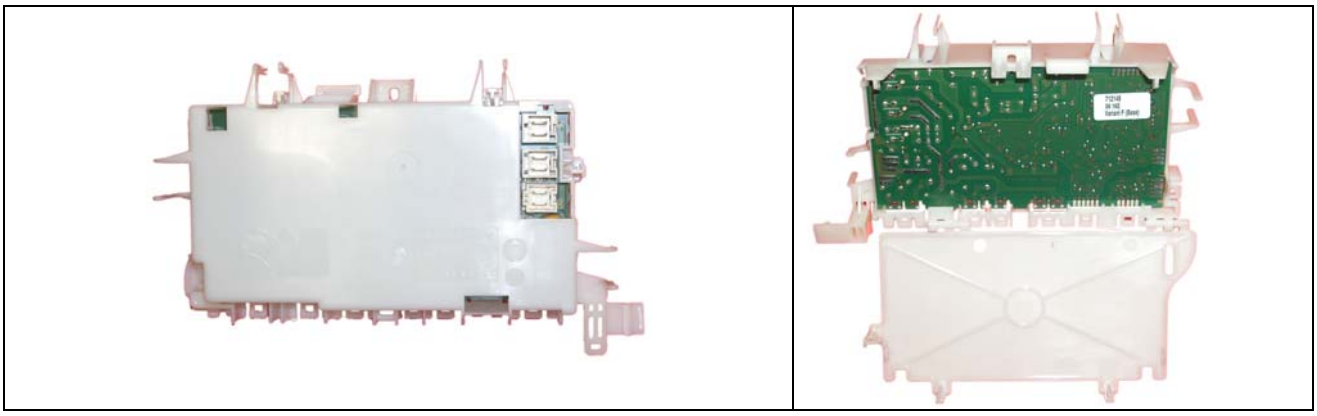
In standard-production appliances, this area is a **R**ead-**O**nly **M**emory, and thus cannot be modified.

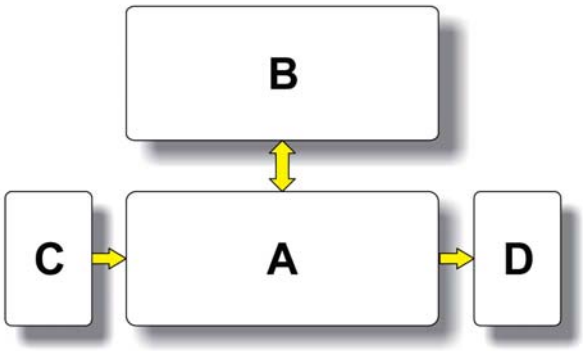
RAM
This memory contains the variables, i.e. all the dynamic information used during execution of the programme:
⇨ Machine status
⇨ Cycle selected
⇨ Alarms

The contents of this memory are cancelled each time the appliance is disconnected (by switching off or in the event of a power failure).
The contents can be read using a computer connected via a DAAS interface.

EEPROM
The EEPROM contains data of various types:
⇨ **Power failure and machine status**, i.e. the information necessary to resume operation of the appliance after a power failure.
⇨ **Configuration of the drying cycle**: this file describes the various steps in the drying cycle for each family of appliances (vented, condenser etc.).
⇨ **Machine configuration**: the data contained in this area of memory define the configuration of the individual appliance, and are interpreted by the functional software. These files define the following:
- Programmes
- Number of buttons and their functions
- Operation of the LEDs
- Operation of the buzzer
- Operational limits (voltage/frequency)
- Identification of the appliance (PNC + ELC + serial number)
- Heater unit power
- Preferential direction of motor rotation

8.1.4 CRM board functions





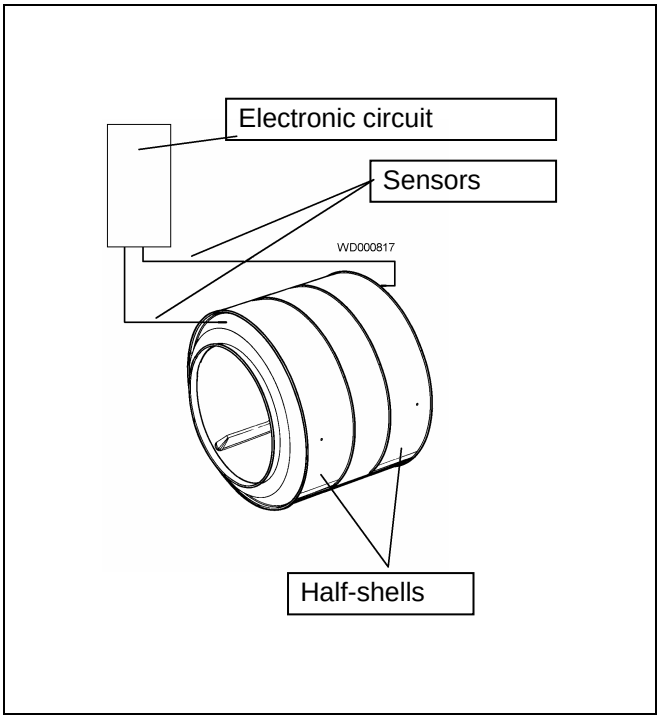
A IRON AID control board
B Main control board
C Sensors
D Electrical loads

The IRON AID control board receives the controls relative to the drying cycle setting with IRON AID functions from the electronic board.
It powers all the components of the IRON AID unit: water drain pump, heater unit.
It controls the IRON AID tank water level.
It sends again the values coming from the sensors to the main board.

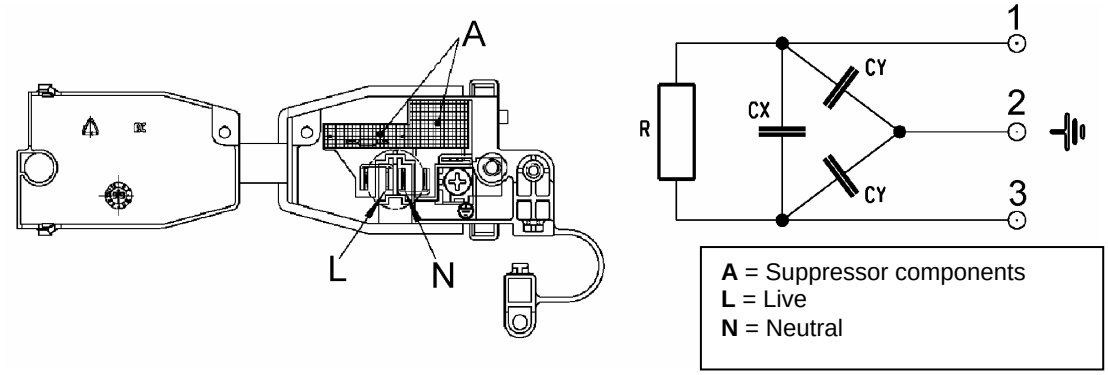
8.2 Conductimetric sensor

The conductimetric sensor consists of an electronic circuit (positioned inside the power board) and a section located externally to the board which consists of the wiring, two brushes (sensors positioned in contact with the tub shells) and the two tub shells themselves.
The first brush positioned in contact with the front tub shell is fitted to a hinged support on the duct, and is connected by the wiring to the electronic circuit. The second brush is positioned in contact with the drum spindle housed in the spindle casing. This sensor is connected to the electronic circuit via the cabinet, which represents the mass of the appliance's electronic circuit.
The two halves of the drum are separated by an insulating strip, and therefore the impedance between the front and rear shells (to which the sensors are connected) is infinite when the drum is empty. The impedance varies according to the wash load, the type of fabric and the degree of humidity.

The impedance is between about 1MΩ and 25MΩ. This value is converted into an oscillation of between about 260Hz and 0Hz; when processed by the electronic circuit (fuzzy logic), this value determines the duration of the cycle and the final humidity.



8.3 Terminal block with incorporated suppressor



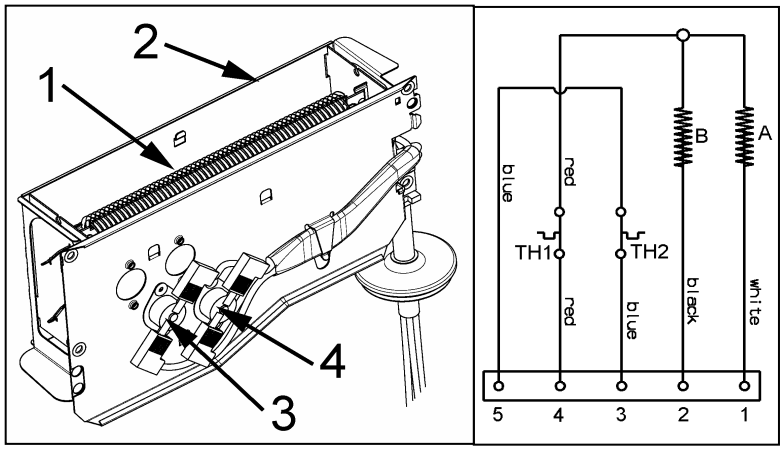
The suppressor, which is incorporated in the terminal block, prevents radio disturbance generated by the dryer from entering the power lines.
This device functions correctly only if the appliance is grounded.

Checking for efficiency:

Use a tester to measure the resistance across the following terminals:
- ⇨ 1 – 2 = ∞
- ⇨ 2 – 3 = ∞
- ⇨ 1 – 3 =~ 2MΩ

8.4 Heater unit

1. *Filament heating element*
2. *Sheet metal casing*
3. *TH1 Safety thermostat (automatic reset)*
4. *TH2 Safety thermostat*



The heater unit consists of two wire heating elements with different powers. The two heating elements are fitted to mica supports, and the entire assembly is housed in a sheet metal casing.
Two safety thermostats (normally closed) are placed on one side of the casing:
- Thermostat TH1 (automatic reset) (3) intervenes at a temperature of 92±3°C, and disconnects both heating elements.
- Thermostat TH2 (4) intervenes at 160°C; when the contact is opened, it remains like this, permanently disconnecting all the electrical components in the appliance.

The heater unit is powered via two relays (RL1 and RL2) fitted to the board.

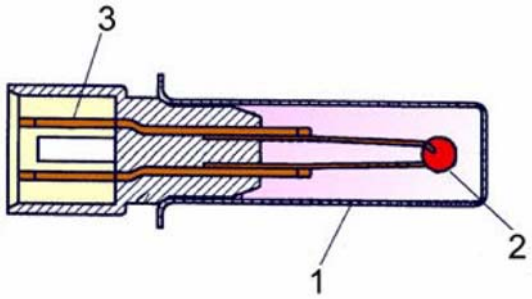
Heater unit versions			
Type	Total power: W Rated voltage: V	**2200** **230**	**2200** **240**
Branch A	Power : W Resistance: Ω	1400 37	1400 40,5
Branch B	Power : W Resistance: Ω	800 65	800 70,6

IMPORTANT: In the event of a thermostat failure, the entire heater unit must be replaced!

8.5 NTC sensor

The NTC sensor is fitted to the hot air fan duct. This sensor consists of a resistor contained in a metallic capsule. Its resistance decreases as the temperature increases.
The electronic circuit reads the value of the resistance (which varies according to the temperature inside the dryer); when this resistance falls below a certain value, the heater unit is switched off. As the air cools, the value increases; when it reaches a given value, the electronic circuit re-connects the heater unit to the power supply. This occurs each time the temperature inside the dryer exceeds a given value, which varies according to the drying cycle that has been selected.

1. Metallic capsule
2. NTC Resistor
3. Terminals

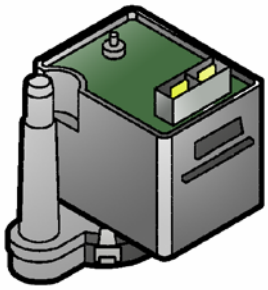


TEMPERATURE (ºC)	RESISTANCE (Ω)		
	Rated value	Maximum value	Minimum value
20	6050	6335	5765
60	1250	1278	1222
80	640	620	660

8.6 Canister fill pump

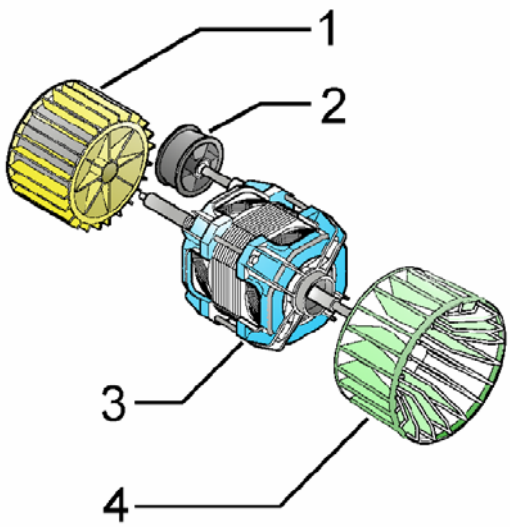
The pump is actioned by a synchronous motor with a power of about 5 W.
The motor is to pump the condensation water from the sump to the canister. The pump, too, is powered by a triac.

The resistance of the stator winding is approximately 750 Ω.



8.7 Motor

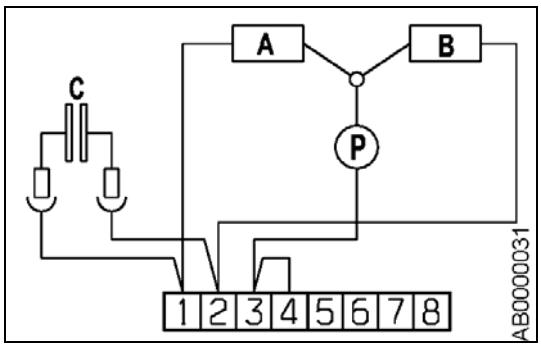
1 – Fan (with inclined paddles cold air circulation)
2 – Belt tensioner
3 – Motor
4 – Fan (with straight paddles hot air circulation)



The motor unit consists of a belt tensioner (2), two fans (1-4 respectively for the cold air circulation and for the hot air circulation fitted to the motor shaft with nuts) and of the single-phase asynchronous motor (3) featured with a temperometric protector.

Attention: while assembling the fans to the motor do not invert them, otherwise there will be some air circulation problems inside the dryer.

It is possible to have an indication of the efficiency of the motor measuring the resistances of the windings:
Winding **A** ohm 29 ~ (contacts 1-3)
Winding **B** ohm 29 ~ (contacts 2-3)



The motor supply is performed by the electronic board by means of a relay (which determines that rotation direction) and a triac.

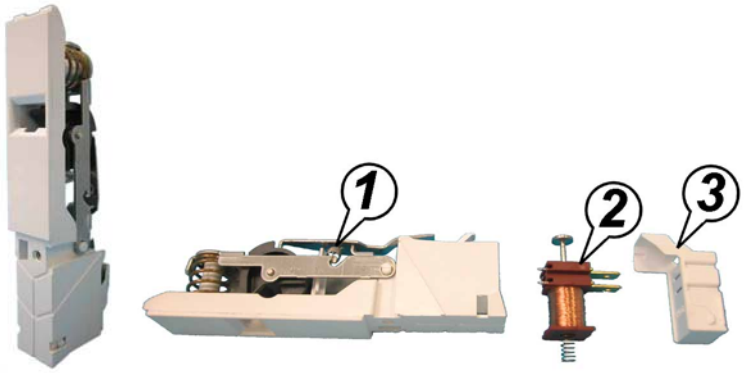
8.8 Door interlock and microswitch

The door interlock features a child safety device so that, in case of necessity, the door can be opened by pressing from inside the appliance.

8.8.1 Door interlock model AEG

Depending on the versions, the door interlock can be mechanical with manual door opening or electronic with door opening by pushing a button. In the latter case, the door is opened by an electromagnetic coil which unlocks the door catch by means of a lever.

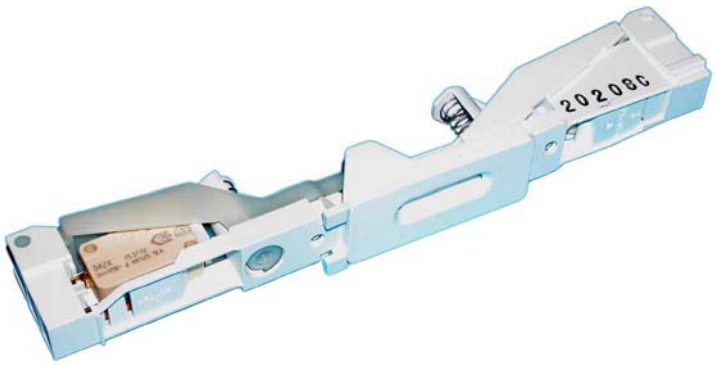
1. Catch door lever
2. Coil (in versions with automatic opening)
3. Coil protection



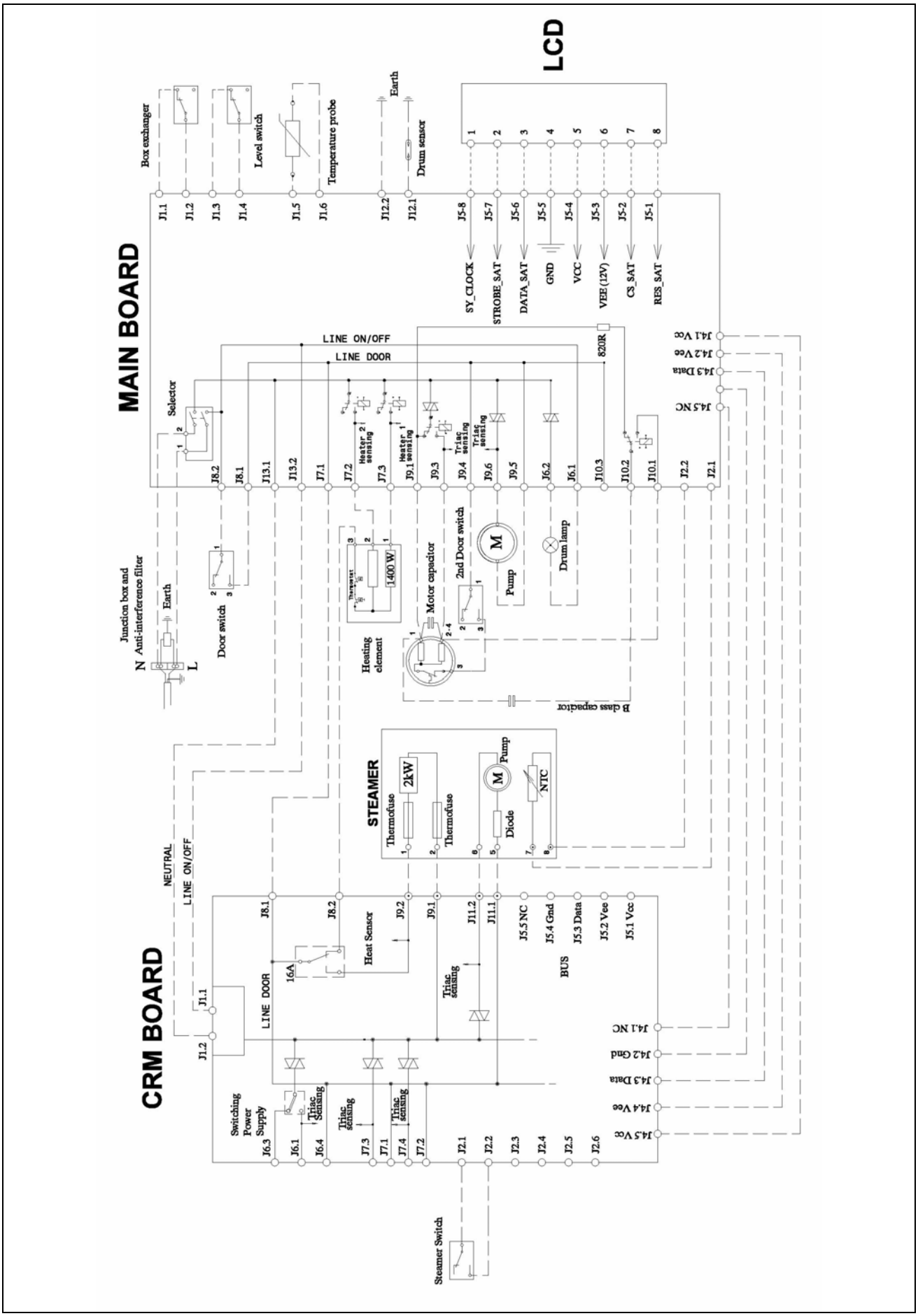
8.8.2 Door microswitch model AEG

The door microswitch allows the electronic board to power the electric components only if the door is closed, if a programme has been chosen and the ON/OFF button has been pushed.

The switch is positioned centrally and above the front opening and it is actioned by a catch placed on the door.



9 ELECTRIC DIAGRAM

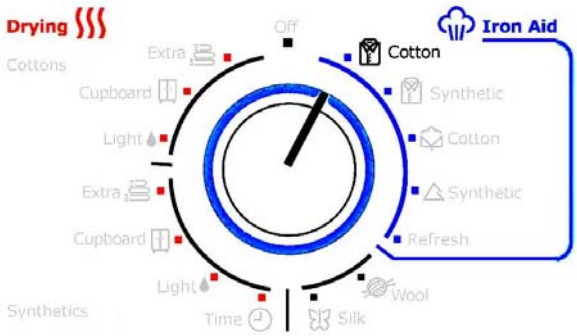


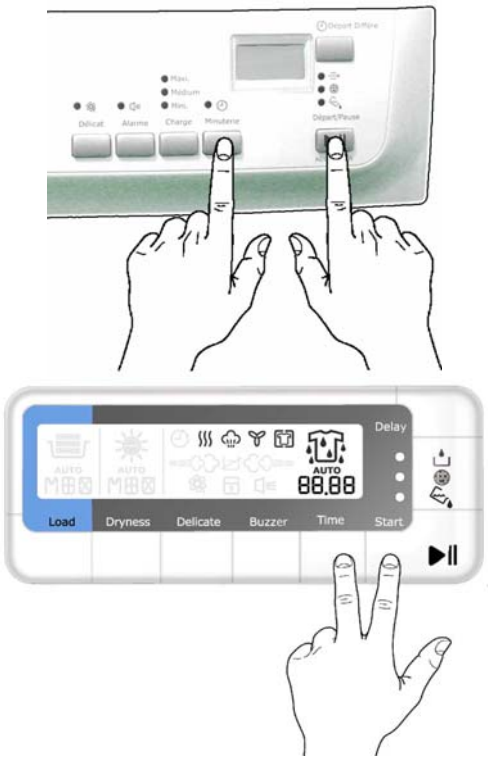
10 DIAGNOSTICS SYSTEM

In diagnostics mode, it is possible to check the operation of the appliance and to read the alarm codes.

10.1 Access to diagnostics

1. The appliance must be switched OFF.
2. Switch the appliance ON by turning the programme selector knob **one position clockwise.**
3. Wait until the LEDs light and the buzzer sounds, then simultaneously press buttons represented in figure. ***Important: this operation must be performed within 5 seconds!***
4. Hold these buttons down until the LEDs begin to flash and the buzzer sounds.





10.2 Exiting the diagnostics system

⇨ To exit the diagnostics system, turn the programme selector knob to **zero** to switch the appliance OFF, then switch it ON and OFF again.

ATTENZIONE!

- The alarms remain active during component diagnostics testing. If an alarm should be displayed, turn the programme selector to the first position to exit the alarm situation, and then continue the testing cycle (if the alarm is not repeated).

- In order to check for correct operation of the floating switch and the pump, the sump is filled with approximately 0.7 litres of water.

- For correct control of the conductimetric sensor in a condition of short-circuit (position 7), remove the cover and create a short-circuit between the two half-shells of the drum or between the front shell and ground. After entering this phase, the time available for creation of the short circuit is just one second; therefore, **prepare the short circuit before turning the programme selector knob to position eight** (it is advisable to do this in a position in which the drum is stationary, then pass quickly to this position). **If the short circuit is not performed correctly, the electronic board will display alarm E32** (sensor frequency too low). To exit the alarm condition, turn the programme selector knob to the first position.

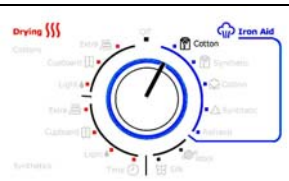
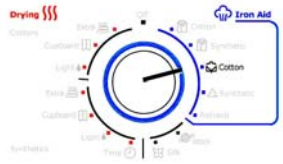
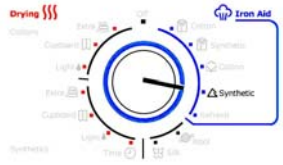
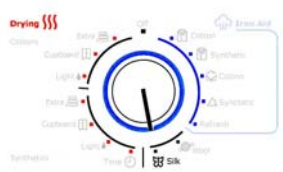
Open the condenser access panel and check that the switch operates correctly. The buzzer will emit four "beeps" (in different tonalities), repeated every 7 seconds.

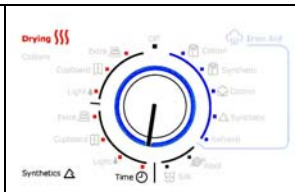
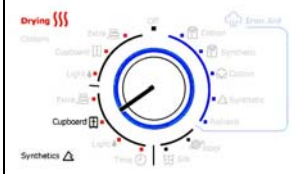
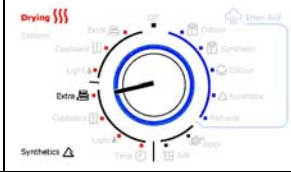
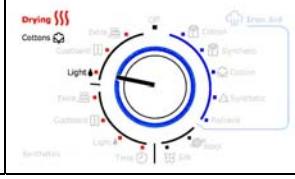
10.3 Selector positions for diagnostics

WARNING

When the various functions of the diagnostics mode are entered, the display shows on the right lower side some writings (ex. C7 - C5 etc.).

They refer only to the selector codification and they have no relevance for the test being executed.

Selector position		Components activated	Operating conditions	Function checked
1		➢ All LEDs and digits light up in sequence ➢ When a button is pressed, the corresponding LED lights and the buzzer sounds	Always active	Operation of the user interface
2		➢ Condensation canister level sensor ➢ Canister fill pump ➢ Water canister level sensor IRON AID ➢ Steamer heater ➢ Steamer NTC	Door closed. Sump full (about 0,7 litres)	Operation of the floating switch of the canister fill pump, heater pump and steamer NTC The display shows the temperature (130°C 150°C) read by NTC2
3		➢ Steamer pump ➢ Steamer heater	Door closed Max time 10 min.	General check of steamer and connections. The display shows the temperature (130°C 150°C) read by NTC2 and the steam LEDs are on
4		➢ Anti-clockwise drum rotation motor	Door closed Max time 10 min.	Drum anti-clockwise rotation control
5		➢ Clockwise drum rotation motor at low speed	Door closed Max time 10 min.	Control of correct direction of drum motor and fan motor The motor function by pulse
6		➢ Only one heater powered ➢ Clockwise drum rotation motor	Door closed Max time 10 min.	Control of operation of heating unit higher power. The display shows the temperature ready by NTC1
7		➢ Both heaters are powered ➢ Clockwise drum rotation motor	Door closed Max time 10 min.	Control of operation of both heaters. The display indicates the temperature read by NTC 1 sensor

8		➢ Conductimetric sensor with short-circuited drum. The control lasts 4 sec., **1 sec. to do the short circuit**, during which the phase/warning LEDs flash: If the result is correct at the end, the LEDs switch off, if not they flash and **E32** alarm appears.	Door closed **Short-circuit between the two drum shells**	Control of the conductimetric sensor in short-circuit condition
9		➢ Conductimetric sensor. This check has a duration of 4 sec. The phase/warning LEDs flash during this period. If the result is correct at the end, the LEDs switch off; if not, the LEDs flash continuously	Door closed	Control of the conductimetric sensor when the circuit is open
10		➢ Floating switch ➢ Canister fill pump: with switch closed	Door closed Max. time 30 sec.	Operation of the floating switch (sump empty)
11		➢ Water canister floating switch IRON AID	Door closed Max. time 30 sec.	Operation of the floating switch
12		➢ Reading/cancellation of the last alarm code ➢ Turn the knob till position 12, paying attention not to stop to position 8, otherwise error 32 may occur	---	---

11 ALARMS

11.1 Displaying the alarms to the user

Operation of the alarms is configurable according to the model. Some or all of the alarms may be displayed to the user.
Normally, all alarms except E61, E97, EB2 are displayed to the user.
When an alarm condition occurs, the drying cycle may be interrupted or paused; in some cases, for the sake of safety, a forced cooling cycle is performed. In this case, the electronic board, if possible, disconnects the power relay from the heater unit and powers the motor of the drum cooling fan. The cycle remains active until the user switches off the appliance.

11.1.1 Alarm display during normal operation

The system displays the <u>family</u> of alarms to the user.
If for example we consider E53 alarm (problems with the motor TRIAC) the display will show as follows:

- First digit: letter ***"E"*** (error)
- Second-third digit: the no. ***"5 0"***, i.e. the family of alarm E53)

The same number is displayed by a repeated flashing sequence of START LED of RED colour with a cycle (0,4 seconds on, 0,4 seconds off with a 2,5 second pause between the sequences); in case of E53, the series of five flashes indicates the **first** of the two E**5**3 alarm digits (the alarms relative to the same function are grouped in families).

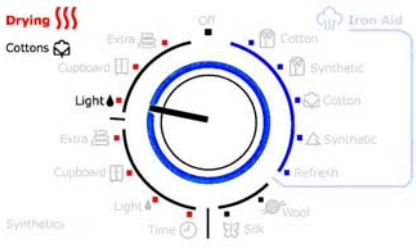
The buzzer emits some "beeps" synchronized with the flashing of the LEDs.

Configuration errors (E93) are indicated by all the LEDs flashing and it is not possible to access the diagnostics cycle.

11.2 Reading the alarm codes

To read the last alarm code memorized in the EEPROM of the electronic board, proceed as follows:

⇨ Access diagnostics mode (see paragraph)
⇨ Turn the programme selector knob **clockwise** to the **twelve position**. (*Turn the knob till Position 11, paying attention not to stop in Position 7, because error 32 could occur)*



Displaying the alarm code

- First digit: letter ***"E"***
- Second digit: the family of the alarm
- Third digit: the alarm number

Displaying other alarm codes
Pressing START button, all alarms in the appliance will be displayed.
The alarm code is displayed by a repeated sequence of flashing of the ANTI-CREASE/END OF CYCLE LED (0.4 seconds on, 0.4 seconds off, with a pause of 2.5 seconds between sequences).
The buzzer emits a series of "beeps" in synchronization with the flashing of the LED.
START LED with RED light: indicates the first digit of the alarm code (family)
START LED with GREEN light: indicates the second digit of the alarm code (number inside the family).

11.3 Rapid reading of the alarm

Select any programme.

Press the buttons represented in figure simultaneously for at least 5 seconds: the display shows the last alarm.

If some options have been selected before the reading, these remain stored in memory.

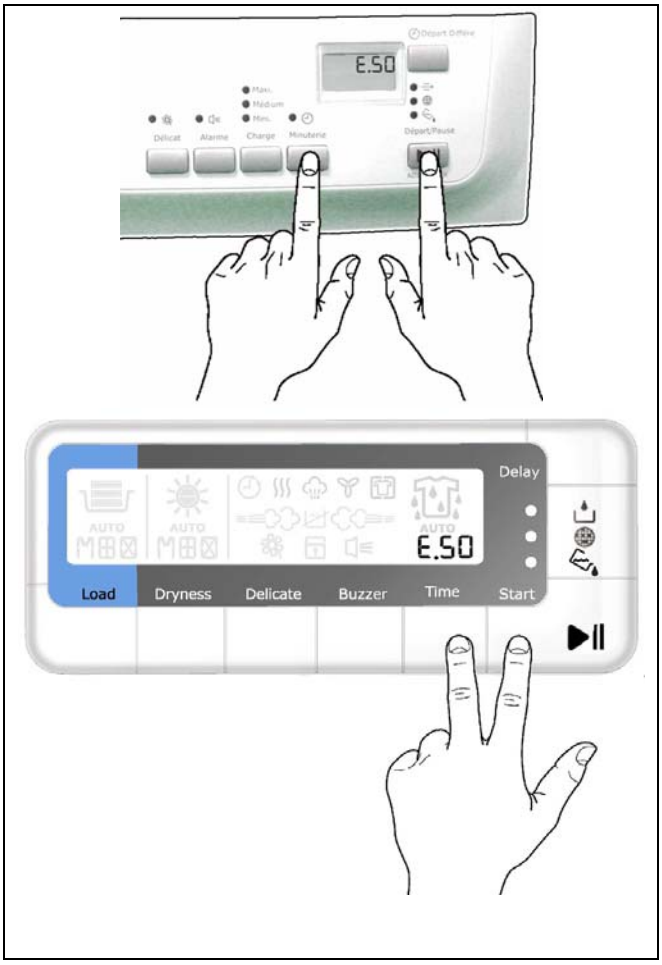
11.4 Cancelling the last alarm memorized

It is good practise to cancel the alarm code from memory:

After reading the alarm, to check whether it is repeated during the diagnostic cycle

After effecting repairs to the appliance, to check whether it is repeated during testing.

1. Access diagnostics mode and turn the programme selector knob to the **twelfth** position (alarm reading).
2. Push simultaneously the buttons represented in figure.
3. Hold them down for about 5 seconds.
4. Once the alarm has been cancelled, ***E00*** is displayed.



11.5 Notes concerning certain alarm codes

- **Configuration alarm E93:** When configuration alarms are displayed (when the appliance is switched on), the appliance is inoperative and all the LEDs light. It is not possible to access diagnostics mode; the only possible operation is that of switching off the appliance (selector knob on position "0").
- **Alarms EB1-EB2-EB3:** In the event of problems with the power supply, the appliance remains in alarm mode until the voltage and frequency are restored to within the normal limits or the appliance is switched off (selector knob on position "0"). Alarm family "**B**" is displayed and it is not possible to access diagnostics mode nor to use the "rapid alarm display" function. The complete alarm can be read only when the abnormal condition has terminated.

11.6 Table of alarms

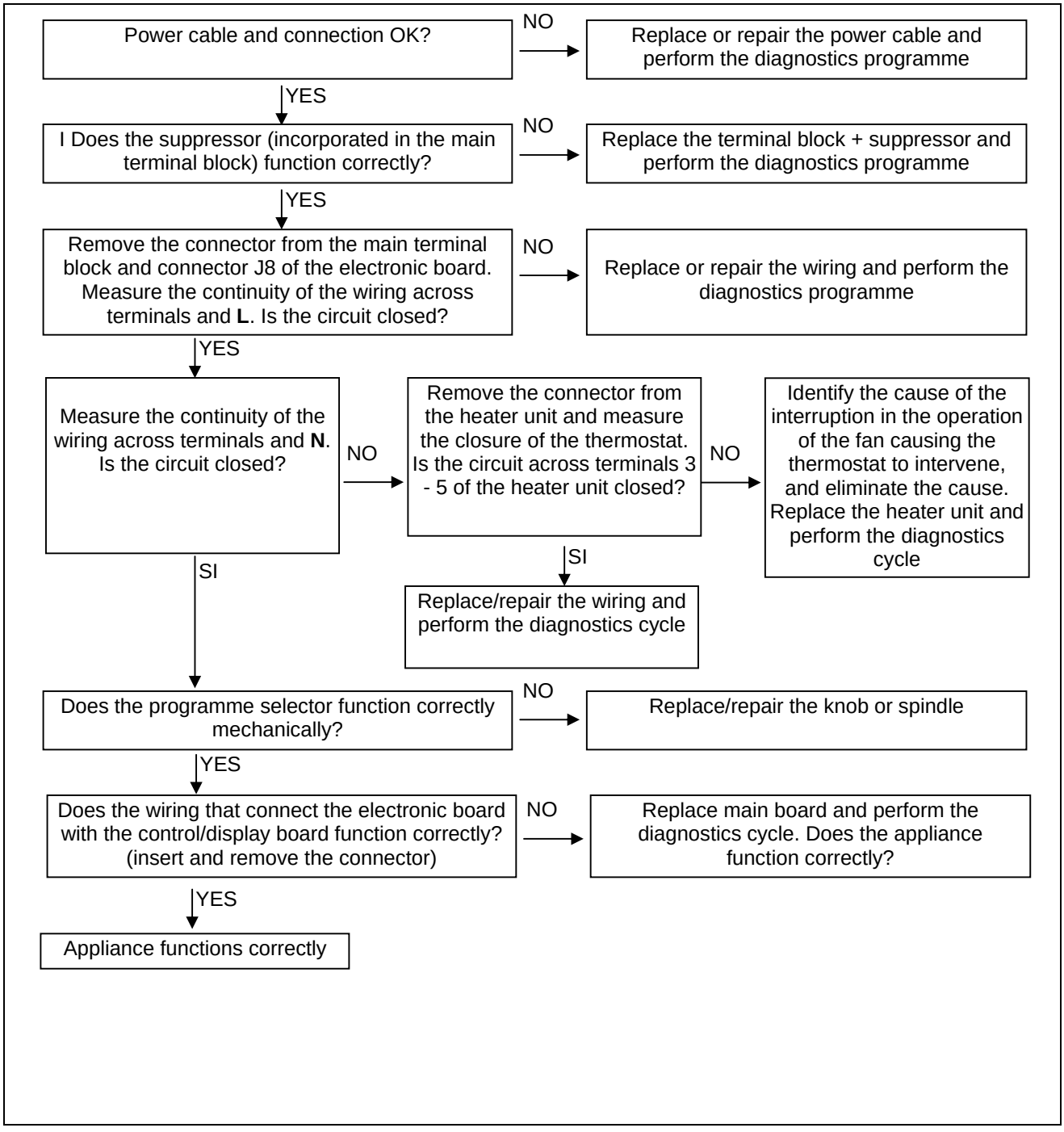
Alarm	Description	Possible fault	Action/machine status	Reset command
E00	No alarm.	---	---	---
E21	Canister fill pump triac faulty.	Wiring faulty; Electronic board faulty.	Cycle interrupted.	OFF
E22	Triac "sensing" circuit for the canister fill pump faulty	Electronic board faulty.	Cycle interrupted.	OFF
E31	Conductimetric sensor signal frequency too high.	Electronic board faulty.	Alarm activated only during diagnostics.	---
E32	Conductimetric sensor signal frequency too low.	Wiring faulty; Brushes worn/faulty; Electronic board faulty.	Cycle interrupted.	OFF
E33	It is displayed in the last alarm, if position 8 is **NOT OK**.	Wiring faulty; Brushes worn/faulty; Electronic board faulty.	Alarm activated only during diagnostics.	---
E45	Door closure sensor.	Door interlock faulty; Wiring faulty; Electronic board faulty.	Cycle interrupted.	OFF
E51	Motor power triac short-circuited.	Motor faulty; Wiring faulty; Electronic board faulty.	Cycle interrupted.	OFF
E52	Intervention of motor overheating safety cut-out.	Motor faulty; Intervention of motor overheating cut-out; Wiring faulty; Electronic board faulty.	Power to the heater unit and reversal of the direction of rotation are interrupted. If the problem does not re-occur, the alarm is memorized and the cycle continues. If the fault persists after several attempts to supply power (about 35 min.), alarm E51 is generated.	OFF
E53	Motor triac "sensing" circuit faulty.	Electronic board faulty.	Cycle interrupted.	OFF
E54	Motor inoperational.	Excessive wash load; Voltage too low; Motor/transmission system inoperative.	Cycle paused after several attempts at powering the motor.	Start

E61	Insufficient heating (maximum time exceeded).	Heater unit faulty; Wiring faulty; NTC sensor incorrectly calibrated/out of position; Electronic board faulty.	Cycle paused.	Start
E62	Power relay to heater unit faulty.	Heater unit faulty; Wiring faulty; Electronic board faulty.	Forced cooling cycle.	OFF
E63	Intervention of auto-reset thermostat on the heater unit.	Thermostat faulty (replace heater unit); Heater unit faulty; Wiring faulty; Electronic board faulty.	Disconnects the power supply to the heater unit. If the problem does not re-occur, the alarm is memorized and the cycle continues. If, after several attempts to restore power, the fault persists, alarm E62 is generated.	OFF
E64	Heater thermostat.	Heater thermostat faulty: Wiring faulty; Electronic board faulty.		
E65	Fan motor triac faulty.	Fan motor wiring not connected; Motor faulty; Triac interrupted.		
E66	Fan motor thermal protection.	Fan motor wiring not connected; Motor faulty; Triac interrupted.		
E67	Triac control faulty.	Fan motor wiring not connected; CRM board faulty.		
E71	NTC1 sensor faulty.	NTC1 sensor faulty; Wiring faulty; Electronic board faulty.	Forced cooling cycle.	OFF
E72	NTC2 sensor faulty.	NTC2 sensor faulty; Wiring faulty; Electronic board faulty.		OFF
E82	Selector in OFF position faulty.	Board wiring; board faulty.		
E83	Selector positions wrong.	Board wiring; board faulty.		
E93	Error in the configuration of the appliance.	EEPROM configuration incorrect. Electronic board faulty.	Cycle interrupted.	OFF
E94	Error in the configuration of the drying cycle.	EEPROM configuration incorrect. Electronic board faulty.	Cycle interrupted.	OFF
E97	Incongruence between selector and cycles.	Configuration error.	Cycle interrupted.	OFF
EA1	CRM board communication faulty.	Board wiring; CRM board faulty.		
EA2	CRM board protocol inconsistent.	Software wrong; CRM board faulty.		
EA3	Board selector faulty.	Electronic board faulty.		
EA4	Selector protocol wrong.	Electronic board faulty.		

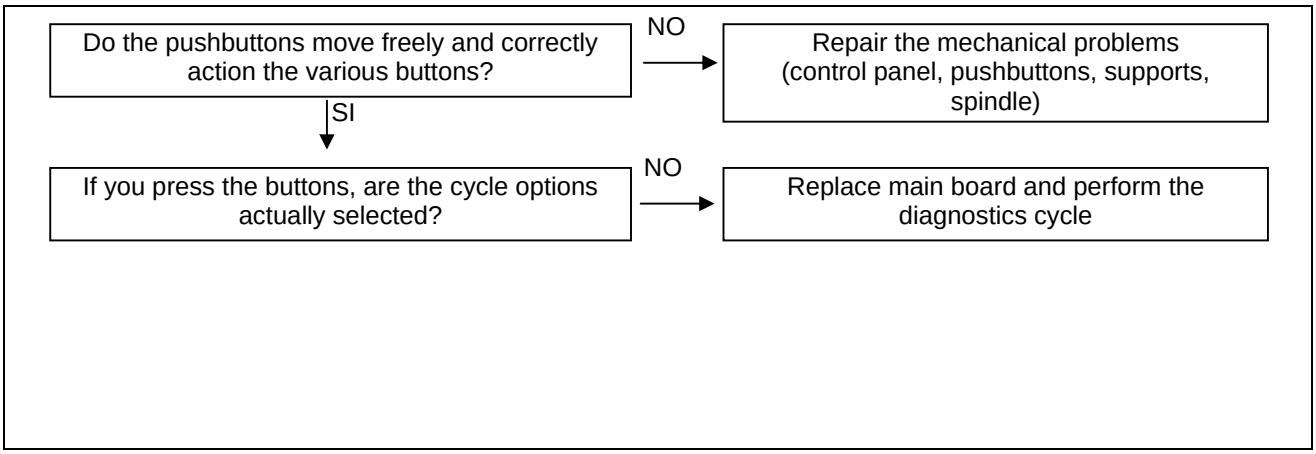
EH1	Power frequency to appliance out of limits.	Problems with the power supply (incorrect/interference). Electronic board faulty.	Cycle interrupted. If a stable power supply is restored before the time-out has elapsed, the cycle resumes.	OFF
EH2	Power voltage too high.	Problems with the power supply (incorrect/interference). Electronic board faulty.	Cycle interrupted	OFF
EH3	Power voltage too low.	Problems with the power supply (incorrect/interference). Electronic board faulty.	Cycle interrupted. If a stable power supply is restored before the time-out has elapsed, the cycle resumes.	OFF
EC1	Voltage incongruence between boards.	Problems with the power supply (incorrect/interference). CRM board faulty.		
EC2	Frequency incongruence between boards.	Problems with the power supply (incorrect/interference). CRM board faulty.		
EC3	CRM resistance out of time (only in diagnostic mode).	CRM group not connected; CRM group faulty.		
EC4	Steam generator (CRM) heater relay.	CRM group not connected; relay on board faulty.		
EC5	CRM thermostat faulty.	CRM group not connected; CRM group faulty.		
EC6	CRM piloting faulty.	CRM board faulty.		
EC7	CRM pump triac.	Pump wiring not connected; pump faulty; Triac faulty.		
EC8	CRM pump diode.	Diode on wiring short-circuited.		
EC9	CRM pump piloting faulty.	CRM board faulty.		
ECA	Water tank empty.	Tank level sensor wiring; tank level sensor faulty; water tube obstructed.		

12 NO ACCESS TO DIAGNOSTICS PROGRAMME

12.1 No LEDs on the display board light



12.2 Some of the LEDs on the display board light



Warning!
It is not possible to access the diagnostics system if the main electronic board has not been configured correctly: configuration errors (E93) are indicated by the flashing of all the LEDs.

13 ACCESSIBILITY TO COMPONENTS

If an electric screwdriver is used, ensure that the screws are not tightened excessively!

13.1 Door

13.1.1 Door

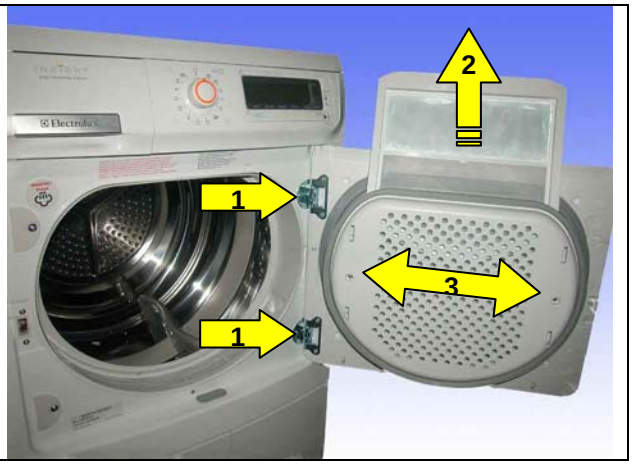
- To remove the door, remove the screws (1) which secure it to the hinge.

13.1.2 Fluff filter fitted inside door

- Lift out and clean it at the end of each cycle (2).

13.1.3 Fluff filter support

- Remove the two screws which secure the fluff filter support to the inner door (3).



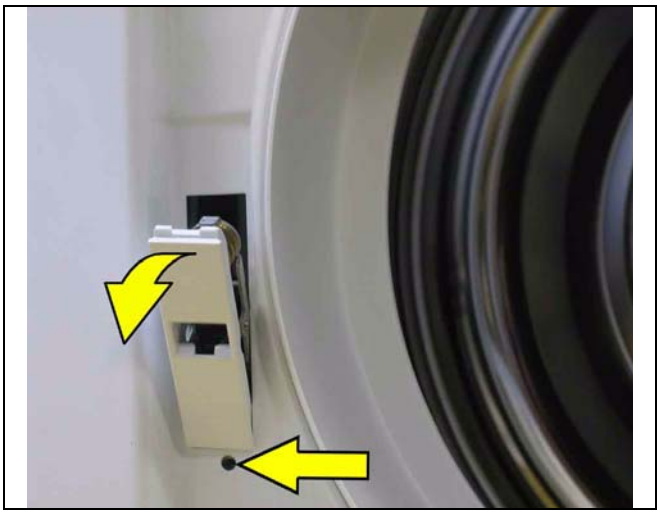
13.2 Lower fluff filter

13.2.1 Lower fluff filter

- Remove by lifting from its seat.

13.3 Door interlock

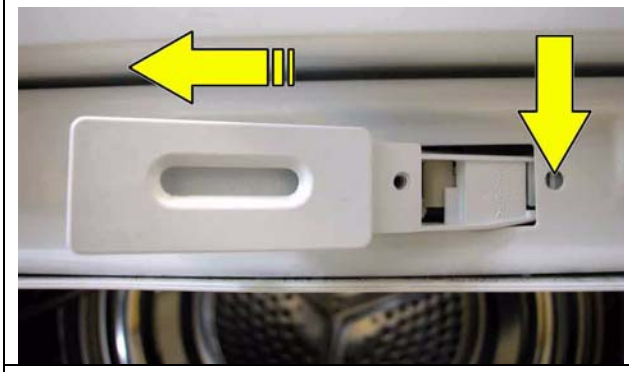
Unscrew the screw which fits it, lower it slightly and extract the door interlock rotating it forwards.



13.4 Door microswitch

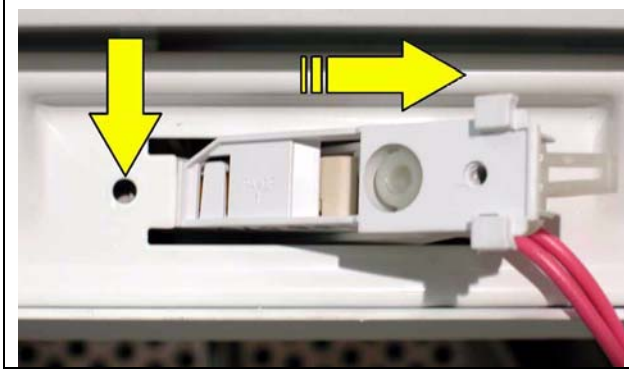
Remove the right fixing screw, extract the first half of the door micro and move it to the left till to reach the connector.

Detach the connector and fit it with some adhesive tape on the front so as to avoid that it goes back into the appliance.



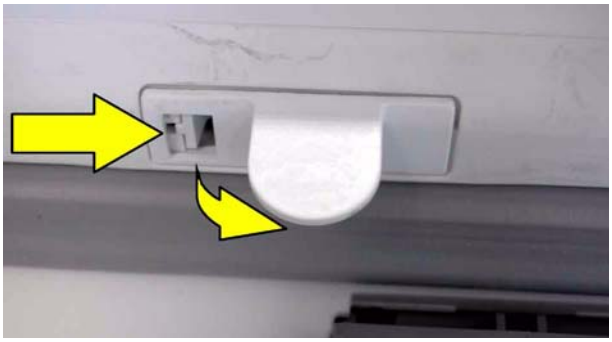
Remove the left fixing screw, move the second half of the door micro to the right till to free the two guides.

Remove it and detach the connector.
Fix the free cable with some adhesive tape on the front so as to avoid that it goes back into the appliance.



13.5 Door interlock catch and door microswitch catch

To remove the door micro catch and the door interlock catch push with a screwdriver on the hook and rotate them as indicated by the arrows.



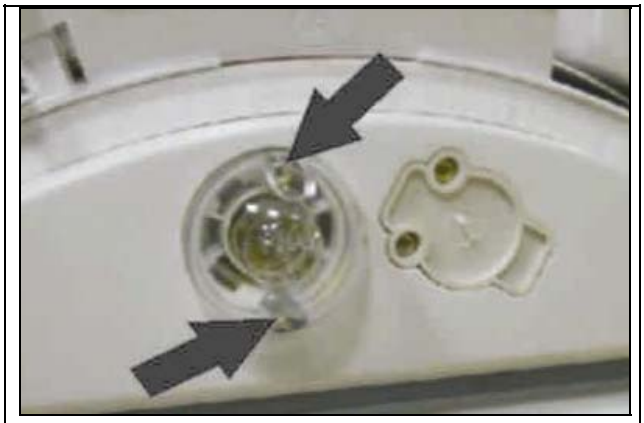
13.6 Drum light

The bulb can be replaced from the inside of the drum as follows:

Remove the two screws which secure the bulb cover and remove the cover.
Unscrew the bulb from the bulb-holder.

When replacing the cover, ensure that the sealing ring is correctly positioned in its seat.

N.B. Use only bulbs supplied as original spare parts (the part no. is shown in the parts list of each model).



13.7 Canister

Extract the canister from the appliance.

13.8 Work top

To remove the work top, unscrew the screws which fit it to the rear side of the dryer.

Remove it following the arrow directions.

13.9 Control support assembly and control panel

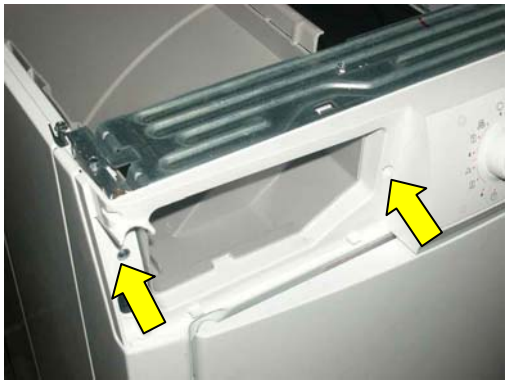
Remove the canister and the screw which fits the water fill nozzle.

Move it forwards and remove the water fill nozzle.

Remove the screws which fit the control panel to the canister.

Remove the screws which fit the control support crosspiece.

Rotate forwards the crosspiece and the control panel.



13.10 Main electronic board

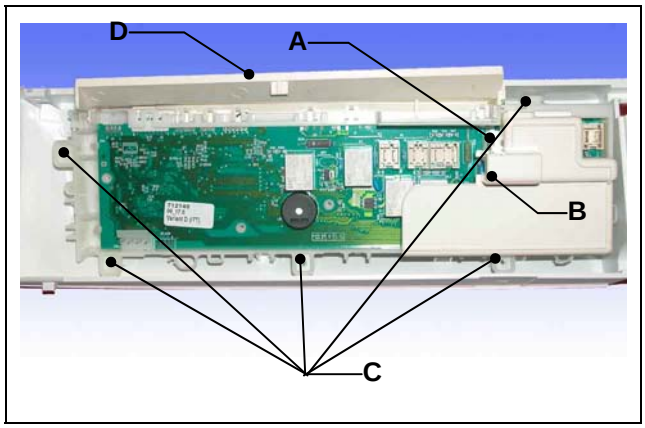
To remove the main electronic board:

Remove screw **A** which secures the selector protection **B,** remove the protection pushing with a screwdriver without forcing the upper clip too much.

Remove the 5 screws **C** which secure the electronic board to the control panel.

Slightly push the fixing clips and remove the board. Release upper protection **D.**

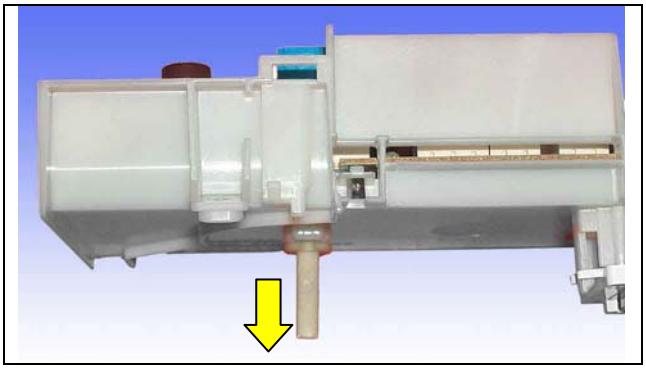
Detach the cables.



13.11 Selector pin

After removing the main board it is possible to remove the selector pin to **OFF** position and move it forward.

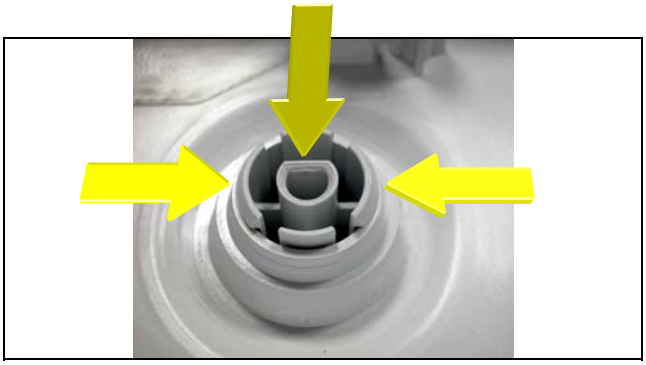
ATTENTION: should the pin not exit, check that it is in the correct OFF position.



13.12 Selector knob

After removing the main board, it is possible to remove the selector knob.

Press the two long sides towards the centre and simultaneously push the knob outwards.



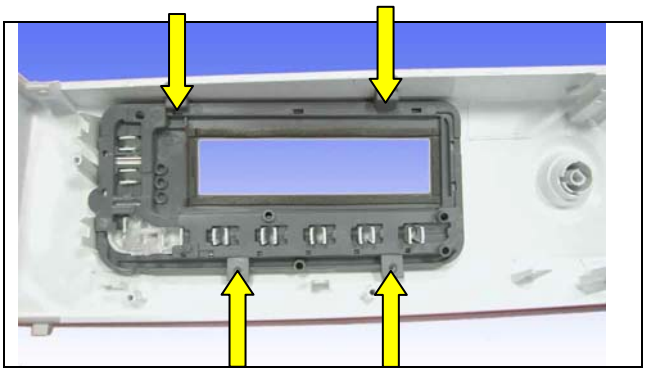
13.13 Button springing

The button springing remains hooked to the main board support by means of the lateral clips.

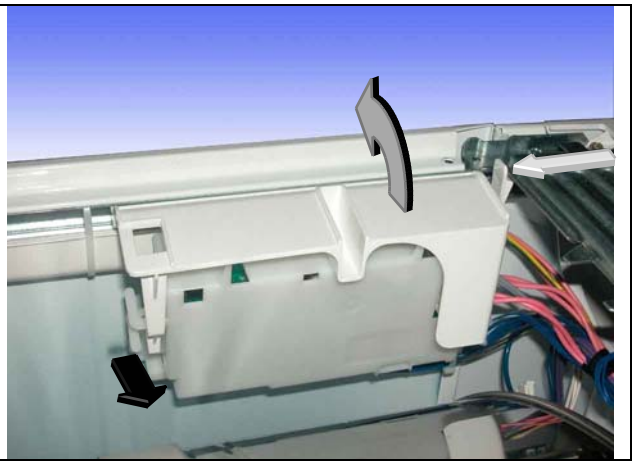
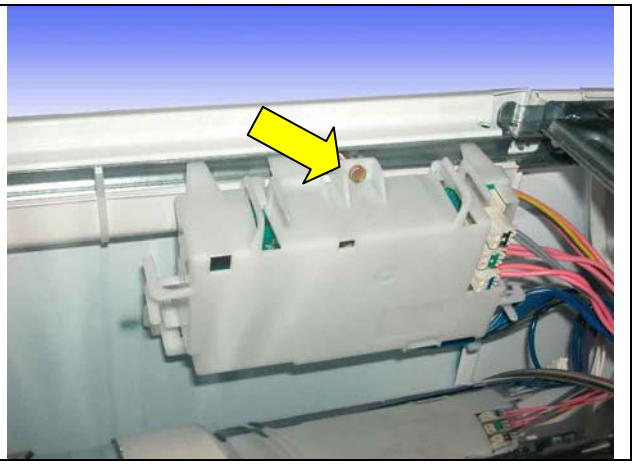
13.14 Button and visor unit

After removing the main board it is possible to remove the visor and button unit.

Remove the 4 screws which secure the button unit.



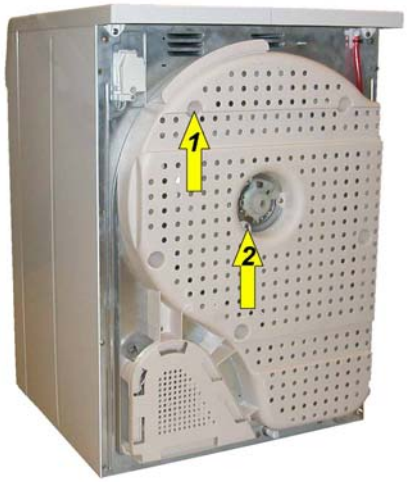
13.15 Main electronic board

Remove the protection releasing the fixing clips. Rotate and remove it.	
Remove the screw. Lean and lift it up. Detach the cables.	

13.16 Rear panel cover

Remove the screws (1) which secure the plastic rear panel cover externally.

Remove the screws (2) which secure the cover internally.



Remove all the perimetral screws which secure the rear panel cover.

13.17 Heater unit

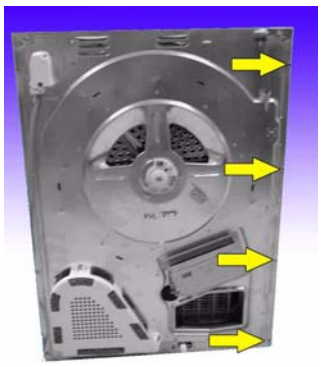
Remove the work top and the rear panel cover.

Remove the left side panel (looking the appliance frontally).

Remove the screw which secures the side panel to the crosspiece (after removing the canister).

While reassembling the side panel, position the screws in the same position, otherwise the earth continuity is interrupted.

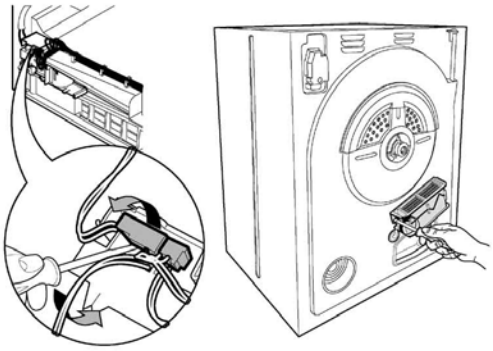
Remove the screws which secure the side panel to the rear panel, lift it up and remove it.



The terminal block for the heater unit is located inside the microswitch support and secured by an anchor tab.

Insert a screwdriver, move the anchor tab and extract the terminal block; remove the wire ties that secure the wiring to the base and remove the wiring.

Remove the two screws which secure the heater unit to the rear panel. The right-hand screw of the heater unit also secures a deflector.
Before replacing the heater unit, be sure to reposition the wiring in its original position.



13.18 Front brush of the conductimetric sensor

Detach the connector.

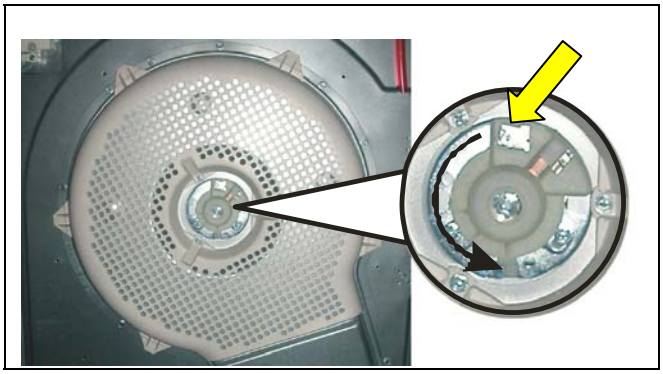
Extract the brush assembly from its seat (where it is connected to the duct).

13.19 Rear brush (conductimetric sensor)

Remove the screw which secures the drum pin protection.

Rotate the drum pin protection till it is released from the fixing anchor tab in the lower part.

The brush is located inside the protection.



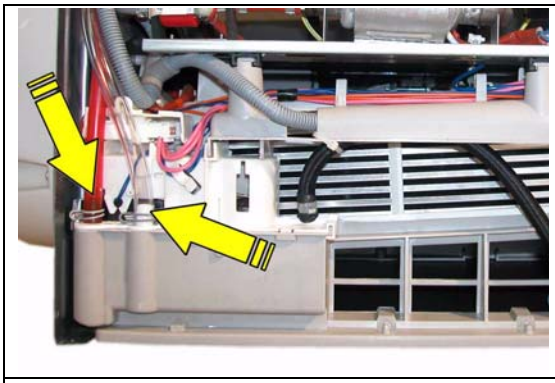
13.20 Floating microswitch

Remove the work top.

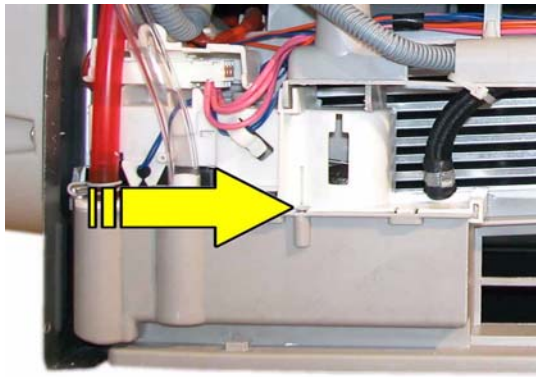
Remove the screws which secure the side panel and remove it (see paragraph).

In the rear section of the base, the sump contains the pump, the floating microswitch and the float.

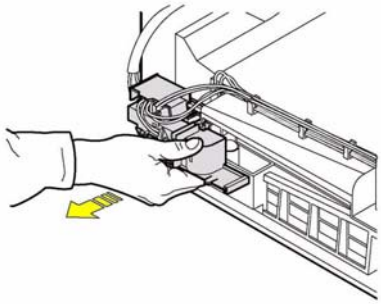
Remove the two tubes from their couplings (the red tube which fills the canister and the transparent tube through which water overflow is ducted back to the sump when the canister is full.



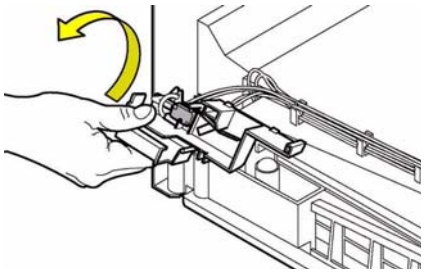
Remove the screw which secures the microswitch support and insert a screwdriver into the two ancho tabs, which secure it to the sump.



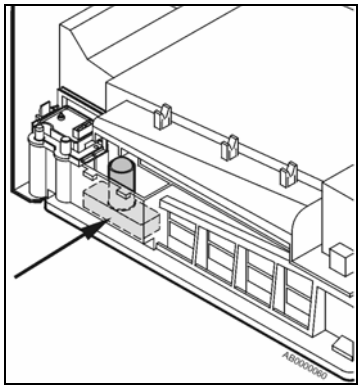
Lift both parts simultaneously and slide the microswitch support outwards.

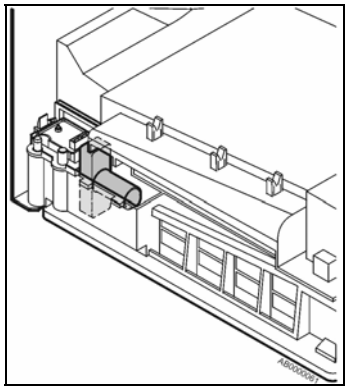


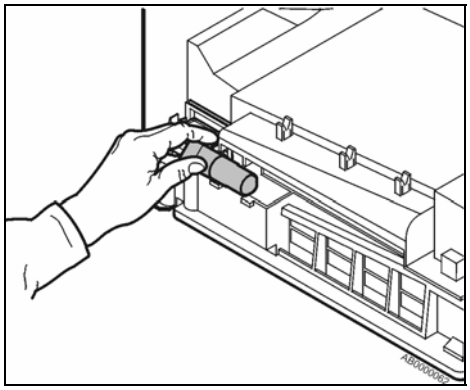
Turn the support upside-down to access the floating microswitch.



13.21 Float





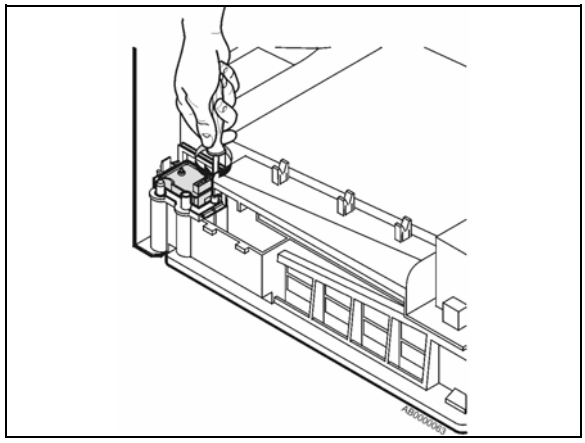


The float is located inside the sump.
To remove the float, turn it 90° clockwise as shown in the figure.
Lift and rotate it outwards, and remove it.

To re-fit the float, repeat this procedure in reverse sequence.

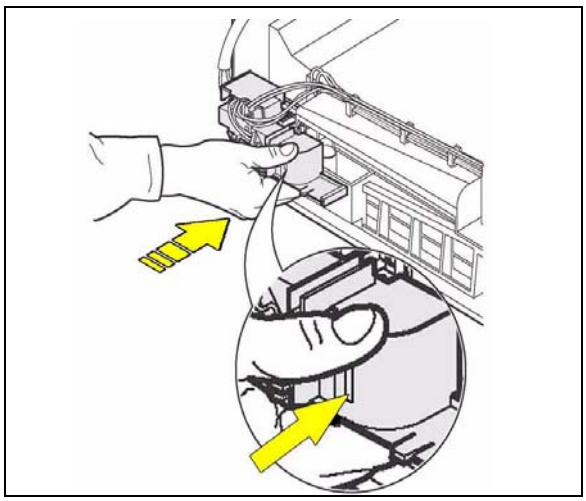
13.22 Pump

The pump, which ducts the water from the sump to the canister is located next to the sump containing the float.



To remove the pump from its seat, it is necessary to disconnect the wiring connectors, remove the screw and release the anchor tab (shown by the arrow) which secures the pump to the sump. Remove the pump.

When re-assembling the pump, the float and the canister microswitch, repeat the procedure described above in reverse sequence. When replacing the microswitch support, insert a screwdriver into the gap (shown by the arrow) in order to lift the microswitch lever and place it against the top of the float. If this procedure is not performed, the microswitch lever will remain alongside the float and become bent. In this case, the two components will not function correctly.

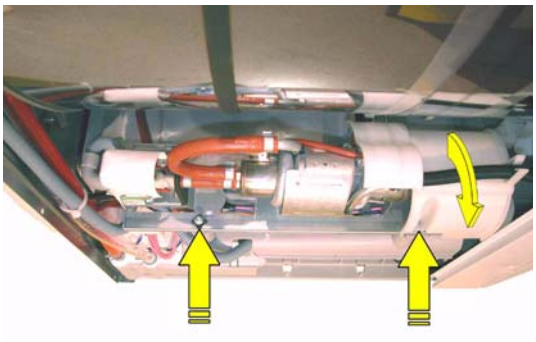


13.22.1 Steam generator unit

Remove the two screws which secure the steam generator unit.

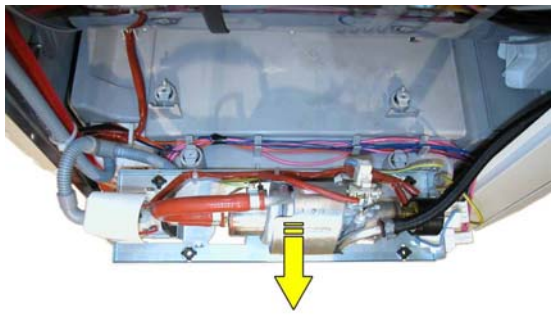
Remove the connector protection.

Release the BLACK steam hose from the 2 fixing clips.



Remove outwards the whole steam generator unit.

ATTENTION: Once the clamps of the steam generator unit have been opened, they have to be replaced.



13.23 Motor capacitors

Remove the work top (see above).

Remove the right-hand side unscrewing the screw which secures it to the crosspiece.

When replacing the side panel, replace the screws in their original positions, otherwise the continuity of the earth circuit will be broken.

Remove the screws which secure the side panel to the rear panel.

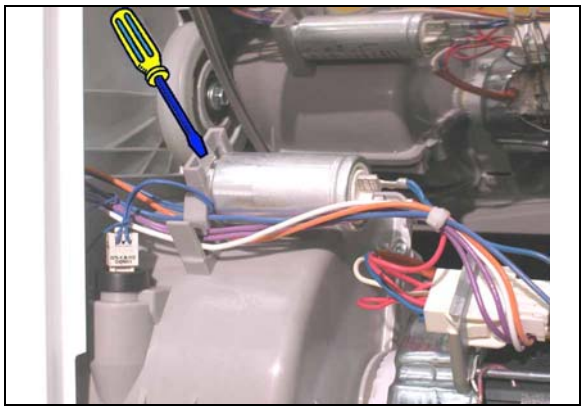
Lift and remove the panel.

13.23.1 Running capacitor

Detach the connectors.

Move the anchor tab using a screwdriver.

Remove it pulling it upwards.



13.23.2 Starting capacitor

Detach the connectors.

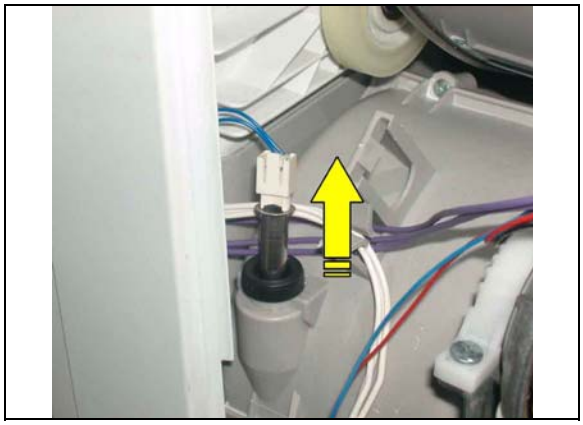
Move the anchor tab using a screwdriver.

Remove it pulling it upwards.

13.24 NTC Sensor

Detach the connector.

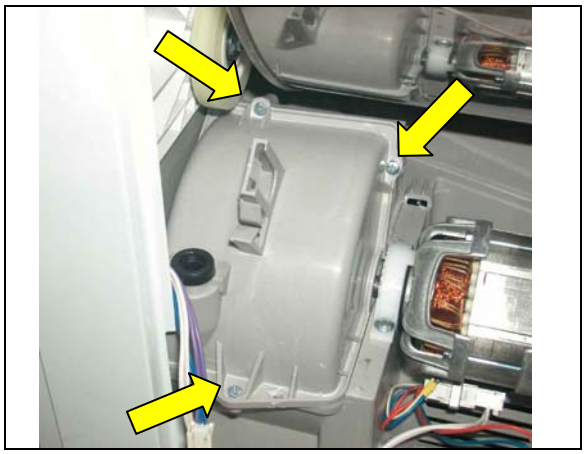
Pull the sensor upwards.



13.25 Front scroll cover (warm air circulation)

Extract the NTC sensor.

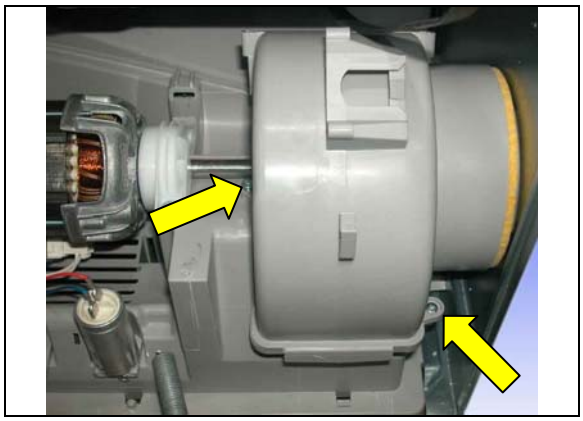
Remove the three screws which secure it to the base and remove it.



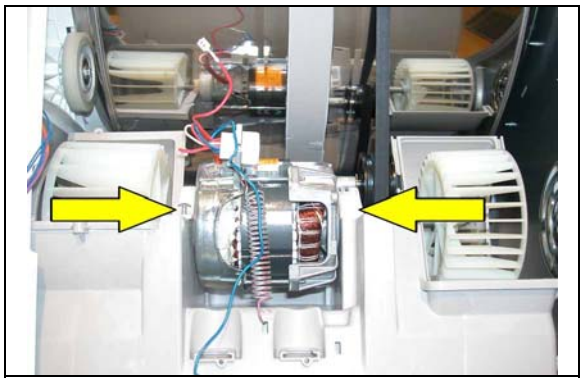
13.26 Rear scroll cover (cold air circulation)

Remove the screw which secure it to the base.

Release it from the three anchor tabs (two upper lateral and one lower) which secures it to the base and remove it.



13.27 Drum rotation motor



Remove the two scroll covers.

Detach the connector.

Cut the clamps which secure the cables.

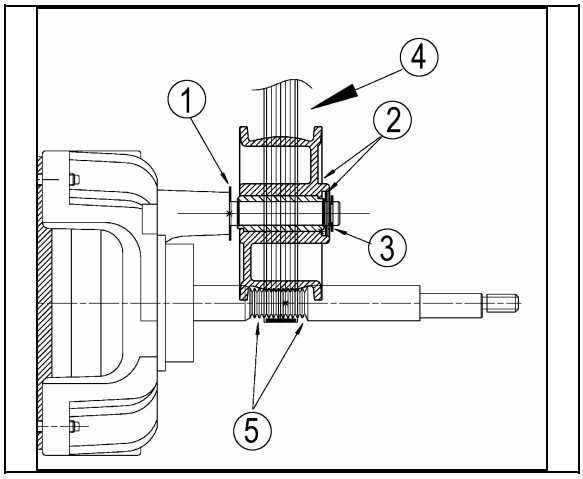
Remove the belt tensioner spring and free the belt.

Remove the two screws which secure the motor supports to the base.

Lift them up and remove them.

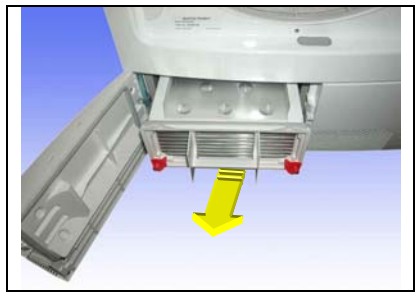
Remove the motor.

Notes for replacing the belt tensioner roller / drive belt



1. *Spacer*
2. *Belt tensioner roller with integrated spacer*
3. *Elastic ring*
4. *Belt in central position*
5. *Leave two grooves free on each side of the pulley*

13.28 Capacitor (heat exchanger)



Open the flap door.

Turn the two red retainers downwards.

Extract the heat exchanger.

13.29 Front flap

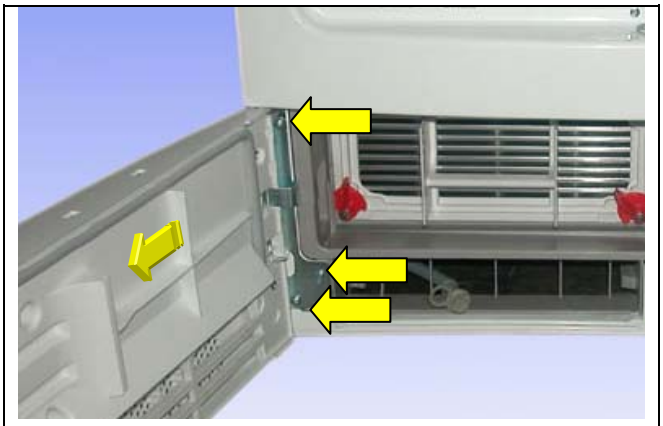
Remove the screws which secure it to the front panel.

To remove the gasket, extract it from its seat.

To access to the opening button, remove the fixing screws inside the flap and release the upper three anchor tabs.

When re-fitting the flap door in its housing, first ensure that the three anchor tabs are correctly positioned, and only then tighten the screws.

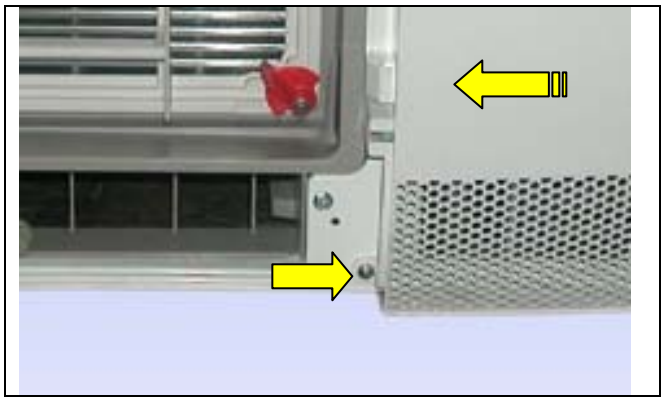
Check that the flap latch, when closed, actions the lever of the microbox, otherwise the dryer will not be powered.



13.30 Plinth

To remove the plinth: remove the screw which secures it to the front panel.

Move it towards the centre of the dryer and extract it.

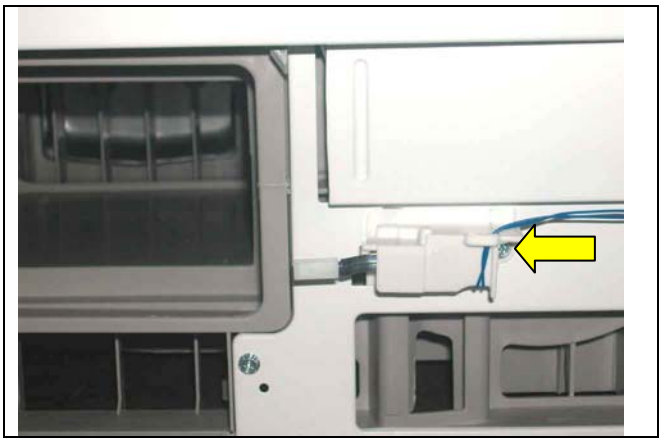


13.31 Door microswitch

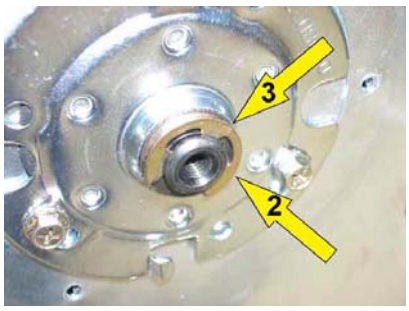
Remove the plinth.

Remove the screw which secures the microbox support to the front panel.

Move it towards the centre of the dryer and remove it.



13.32 Rear panel



Remove the work top.

Remove the screw which secures the canister support.

Remove the left- and right-hand side panels.

Remove the rear air protection.

Remove the rear brush.

Remove the screw which secures the bush (**1**).

Remove the Benzing ring (**2**) and remove the spacing washer (**3**).

Disconnect the terminal block from the heater unit.

Detach the connectors from the junction box.

Remove the screws which secure the rear panel to the cross-members and to the base (under the heater unit there is a screw which secures the rear panel to the base).

Under the heater unit there is a screw which secures the rear panel to the base.

13.33 Belt

Remove the work top.

Remove the side panels.

Remove the belt tensioner spring

Cut the damaged belt.

Remove the rear panel.

Remount the new belt paying attention to remount it centrally considering the motor shaft (see chapter).

13.34 Drum

Remove the work top.

Remove the side panels.

Remove the rear panel.

Remove the drum and the belt.

13.35 Duct

Remove the work top.

Remove the rear panel.

Remove the drum.

Remove the screws which secure the drum to the hinges and to the hinge masking plates.

Remove the duct.

From the duct you can access the lamp-holder and the relative wiring (models with drum lamp).

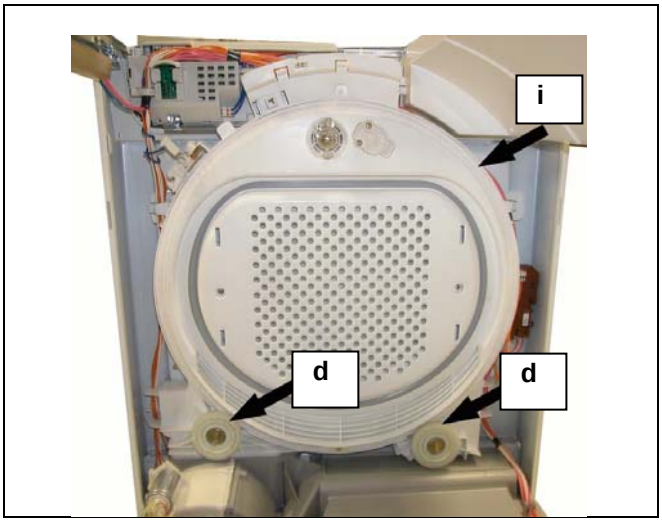
13.36 Duct rollers

Remove the work top.

Remove the rear panel.

Remove the drum.

Remove the screws (**d**) which secure them to the duct.



13.37 Front and rear seals

Remove the work top.

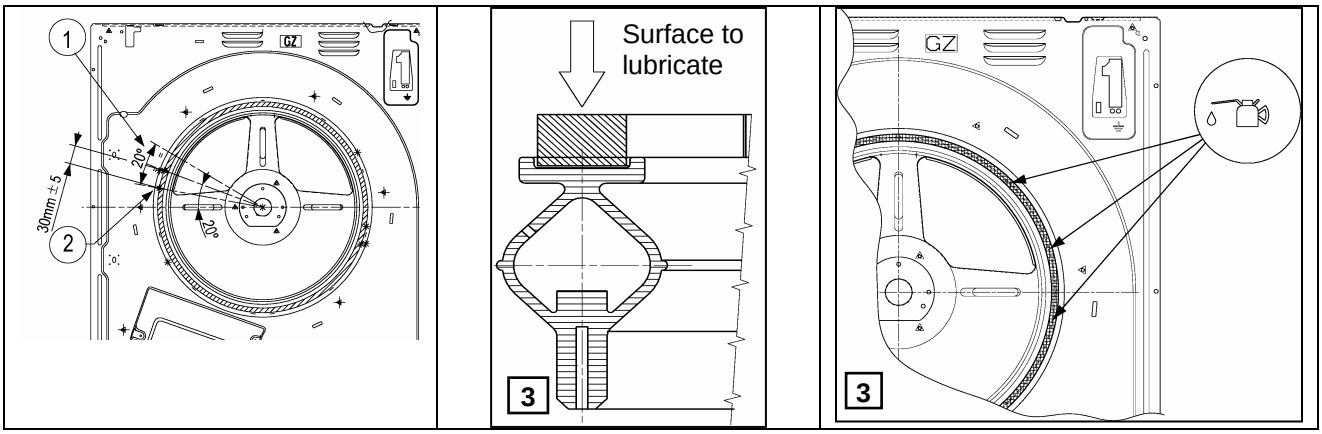
Remove the rear panel.

Remove the drum.

The rear seal can be simply pulled away from the ring fitted to the rear panel.

Slide out the front seal (**i**) from its seat.

Notes for replacement of the rear drum seal



1. Position of the seal joint.
2. Position of the compensation hole.
3. After replacing the rear drum seal, apply some lubricant uniformly over the entire inner felt surface using 8 gr of silicone oil (part no. 5023 72 70-00/9.

14 Reversibility of the door

Open the door.

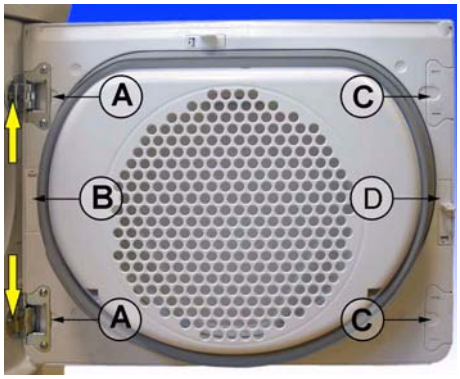
Remove the door unscrewing the 2 screws which secure the hinges (A) to the appliance.

Remove the masking plates (B) and (C) pushing them with a subtile screwdriver.

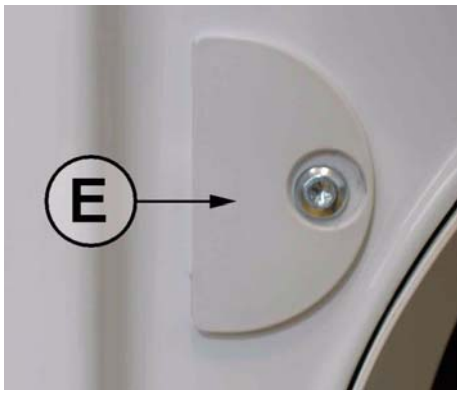
Remove the door interlock catch (D) pushing it with a screwdriver and reuse it on the opposite side turned by 180° (upside-down).

Remove the hinges (A) and reuse them on the opposite side turned by 180°.

Remount the masking plates (B) and (C) on the opposite side turned by 180° so as to cover the remaining holes.



Remove the 2 masking plates (E), turned them by 180° and remount them on the opposite side.



Remove the door latch (F), push it downwards and remove it turning it down.

Push the anchor tab of the cover (G) and simultaneously push it downwards.

Position the door (F) on the opposite side of the appliance and fix it with the screw previously removed.

Position the cover (F) on the opposite side of the appliance paying attention that the anchor tab enters the hole.

Remount the door with the hinges on the opposite side, fix the screws and check the correct operation.