



© Electrolux Home Italia S.p.A.

Corso Lino Zanussi, 30  
I - 33080 Porcia – PN -

Fax: + 39 0434 394096

SOI

Edition: 04-2009 Rev 0.0

Publication  
number

**599 71 83 56**

EN

**Condenser dryer  
with heat pump**

**QUELLE CATALOG HP**



## CONTENT

1	Introduction .....	5
1.1	Purpose of this manual .....	5
1.2	Caution .....	5
1.3	Installation.....	5
2	Technical characteristics .....	6
2.1	Technical data .....	6
2.2	Circuit boards.....	6
3	Control panel .....	7
3.1	Stylings .....	7
3.2	Programme selector .....	7
3.3	Buttons.....	7
3.4	Symbols on stylings with LCD .....	8
3.5	Child protection.....	8
3.6	No buzzer button .....	8
3.7	Delayed start button .....	9
3.8	“START / PAUSE” button .....	9
3.9	Adjusting the level of conductivity.....	10
3.9.1	Procedure.....	10
3.9.2	Displaying the settings of the conductivity .....	10
3.9.3	Warning LEDs.....	11
4	Description of operation of the appliance .....	12
4.1	Operation of a cycle.....	12
4.2	Operation in PAUSE mode.....	12
4.3	Operation in DELAYED START mode .....	13
4.4	Power failure.....	13
5	Structural characteristics .....	14
5.1	Heat pump in drying circuit: operating principles.....	14
5.2	Structural components.....	16
5.3	Drum .....	17
5.4	Air seal and drum spindle support.....	17
5.5	Hydraulic circuit .....	18
5.6	Drum rotation: principles.....	18
6	Electrical components .....	19
6.1	Electronic control system.....	19
6.1.1	Main circuit board: functions .....	19
6.1.2	Electronic control system memory: general structure.....	20
6.2	Conductimetric sensor .....	21
6.3	Terminal block with suppressor .....	21
6.4	Compressor .....	22
6.5	PTC motor protector .....	22
6.6	Motor compressor capacitor .....	22
6.7	Fan cooling compressor .....	23
6.8	Drum motor.....	23
6.9	Drum motor capacitor .....	23
6.10	Air circulation fan .....	24
6.11	Fan motor capacitor.....	24
6.12	NTC sensor.....	25
6.13	Canister fill pump.....	25
6.14	Door switch .....	26
6.15	Door interlock.....	26
7	Electric wiring.....	27
8	DIAGNOSTICS SYSTEM .....	28
8.1	Access to diagnostics .....	28
8.2	Exiting the diagnostics system .....	28
8.3	Selector positions for diagnostics (conductimetric appliances).....	29
9	ALARMS .....	31

9.1	Displaying the alarms to the user .....	31
9.1.1	Alarm display during normal operation .....	31
9.2	Reading the alarm codes.....	31
9.2.1	Displaying the alarm code on models CD3.....	31
9.2.2	Displaying the alarm code on models.....	31
9.3	Cancelling the last alarm memorized .....	32
9.4	Notes concerning certain alarm codes .....	32
9.5	Table of alarms .....	33
10	The diagnostics cycle does not start .....	36
10.1	None of the LEDs on the display board lights .....	36
	Some of the LEDs on the display board light .....	37
11	Access to components .....	38
11.1	Door .....	38
11.2	Fluff filter .....	38
11.2.1	Fluff filter on door .....	38
11.2.2	Lower fluff filter.....	38
11.2.3	Evaporator fluff filter.....	39
11.2.4	Fluff filter for water from evaporator.....	39
11.3	Compressor for fan motor.....	40
11.4	Door lock.....	40
11.5	Door microswitch .....	40
11.6	Door lock latch - Door microswitch latch .....	41
11.7	Drum light bulb.....	41
11.8	Canister .....	41
11.9	Work top .....	42
11.10	Control panel/support assembly .....	42
11.11	Main circuit board .....	43
11.11.1	Removing the board.....	43
11.11.2	Removing the selector knob spindle.....	43
11.11.3	Removing the selector knob .....	43
11.11.4	Key spring strip .....	43
11.12	Side panels .....	44
11.13	Water ducts.....	44
11.14	Condensation pump / float-actioned switch.....	45
11.15	Drum rotation motor.....	46
11.16	NTC heat pump circuit.....	46
11.17	Drum brush .....	47
11.18	Rear brush .....	47
11.19	Rear air duct .....	48
11.20	PTC and motor overload cut-out .....	48
11.21	Dismantling the chassis for servicing .....	49
11.22	Air duct.....	50
11.23	Front air seal.....	50
11.24	Idle pulleys.....	50
11.25	Rear air seal .....	50
12	Checking the efficiency of the heat pump .....	51
12.1	Servicing the heat pump circuit .....	54
12.1.1	Replacing the compressor .....	54
12.1.2	Evacuation .....	54
12.1.3	Filling.....	54
13	Reversibility of the door .....	55

# 1 Introduction

## 1.1 Purpose of this manual


The purpose of this Service Manual is to provide service engineers who already have basic experience in repairing clothes dryers with additional technical information concerning condenser dryers with electronic control systems.

The electronic control system consists of a main circuit board with a built-in selector and - on some models - a liquid-crystal display (LCD). These components are supplied already assembled and tested by the manufacturer.

This Service Manual describes the following:

Technical characteristics  
Control panel  
Description of operation  
Structural characteristics  
Electrical components and circuit diagrams  
Diagnostics  
Alarms  
Accessibility


## 1.2 Caution

 WARNING	<ul style="list-style-type: none"><li>• Any repairs or maintenance of electrical appliances must be carried out by qualified persons only.</li><li>• Always remove the plug from the power socket before accessing the internal components.</li></ul>
---	---

## 1.3 Installation

The appliance must be installed on a perfectly flat, level surface in order to ensure that the condensation produced during the drying process is ducted correctly to the special canister.

The feet should never be removed. There must always be a space between the bottom panel of the dryer and the floor in order to prevent possible overheating.

 WARNING	If the appliance is laid on its side for maintenance or repairs, wait for ½ hour before operating it again.
--	---

## 2 Technical characteristics

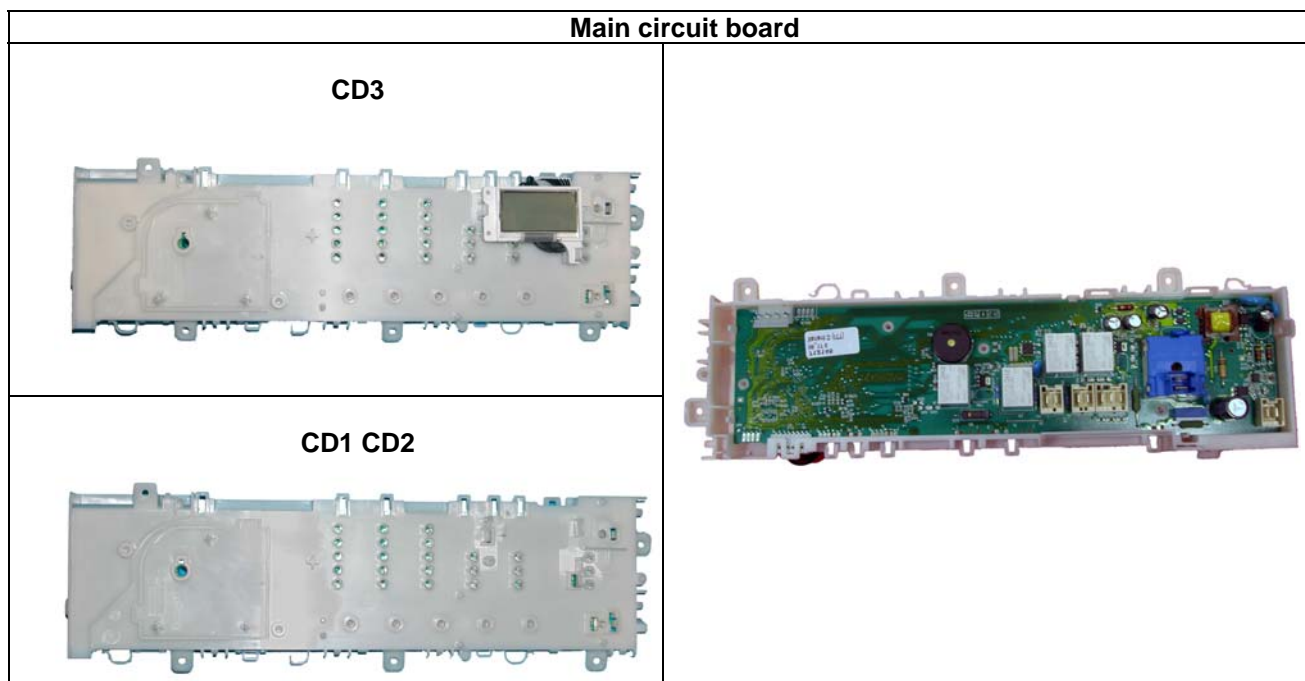
### 2.1 Technical data

<b>Dimensions</b>	<ul style="list-style-type: none"> <li>▪ height: 85 cm</li> <li>▪ width: 60 cm</li> <li>▪ depth: 58 cm</li> </ul>
<b>Voltage</b>	<ul style="list-style-type: none"> <li>▪ volts: 220-240</li> <li>▪ Hz: 50/60</li> </ul>
<b>Number of keys</b>	▪ 7
<b>Number of LEDs</b>	▪ 1 Start/Pause
<b>Type of display panel</b>	▪ LCD
<b>Acoustic signalling device</b>	▪ built-in buzzer on circuit board
<b>Serial port</b>	▪ DAAS-EAP communications protocol up to 230400 baud
<b>Programme selector</b>	▪ 15 positions with integrated ON/OFF button
<b>Drying system</b>	▪ condensation of humidity with heat exchanger
<b>Humidity control</b>	▪ conductimetric sensor
<b>Motor</b>	▪ single-phase asynchronous with capacitor
<b>Heating unit</b>	▪ heat pump
<b>Gas for heat pump</b>	▪ R134a 270g
<b>Temperature control</b>	▪ NTC sensor
<b>Capacity of canister</b>	▪ 4 litres approx.
<b>Canister fill pump</b>	▪ with synchronous motor

### 2.2 Circuit boards

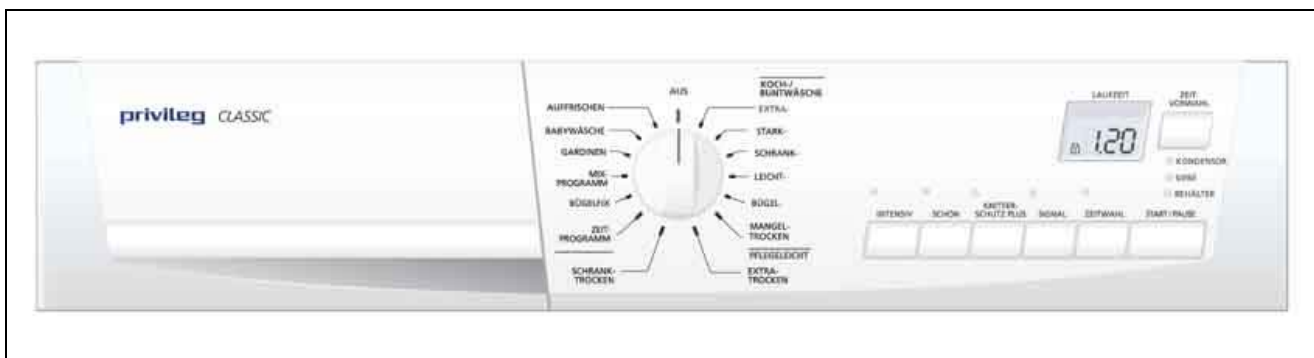
The electronic control system consists of a main circuit board with a built-in selector and a liquid-crystal display (LCD). These components are supplied already assembled and tested by the manufacturer.

*The boards shown in the figures below may differ slightly from those actually fitted to the appliance.*



### 3 Control panel

#### 3.1 Stylings



#### 3.2 Programme selector

The selector has 15 positions.

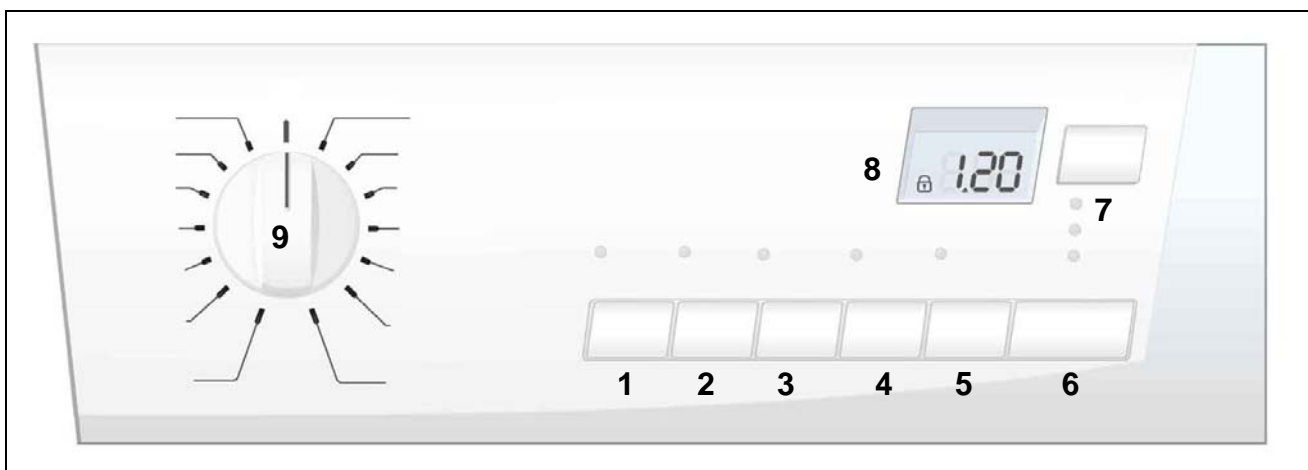
All models feature a built-in ON/OFF switch on the circuit board.

The symbols refer to the various drying cycles that can be selected for COTTON, SYNTHETIC FABRICS, SILK and WOOL.

All programme positions can be configured depending on the model.






#### 3.3 Buttons



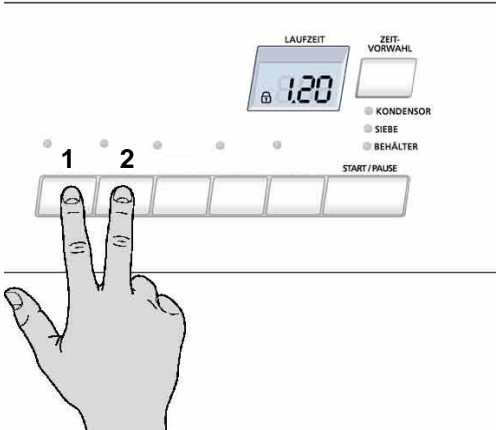
- |                        |                         |
|------------------------|-------------------------|
| 1. Configurable button | 6. START / PAUSE button |
| 2. Configurable button | 7. DELAYED START button |
| 3. Configurable button | 8. LCD                  |
| 4. Configurable button | 9. Programme selector   |
| 5. Configurable button |                         |

### 3.4 Symbols on stylings with LCD

The various icons and writings represented on the LCD display are displayed depending on the programme and on the programme phase being executed.

	Anti-crease phase
	Child protection (key lock)
	Time-to-end / Alarm code

### 3.5 Child protection

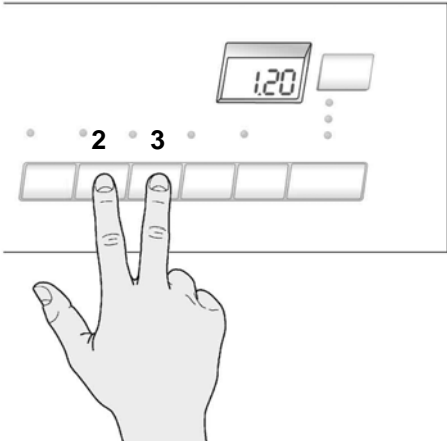
<p>By pushing simultaneously for 5 seconds the buttons 1 and 2, the child protection is activated, all buttons are disabled and no modification is allowed. To deactivate this protection, push the same buttons again.</p>	
---	---

### 3.6 No buzzer button

Option to be selected when the dryer is in selection mode (set-up). Press this button to exclude the buzzer: the exclusion is signalled by the switching on of the LED or of the icon, depending on the models. To reactivate the option, press the button again.

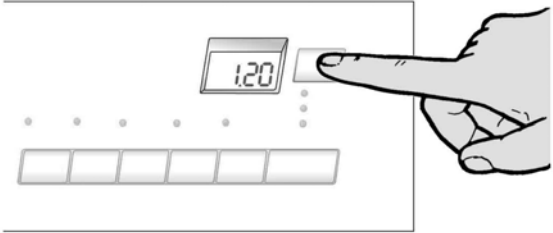
*Even if the buzzer is excluded, the alarm acoustic signalling remains active.*

#### Exclusion of the buzzer (not only for the affected cycle)

<p>Selection to be made during the selection phase (set-up):</p> <p>Push buttons 2 and 3 simultaneously for five seconds and a beep will be emitted.</p> <p>To reactivate the buzzer, push the key combination above described again till the buzzer emits a "Beep".</p>	
--	--



### 3.7 Delayed start button

<p>Pressing this button it is possible to select, during the programme selection phase, a delayed start. The time varies up to 20 hours; the time is displayed in the Display.</p> <p>Every time the button is pressed, the time displayed increases:</p> <ul style="list-style-type: none"><li>⇒ For the first two hours, the step is about half an hour</li><li>⇒ Later, the step is one hour</li><li>⇒ To cancel the delay, move the selector by one position or press the button till the display is reset.</li></ul>	
---	--

*This option must be selected after selecting the programme and before pushing START/PAUSE.*

### 3.8 “START / PAUSE” button

#### ▪ Start

When a drying programme is selected with the selector, the icons of the three phases (drying, cooling, anti-crease) light up and the LED START/PAUSE flashes.

After having selected the options, press this button to start the cycle; the relative LED remains lit.

#### ▪ 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 flashes.

Pressing the START/PAUSE button, the drying cycle starts from the point at which it was interrupted.

### 3.9 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.

#### 3.9.1 Procedure

<ul style="list-style-type: none"> <li>• <b>To access adjustment mode:</b></li> <li>1. Turn the programme selector to switch on the appliance.</li> <li>2. In selection mode (set-up), simultaneously press buttons: 3 and 6</li> <li>3. Hold the buttons down till the buzzer sounds (about 5 seconds).</li> <li>• <b>Adjusting the level of conductivity:</b></li> <li>Pressing button <b>start/pause</b> sequentially: the level of conductivity is indicated by the lighting of the horizontal hypens of the last digit.</li> <li>• <b>Adjusting the level of conductivity:</b></li> <li>1. Simultaneously press the buttons previously pressed.</li> <li>2. Hold the buttons down until the buzzer sounds (about 5 seconds).</li> </ul>	
--	--

#### 3.9.2 Displaying the settings of the conductivity

Display	Conductivity	Approximate value ( $\mu\text{S}/\text{cm}$ )
	Low	< 300
	Medium	300 - 600
	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.

### 3.9.3 Warning LEDs

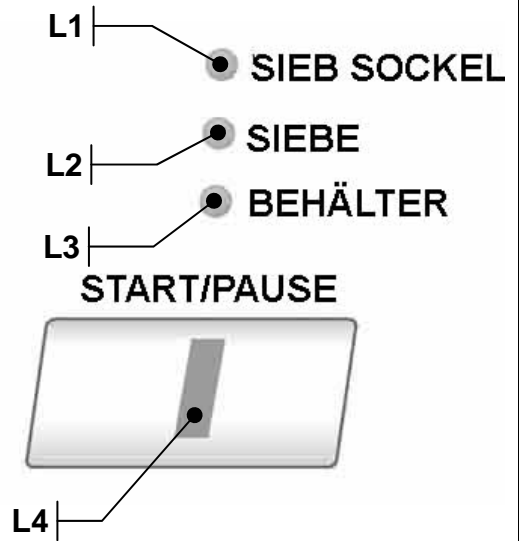
**L1. Heat exchanger cleaning (condenser):** it lights up after 80 drying cycles.

To reset the cycle counter (for this function), open the door with the appliance on, extract the heat exchanger, clean it and recluse the door.

**L2. Filter cleaning:** it lights up when the dryer has terminated the cycle to warn the user to clean the fluff filter.

**L3. Tank full:** it lights up during the drying cycle if the electronic circuit detects the closing of the floating microswitch and at the end of the cycle to warn the user to empty the tank.

**L4. Start/pause:** it lights up with green flashing light when the cycle is in pause; it lights up with green fixed light when the cycle is running regularly. If there is an alarm three beeps will be emitted that will be repeated after some seconds and the LED becomes red with flashing light.



## 4 Description of operation of the appliance

When the selector switch is turned from OFF to one of the drying programmes, the symbols or LEDs corresponding to the drying phases light and the START/PAUSE LED begins to flash.

During this phase, the various options can be entered (the corresponding symbol(s) will light).

The display shows the maximum time for the drying cycle.

If an option is selected that is incompatible with the programme, the buzzer sounds and the display shows "Err". The LEDs begin to flash.

If one or more options are entered, the time shown on the display will increase or decrease.

If the position of the selector is altered after entering the options, but before pressing START/PAUSE, the options will be cancelled.

### 4.1 Operation of a cycle

To start the drying cycle, first use the selector to enter a drying programme. Then enter the desired option (if any), and press START/PAUSE.

The LED corresponding to the START/PAUSE key remains lit and, simultaneously, the symbol corresponding to the current phase lights. The display shows the maximum drying time.

The drying cycle comprises the following phases:

- **DRYING**

If an automatic cycle has been selected, the duration will be the time required to remove the humidity until the desired humidity level is reached.

If the cycle is timer-controlled, then its duration will be the time entered by the user.

- **COOLING**

For timer-controlled cycles, the cooling phase has a maximum duration of 10 minutes. For automatic cycles, the duration of the cooling phase may be shorter (this depends on the temperature inside the drum).

- **ANTI-CREASE**

The duration of the anti-crease phase is 30 minutes.

The programme may not be modified after a drying programme has commenced.

If the position of the programme selector is changed, the LED corresponding to the START/PAUSE key begins to flash and the buzzer sounds to warn the user that the operation is not compatible. "Err" is shown on the display.

If any key is pressed, the LED corresponding to the START/PAUSE key begins to flash and the buzzer sounds to warn the user that the operation is not compatible. "Err" is shown on the display.

The options permitted for each cycle can be entered only after selecting the drying programme with the selector at the start of the cycle, or during a cycle but after pressing the START/PAUSE key.

To reset (cancel) a drying cycle, turn the selector to OFF.

### 4.2 Operation in PAUSE mode

If the START/PAUSE key is pressed while a dryer cycle is being performed, the dryer interrupts the cycle and the LED corresponding to the START/PAUSE key flashes. In models with display, the time-to-elapsed until the end of the cycle is shown.

If the programme selector is turned, the buzzer will sound to warn the user that this operation is incompatible.

In this status, only certain options can be modified (see table "OPTIONS" in the Instruction Booklet).

If a key is pressed with an option that is not permitted for the programme being performed, the buzzer sounds to warn the user and "Err" is shown on the display.

Press the START/PAUSE key again to resume the cycle at the point at which it was interrupted.

### 4.3 Operation in DELAYED START mode

After selecting the drying programme, press this key to access the delayed start option. The delay time increases each time the key is pressed.

To cancel (reset) this option, either turn the programme selector by one position or press the DELAYED START key until the time displayed returns to zero. The cycle is started by pressing the START/PAUSE key.

### 4.4 Power failure

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

<i>Before the power failure</i>	<i>After the power failure</i>
Programme selection (set-up)	Programme selection (set-up)
Drying cycle	Pause
Cycle paused	Pause
Anti-crease cycle	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

## 5 Structural characteristics

### 5.1 Heat pump in drying circuit: operating principles

The cycle performed by the heat pump in a dryer consists of evaporation, compression, condensation and expansion of the liquid coolant (R134a). The circuit contains 270g of coolant.

The coolant is stored in the vaporizer (4) initially in liquid form. The temperature of the air entering from the drum (14) is higher than the boiling point of the coolant. This causes heat to be transferred from the hot air to the liquid coolant, causing it to evaporate. Due to this process of cooling, the humidity contained in the air condenses and the resulting condensation flows into the collector tray (13) and is pumped from the tray to the condensation canister (15).

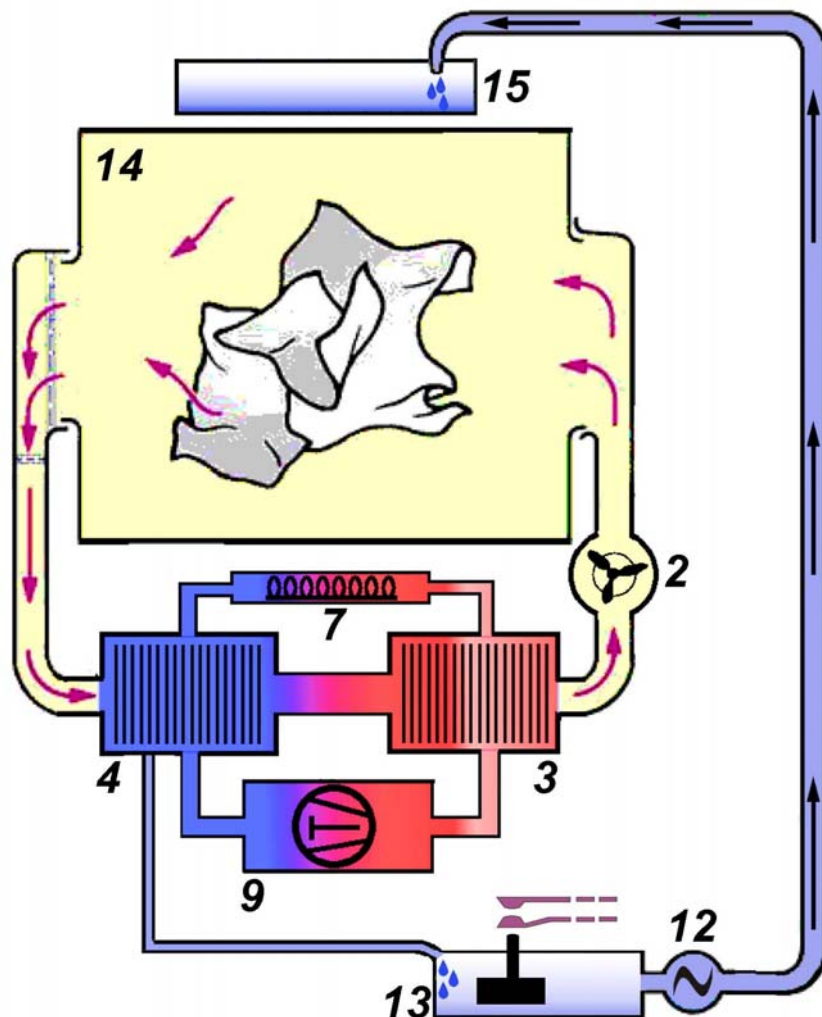
The compressor (9) constantly draws in the vapour from the liquid coolant, which is compressed several times and, as a result, is heated. The fluid cedes its heat in the condenser (3), which again heats the air drawn in by the fan (2). This air, which is now dry, is again ducted through the drum where it absorbs humidity.

The coolant, which has now resumed its liquid form, loses pressure and temperature via the capillary tube (7) so that, inside the evaporator (13), heat is again absorbed from the humid air coming from the drum (14). The balancing of the entire system is controlled by an NTC sensor located at the outlet of the condenser. This sensor transmits a signal to the electronic control system, which switches on the compressor cooling fan (10).

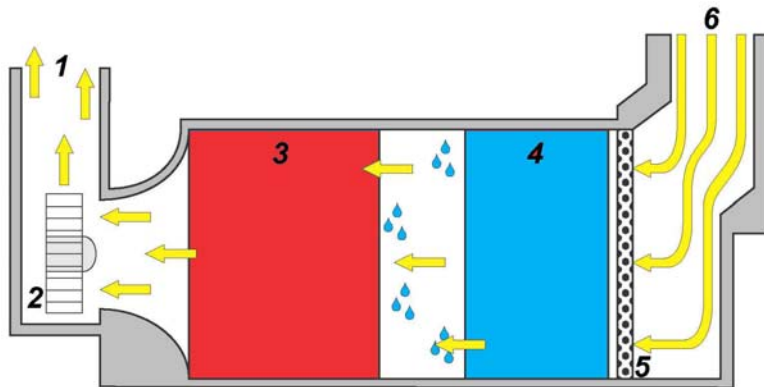
This cycle is repeated uninterruptedly in a closed circuit.

If water is present in the collector tray (13), the microswitch is tripped, and switches on the condensation pump (12). The pump ducts the water to the canister (15). If the canister is full, any excess water overflows into the tank of the canister, and then back to the collector tray (13) through a hose (not shown in the figure). This moves the float upwards to trip the microswitch again. According to the time (from 15 to 40 seconds - the time necessary for the pump to drain the sump) the electronic control system determines whether the sump has been drained or whether water is overflowing from the canister. In this last case, the electronic control system switches off the appliance and lights the "canister full" LED.

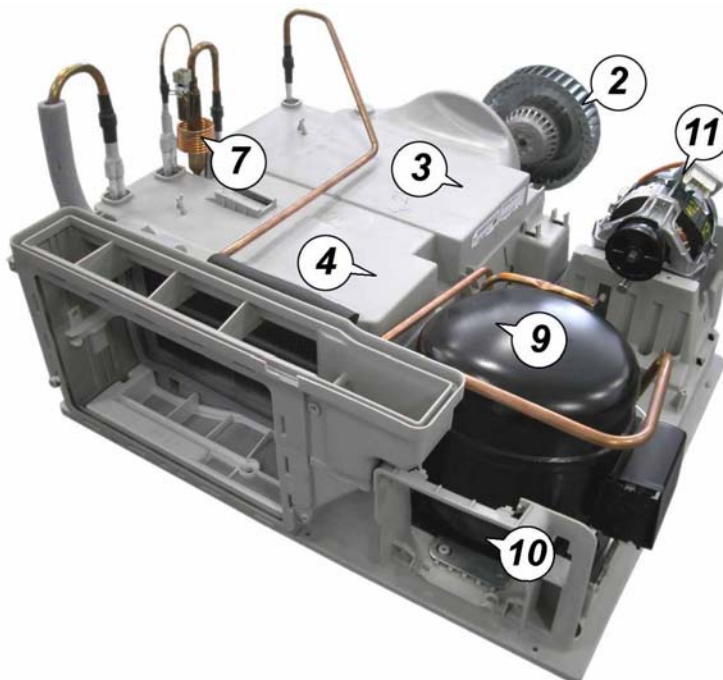
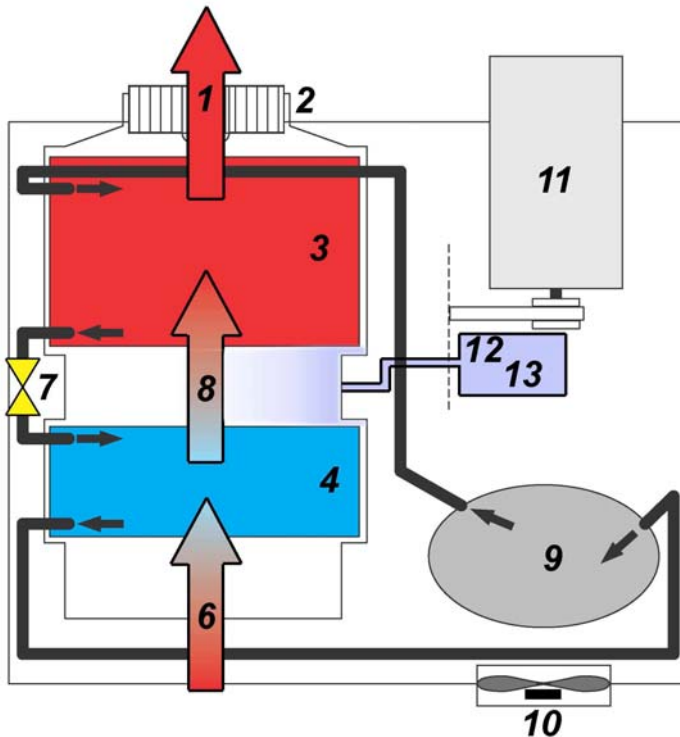
- 2. Fan
- 3. Condenser
- 4. Vaporizer
- 7. Capillary tube
- 9. Compressor
- 12. Condensation pump
- 13. Collector tray
- 14. Drum
- 15. Condensation canister



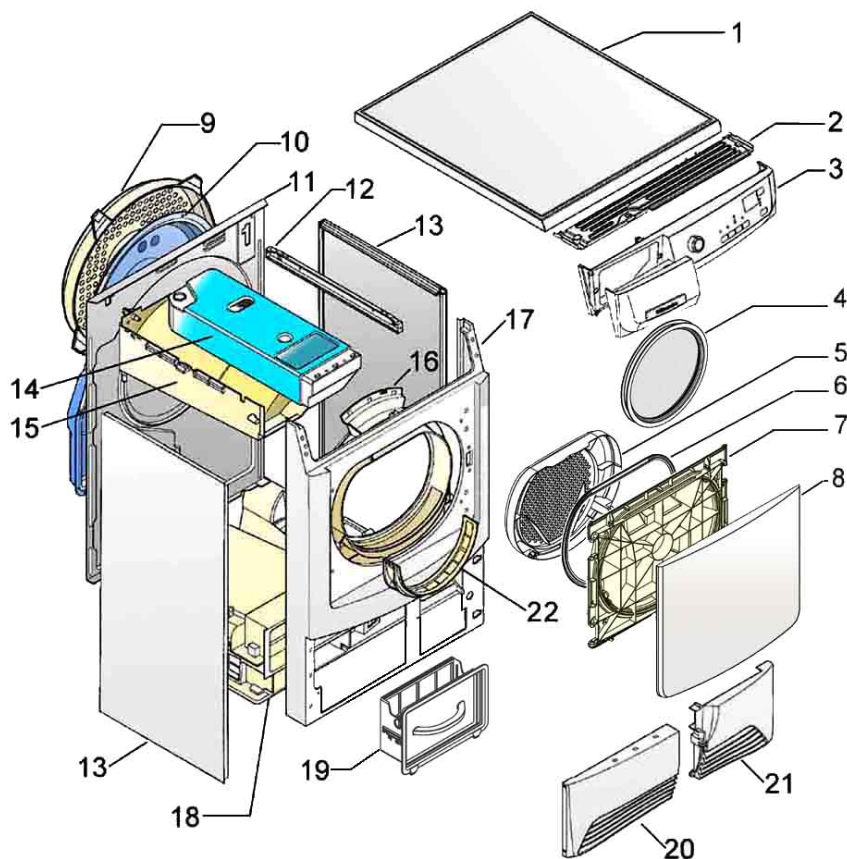
1. Drying air (dry)
2. Fan for air circulation
3. Condenser
4. Vaporizer
5. Fluff filter
6. Humid air



7. Capillary tube
8. Cold, dry air
9. Compressor
10. Compressor cooling fan
11. Drum rotation motor
12. Condensation pump
13. Collector tray for water



## 5.2 Structural components



- |                                |                               |
|--------------------------------|-------------------------------|
| 1. Work top                    | 12. Cross-member              |
| 2. Control panel support       | 13. Side panels               |
| 3. Control panel               | 14. Canister in upper section |
| 4. Fluff filter                | 15. Canister support          |
| 5. Fluff filter support        | 16. Duct                      |
| 6. Door seal                   | 17. Front panel               |
| 7. Internal door surround      | 18. Base                      |
| 8. External door surround      | 19. Fluff filter              |
| 9. Rear panel protective cover | 20. Filter compartment door   |
| 10. Rear panel cover           | 21. Plinth                    |
| 11. Rear panel                 | 22. Front fluff filter        |

The front panel and the side panels are in enamelled sheet metal, while the rear panel is in galvanized sheet metal. These panels are secured by self-tapping screws and anchored to the base. The shaped base is in Carboran, and supports the main components.



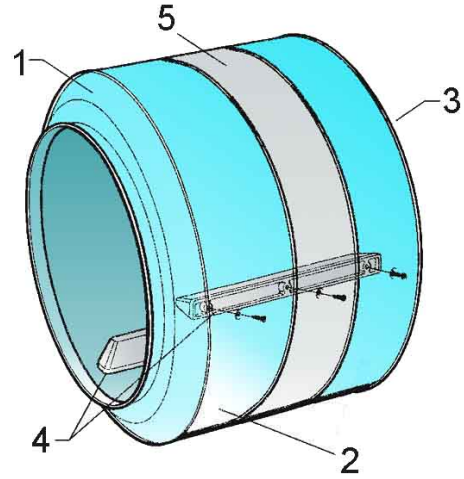
### 5.3 Drum

The drum consists of two half-shelves, one front and one rear joined by a plastic band (5). The division into two parts allows the conductimetric sensor to determine the conductivity of the washing inside the drum.

Parts 1-2 and 3-2 are joined by crimping. The plastic lifters are secured by screws to the internal wall of the drum.

The plastic lifters are secured by screws to the internal wall of the drum.

The rear drum shaft is fitted to the rear flange using eyelet rivets.



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

### 5.4 Air seal and drum spindle support

#### Rear air seal

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

#### Rear drum support

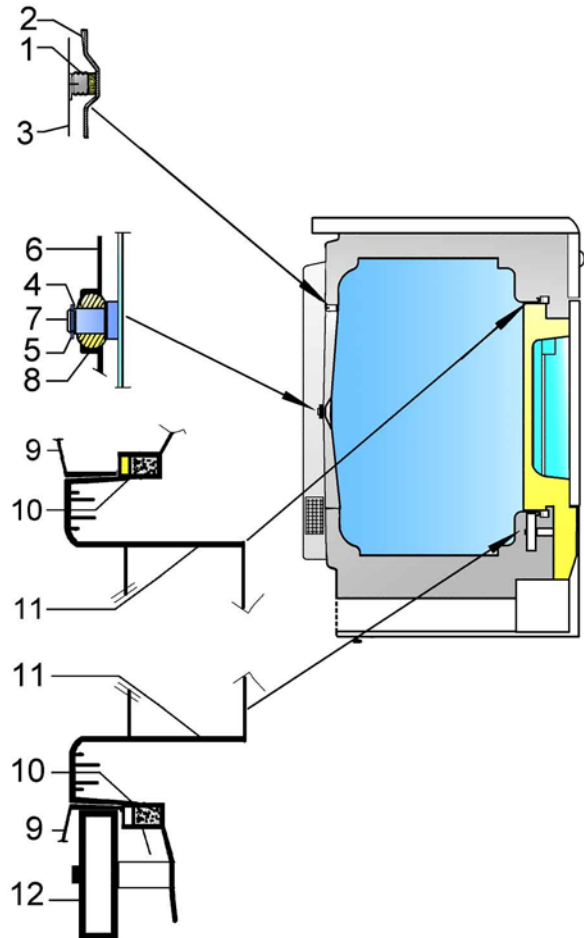
4. Anti-friction washer
5. Fixing ring (Benzing)
6. Rear panel
7. Drum spindle
8. Support with bushing (fitted to rear panel)

#### Front drum support and air seal

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

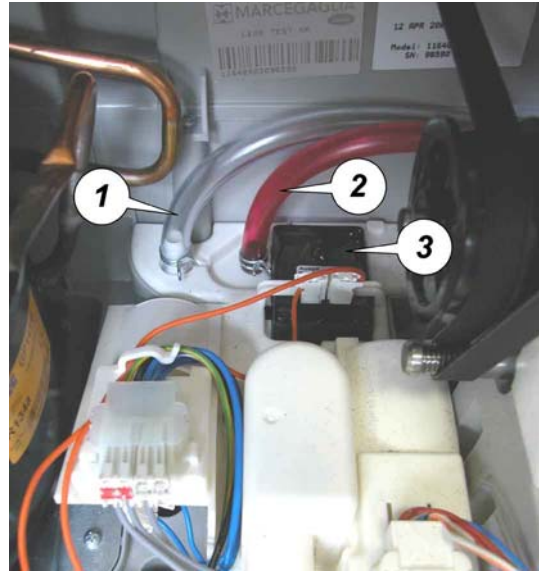
#### Lower drum support

9. Drum
10. Felt ring with tubular support
11. Duct
12. Drum support/rotation roller



## 5.5 Hydraulic circuit

1. Water overflow drain tube (transparent)
2. Water fill hose to canister (red)
3. Pump

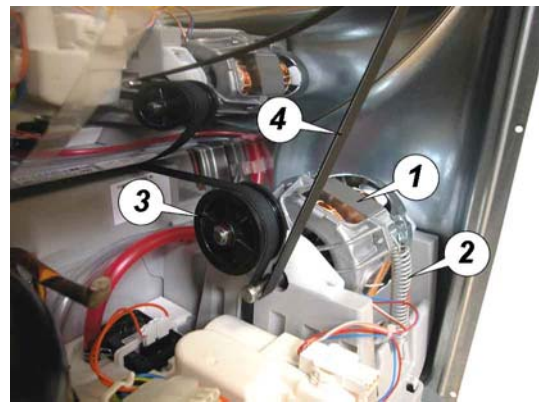


The condensation water coming from the sump is ducted to the canister by the pump (3) (immersed in the sump) through the red tube (2).

When the canister is full, the overflow is ducted through the transparent tube (1) back to the sump.

## 5.6 Drum rotation: principles

1. Motor
2. Belt tensioner spring
3. Belt tensioner
4. Drive belt



The drum is rotated by a drive belt (4), which is actioned by the pulley of the motor (1), which is anchored to the base of the appliance. The motor casing is fitted with a belt tensioner (3) which operates together with the tensioner spring (2) to increase the winding angle between the belt and the drum.

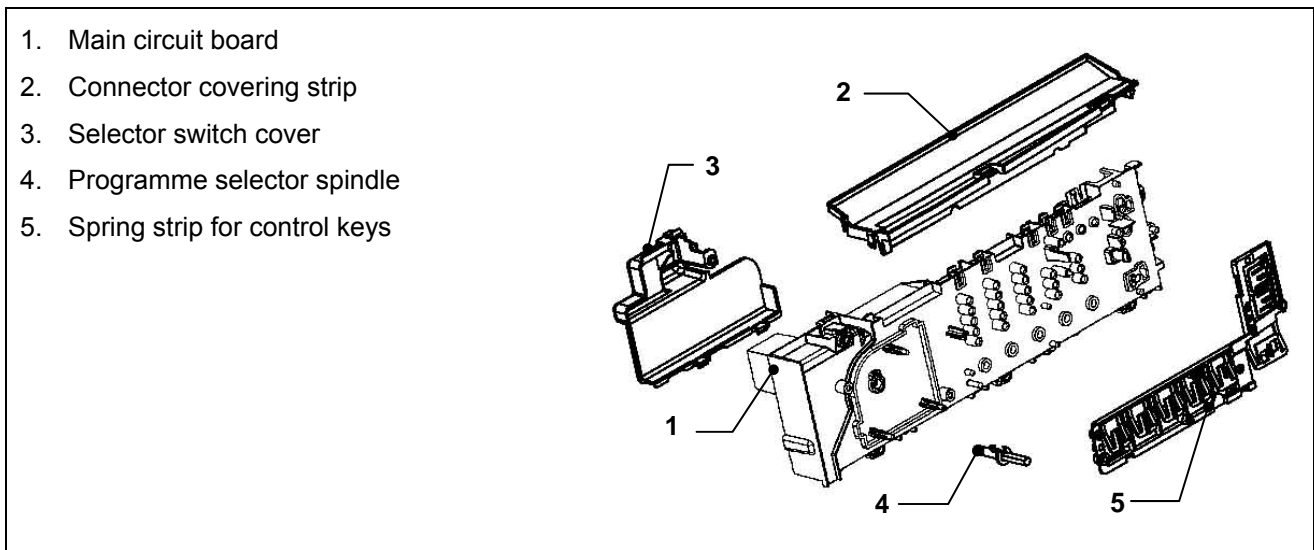
The bi-directional moment of the drum is controlled by the electronic control system, which inverts the power supply to the motor for brief periods. Reverse rotation of the drum allows the wash load to become untangled. During these brief intervals of reverse rotation, the power supply to the heater is disconnected.

When the access panel is opened to check the heat exchanger, a microswitch is tripped and disconnects the power supply to the appliance.

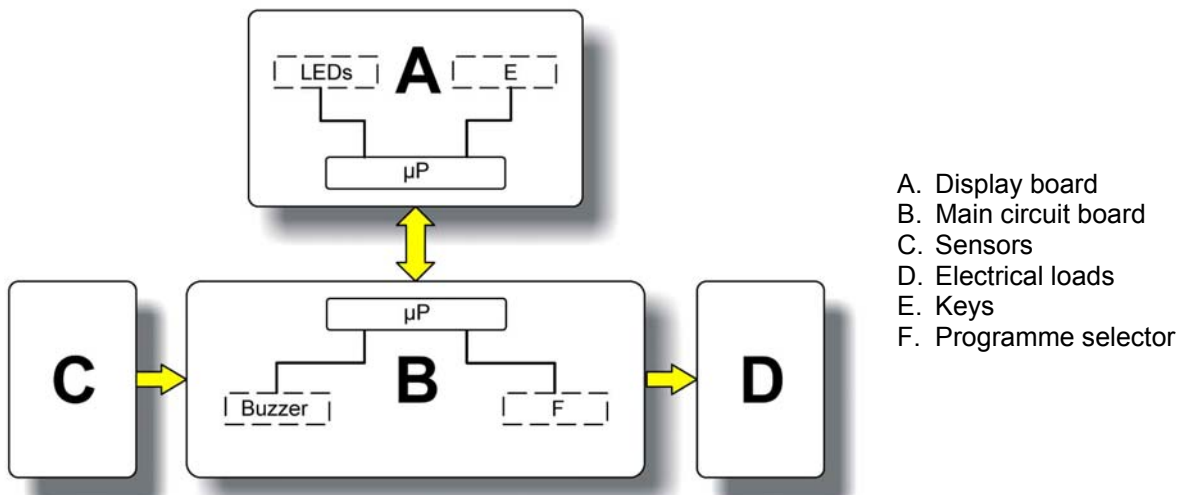
## 6 Electrical components

### 6.1 Electronic control system

The electronic control system comprises a main circuit board, which is inserted inside a plastic housing and fitted behind the control panel support. On models with LCD, this housing also contains the display board.



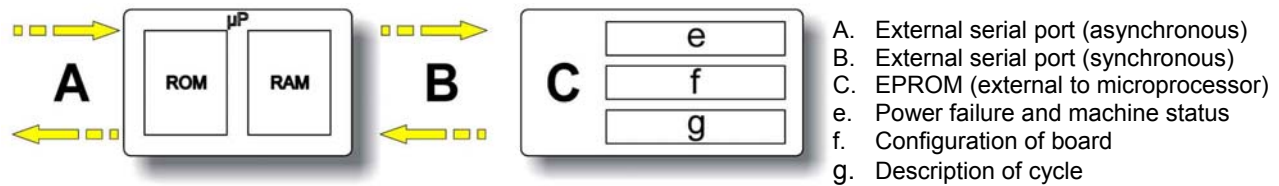
#### 6.1.1 Main circuit board: functions



- The main circuit board receives signals concerning the setting of the drying cycle from the control/display board.
- The main circuit board powers all the principal components: motor, pump (for dryers with canister in the upper section), the heating unit and the door interlock.
- The main circuit board controls the status of the door lock, the temperature of the air inside the dryer (detected by an NTC sensor), the level of humidity of the fabrics (measured by the conductimetric sensor) and the level of water in the canister.
- The buzzer is built into the main circuit board.

## 6.1.2 Electronic control system memory: general structure

The main circuit board is fitted with an EEPROM memory (external to the microprocessor) which stores configuration data, the description of the cycle, the status of the dryer in the event of a power failure, and any alarms.



### ROM

This area of memory contains the "firmware" code, which includes the functions provided by the appliance.

- Control of electrical loads (motor, pump, heating unit)
- Control of sensors (NTC, conductimetric sensor, door lock status)
- Control of user interface
- Control of serial port
- Control of power failures and alarms
- Execution of drying programme

In standard-production appliances, this area is a **Read Only Memory**, which cannot be modified.

### RAM

This memory contains the variables, i.e. all the modifiable information used during the execution of the programme:

- Machine status
- Cycle selected
- Alarms

The RAM is deleted each time the appliance is disconnected from the power supply (in the event of a power failure or if the dryer is switched off).

The contents of the RAM can be accessed using a computer connected via a DAAS interface.

### EEPROM

The EEPROM contains data of different types:

- **Power failure and machine status:** this information is necessary to re-start the machine in the event of a power failure.
- **Configuration of drying cycle (CCF):** this file describes the various steps in the drying cycles for each family of appliances.
- **Machine configuration (MCF):** the data contained in this area of memory define the configuration of the individual appliance.

These files define the following:

- Programmes
- Number and functions of keys
- Functions of the LEDs
- Operation of the buzzer
- Operating limits (voltage frequency)
- Identification of machine (PNC + ELC + serial number)
- Power of heating unit
- Preferential direction of rotation of the motor

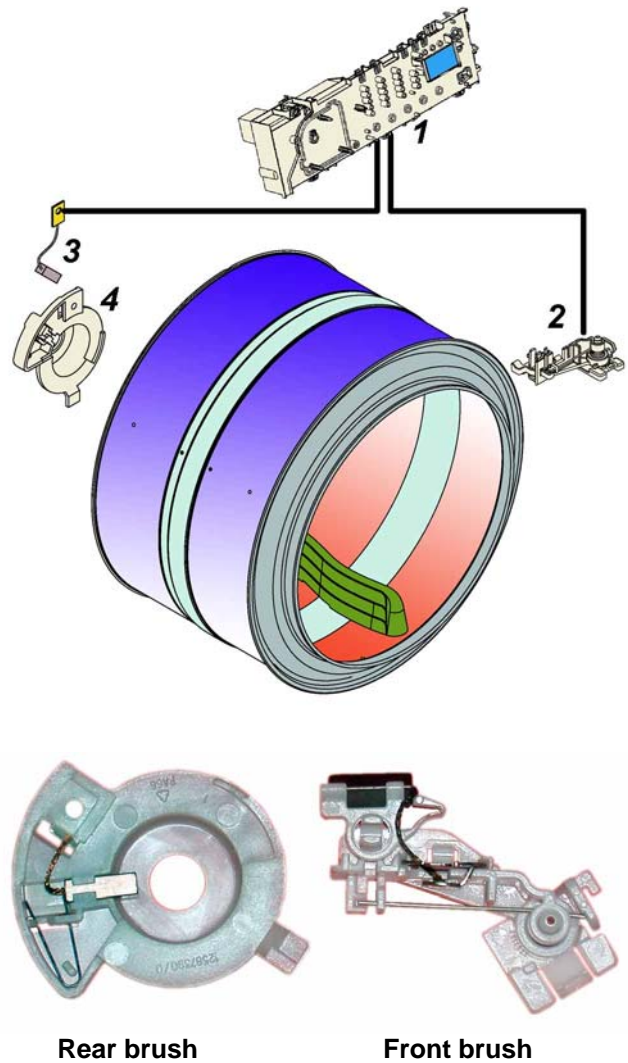
## 6.2 Conductimetric sensor

The conductimetric sensor consists of an electronic circuit positioned inside the power board (1) and a section located externally to the board which consists of the wiring, two brushes (2 and 3) and the two tub shells themselves.

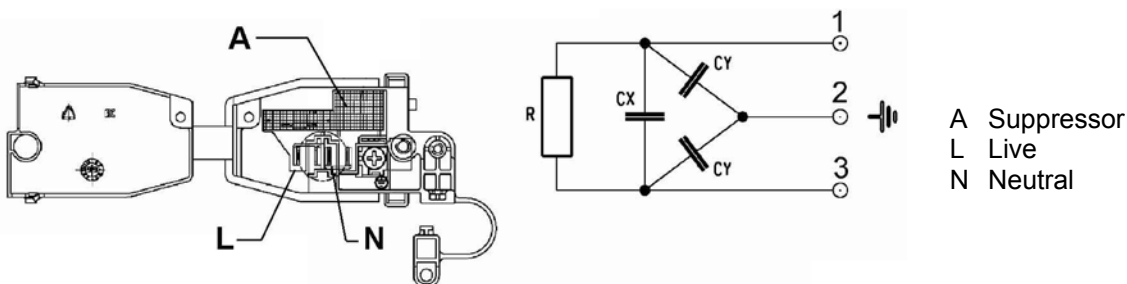
The brush positioned in contact with the front tub shell (2) is fitted to a hinged support on the duct, and is connected by the wiring to the electronic circuit. The second brush (3) is positioned in contact with the drum spindle (4) housed in the spindle casing. This sensor is connected to the electronic 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  $1M\Omega$  and  $25M\Omega$ . 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.



## 6.3 Terminal block with suppressor



The suppressor is fitted inside the terminal block, and serves to ensure that radio disturbance generated by the dryer does not enter the main electrical circuit.

The suppressor functions correctly only if the appliance is correctly earthed.

Checking for efficiency:

Using a tester, measure the resistance across the following terminals:

- 1 – 2 =  $\infty$
- 2 – 3 =  $\infty$
- 1 – 3 =  $\sim 2M\Omega$

## 6.4 Compressor

The compressor serves to circulate the liquid coolant (R134a).

Absorbed power 550 W

Resistance of primary winding 3.6 Ohm

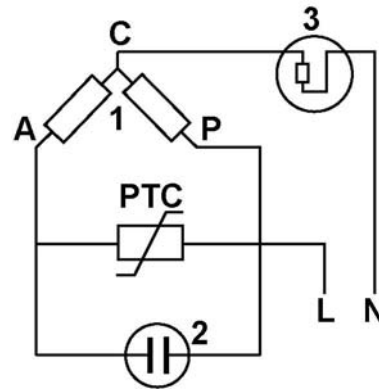
Resistance of secondary winding 7.0 Ohm

Total weight 14 kg

Oil load: 320 cm<sup>3</sup> ISO VG 22 ESTER

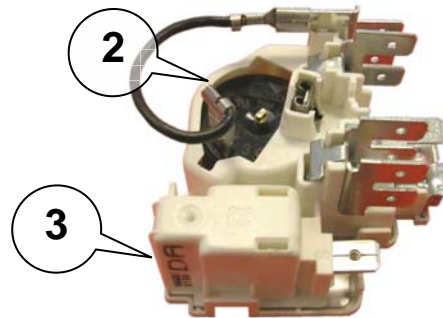


1. Compressor
2. Run capacitor
3. Motor overload cut-out



## 6.5 PTC motor protector

The PTC motor protector consists of a PTC (positive temperature coefficient) (2) necessary to determine the direction of rotation during the start-up phase (see figure), and a protective casing comprising a bi-metal element (3) which trips when the motor absorbs too much current due to overloading.



## 6.6 Motor compressor capacitor

The function of the capacitor is to improve the performance of the compressor motor.

16  $\mu$ F 400V



## 6.7 Fan cooling compressor

Axial fan mounted on ball bearings.

Power absorption 23 W

2600 / 3000 rpm



## 6.8 Drum motor

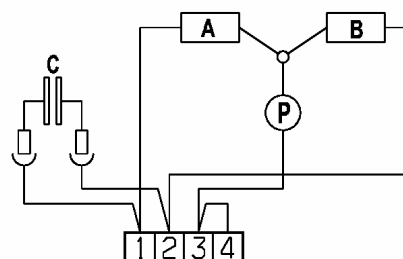
The drum motor assembly consists of a belt tensioner and a 110W single-phase asynchronous motor fitted with an overload cut-out.

The power to the motor is provided by the main circuit board via a relay (which determines the direction of rotation) and a TRIAC.

The efficiency of the motor can be checked by measuring the resistance across the windings:

Winding **A** ohm 29 ~ (contacts 1-3)

Winding **B** ohm 29 ~ (contacts 2-3)



## 6.9 Drum motor capacitor

The run capacitor for the motor which drives the drum is connected to contacts (1) and (2). Its capacity is 9 $\mu$ F.



## 6.10 Air circulation fan

The fan, which ducts the warm, dry air into the drum, is actioned by a motor/fan unit fitted directly inside the rear air duct.



Power absorption 150 W

2450 rpm

## 6.11 Fan motor capacitor

The run capacitor for the drum rotation motor is connected to contacts (1) and (2) of the terminal block, and has a capacity of 5 $\mu$ F.



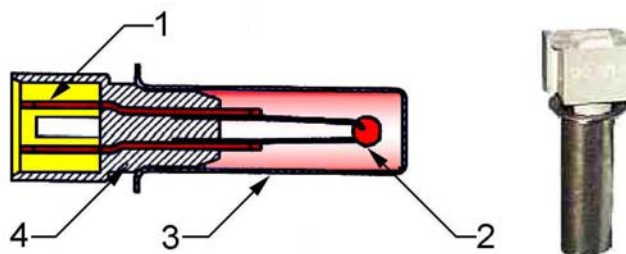


## 6.12 NTC sensor

The NTC sensor is located at the outlet of the capacitor and comprises a resistor, fitted inside a metal capsule, whose resistance decreases as the temperature increases.

The electronic circuit reads the resistance and actions the compressor cooling fan so that the temperature of the liquid coolant at the capacitor outlet remains constant.

1. Terminals
2. NTC resistor
3. Capsule
4. Plastic housing



TEMPERATURE (°C)	RESISTANCE ( $\Omega$ )		
	Nominal value	Maximum value	Minimum value
20	6050	6335	5765
60	1250	1278	1222
80	640	620	660

## 6.13 Canister fill pump

This pump is actioned by a synchronous motor with a power of about 17W.

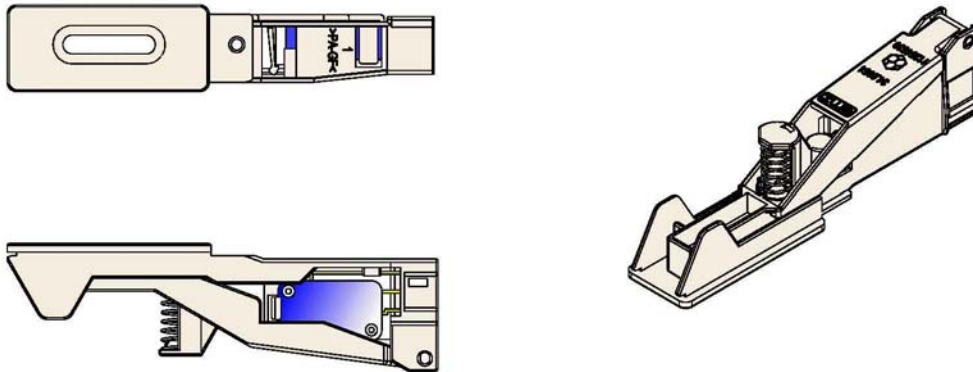
Its function is to pump the condensation water to the canister. The pump is powered via a TRIAC.

Resistance measured across the ends of the coil:  
750 $\Omega$  approx.



## 6.14 Door switch

The door switch powers the electrical components after the closure of the door and after turning the selector (ON/OFF closed). The switch is positioned above the aperture of the door and is closed when the door is closed, through a pin positioned on the door.

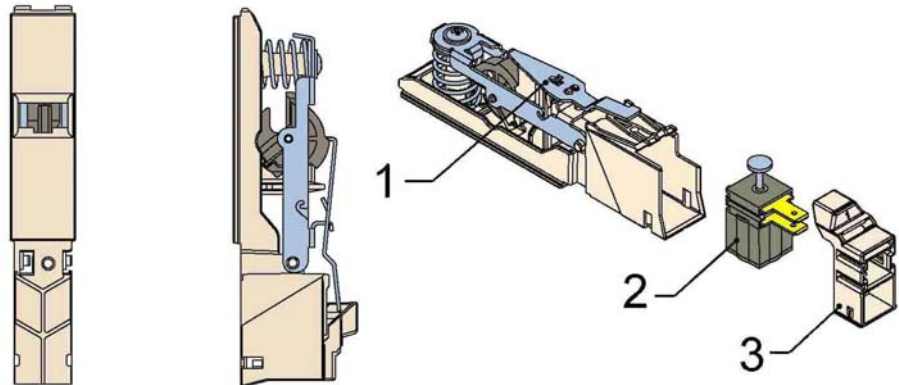


## 6.15 Door interlock

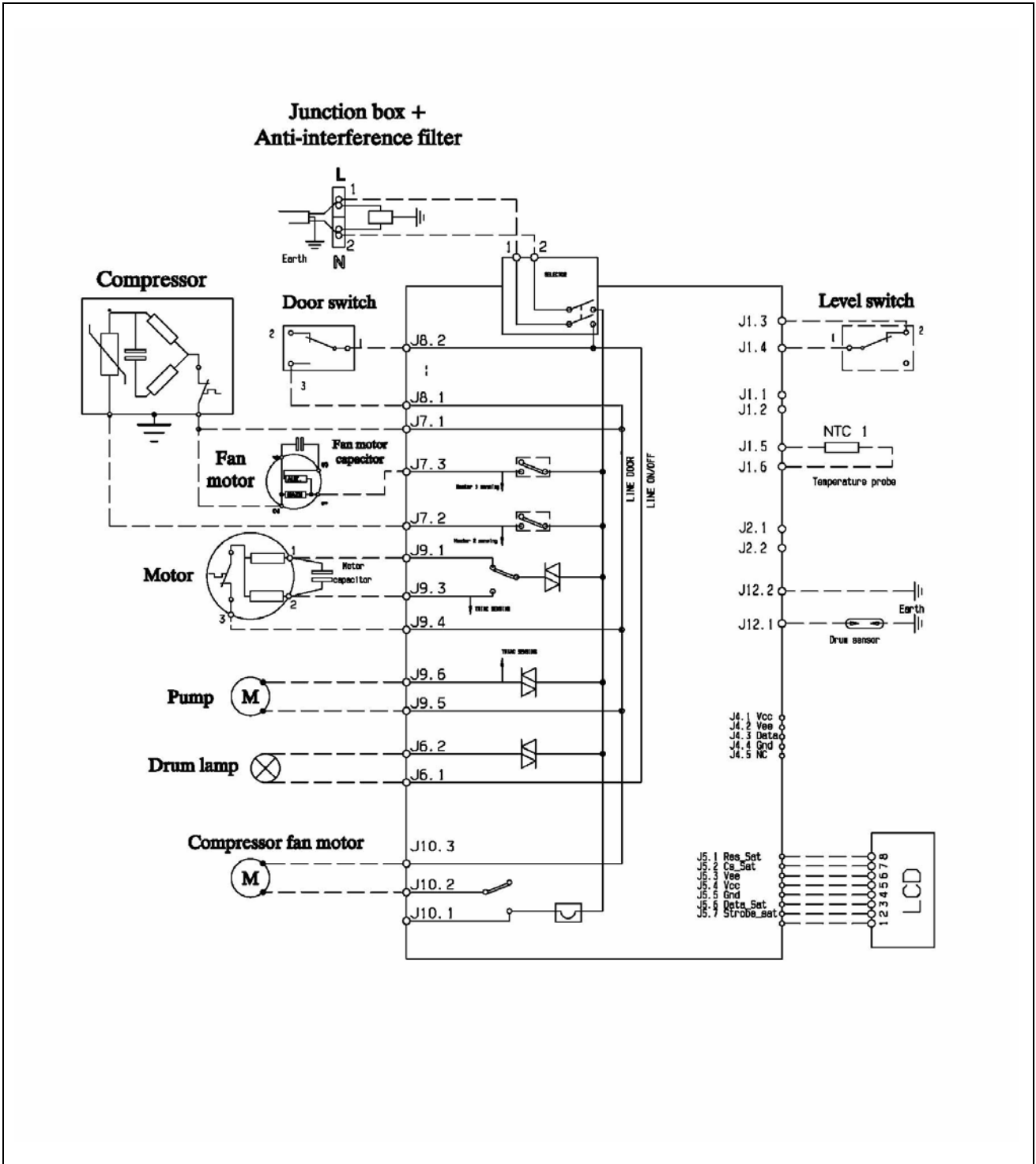
Depending on the versions, the door interlock can be mechanical with manual door opening or electronic with door opening through pressure of a button. In the second case, the opening is carried out by an electromechanical coil which releases through a lever the door catch.

The door interlock is provided with a child safety which allows, in case of need, the opening of the door pushing from inside.

1. Catch lever
2. Coil (on models with automatic opening)
3. Coil cover



# 7 Electric wiring



## 8 DIAGNOSTICS SYSTEM

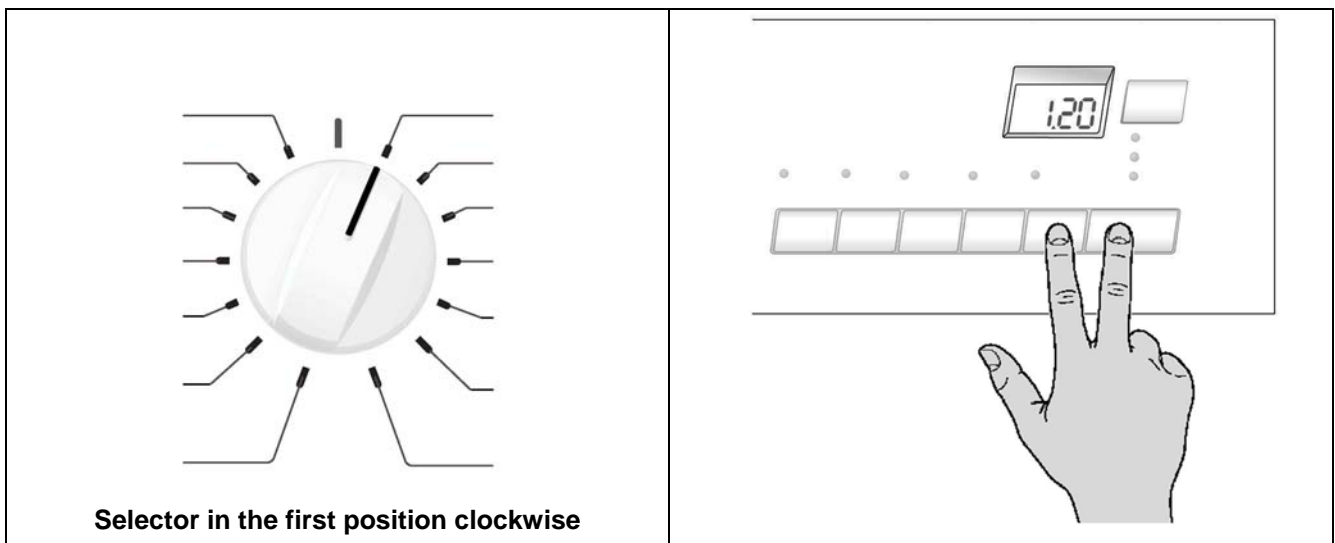
In diagnostics mode, it is possible to check the operation of the appliance and to read the alarm codes.

### 8.1 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 the related buttons depending on the models.

**Important: this operation must be performed within 5 seconds!**

4. Hold these buttons down until the LEDs begin to flash and the buzzer sounds.



In this mode, it is possible to check the operation of the appliance and to read the alarms.


#### IMPORTANT!








- 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.

### 8.2 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.

### 8.3 Selector positions for diagnostics (conductimetric appliances)

	<p><b>Models with LCD:</b> When the service engineer accesses the various functions in diagnostics mode, a code is shown in the bottom right-hand corner of the display (e.g. C5 - C5 etc.). These are simply codes relative to the programme selector, and have no effect on the tests to be performed.</p>
---	--

Position of selector	Components actioned	Operating condition	Function checked
1 	<ul style="list-style-type: none"> <li>➤ All the LEDs and Digits light in sequence.</li> <li>➤ When a key is pressed, the corresponding number is displayed.</li> </ul>	Always enabled	Operation of user interface
2 	<ul style="list-style-type: none"> <li>➤ Level sensor in condensation canister</li> <li>➤ Canister fill pump</li> <li>➤ Compressor cooling fan</li> </ul>	Door closed Sump contains 0.7 litres approx.	Operation of floating microswitch and canister fill pump
3 	<ul style="list-style-type: none"> <li>➤ Counter-clockwise drum rotation</li> <li>➤ Canister fill pump always powered</li> <li>➤ Compressor cooling fan</li> </ul>	Door closed Max. time 10 min.	Control of motor TRIAC for counter-clockwise drum rotation
4 	<ul style="list-style-type: none"> <li>➤ Motor TRIAC powered in stepping mode</li> <li>➤ Compressor cooling fan</li> </ul>	Door closed Max. time 10 min.	Control of clockwise drum rotation (at low speed for visual control of drum shell coupling)
5 	<ul style="list-style-type: none"> <li>➤ Clockwise drum rotation</li> <li>➤ Circulation fan motor TRIAC</li> <li>➤ Compressor cooling fan.</li> </ul>	Door closed Max. time 10 min.	Control of correct direction of drum rotation and fan motor
6 	<ul style="list-style-type: none"> <li>➤ Clockwise drum rotation</li> <li>➤ Circulation fan motor TRIAC</li> <li>➤ Compressor command</li> <li>➤ Compressor cooling fan.</li> </ul>	Door closed  (*)	Control of heating unit The display shows the temperature read by the NTC
7 	<ul style="list-style-type: none"> <li>➤ Conductimetric sensor with the drum short-circuited. Duration of check 4 sec (1 sec. to create short circuit) during which the LED flashes.</li> <li>If at the end of the test the result is correct, the LED switches off; otherwise the LED flashes and alarm E32 is displayed.</li> </ul>	Door closed Short-circuit between two drum shells.	Control of conductimetric sensor in short-circuit condition

(\*) On completion of this test, the compressor re-starts only after a pause of 5 minutes.

Position of selector		Components actioned	Operating condition	Function checked
8		<ul style="list-style-type: none"> <li>➤ Conductimetric sensor. Duration of check 4 sec. during which the LED flashes. If at the end of the test the result is correct, the LED switches off; otherwise the LED flashes continuously.</li> </ul>	Door closed	Control of conductimetric sensor with the circuit open
9		<ul style="list-style-type: none"> <li>➤ Float switch</li> <li>➤ Canister fill pump: with switch closed</li> </ul>	Door closed Max. time 30 sec.	Operation of float switch (with sump empty)
10		<ul style="list-style-type: none"> <li>➤ Reading/Cancelling of the last alarm.</li> <li>➤ Turn the knob to position 10, taking care not to pause on position 7, otherwise error E32 might occur</li> </ul>		

## 9 ALARMS

### 9.1 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.

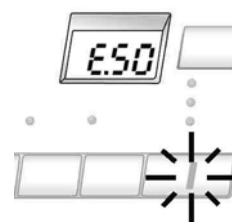
When an alarm condition occurs, the drying cycle may be interrupted or paused; in some cases, for the sake of safety, a forced cooling cycle is performed. In this case, the electronic board, if possible, disconnects the power relay from the heater unit and powers the motor of the drum cooling fan. The cycle remains active until the user switches off the appliance.

#### 9.1.1 Alarm display during normal operation

On models with styling CD3 the system displays the family of the current alarm 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 E53 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.*

### 9.2 Reading the alarm codes

To read the last alarm code memorized in the EEPROM of the electronic board:

- ⇒ Access diagnostics mode (see paragraph).
- ⇒ Turn the programme selector knob **clockwise** to the **tenth position on condensation models** and to the **eighth position on vented models**, *paying attention not to stop in other positions, because error 32 could occur*.

#### 9.2.1 Displaying the alarm code on models CD3

- First digit: letter “E”
- Second digit: the family of the alarm
- Third digit: the alarm number

#### 9.2.2 Displaying the alarm code on models

The alarm code is displayed by a repeated sequence of flashing of the LED START (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).

#### Displaying other alarm codes

Pressing START button, all alarms in the appliance will be displayed.

***The configuration errors E93 are displayed through the flashing of all LEDs and it is not possible to access the diagnostics system.***

### 9.3 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 diagnostics cycle.
- After effecting repairs to the appliance, to check whether it is repeated during testing.

1. Activate the diagnostic mode.
2. Turn the programme selector knob **clockwise** to the **tenth position**.
3. Push the button (start/pause) and ?? at the same time.
4. Hold down buttons about 5 seconds.
5. Once the alarm has been cancelled, **E00** is displayed.

### 9.4 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 EH1-EH2-EH3:** 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 "H" 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.



## 9.5 Table of alarms

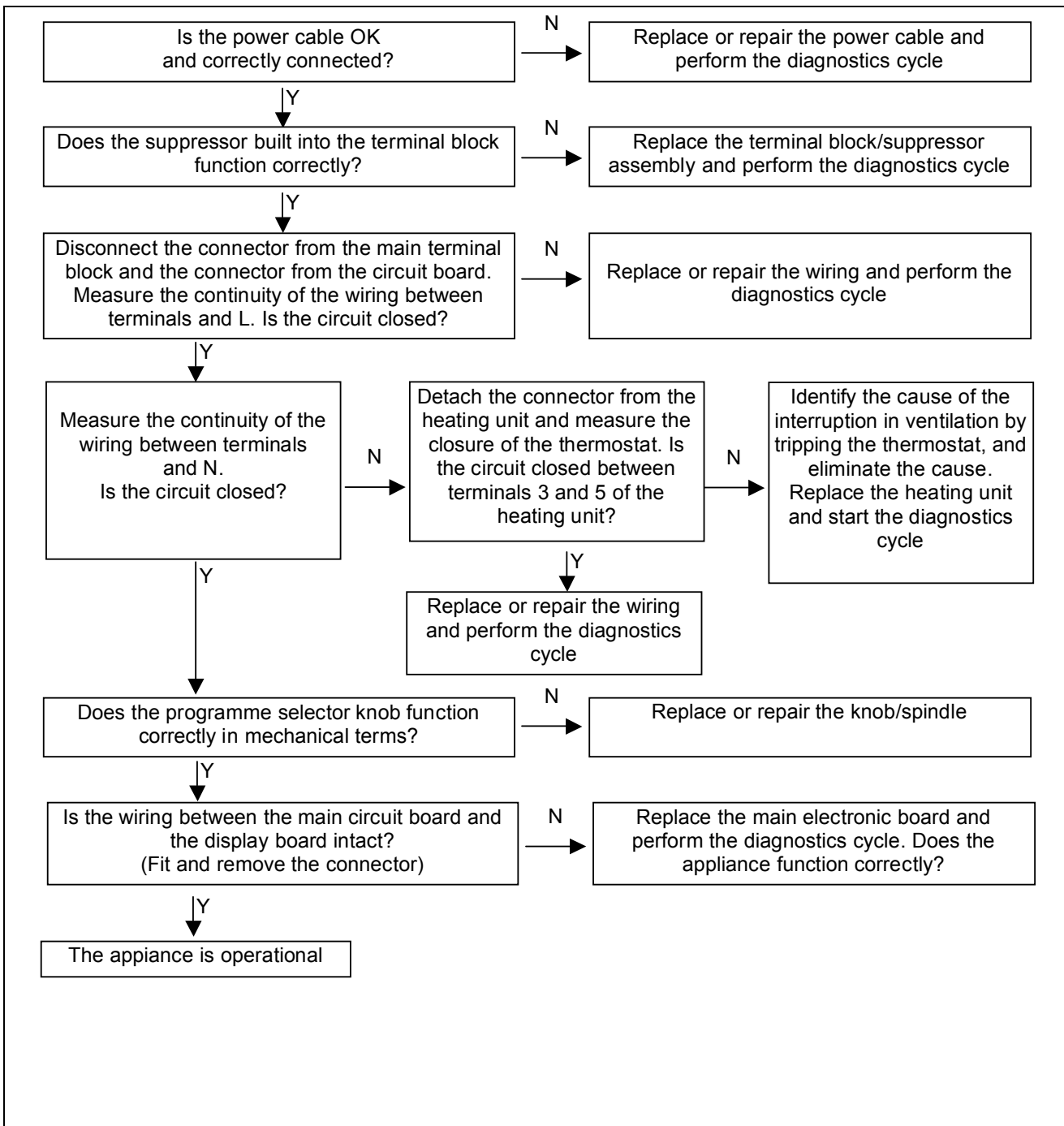
Alarm	Description	Possible fault	Remedy / Machine status	Reset command
<b>E00</b>	No alarm	---	---	---
<b>E21</b>	Canister fill pump TRIAC faulty	Faulty wiring; Main circuit board faulty	Cycle stopped	OFF
<b>E22</b>	"Sensing" circuit of canister fill pump TRIAC faulty	Main circuit board faulty	Cycle stopped	OFF
<b>E31</b>	Frequency of signal from conductimetric sensor too high	Main circuit board faulty	Alarm enabled only in diagnostics mode	---
<b>E32</b>	Frequency of signal from conductimetric sensor too low	Faulty wiring; Brushes worn/faulty; Main circuit board faulty.	Cycle stopped	OFF
<b>E33</b>	Appears when displaying the last alarm. If position 8, <b>NOT OK.</b>	Faulty wiring; Brushes worn/faulty; Main circuit board faulty.	Alarm enabled only in diagnostics mode	---
<b>E45</b>	Door closure sensor	Door lock faulty; Faulty wiring; Main circuit board faulty	Cycle stopped	OFF
<b>E51</b>	Motor power TRIAC short-circuited	Motor faulty; Faulty wiring; Main circuit board faulty	Cycle stopped	OFF
<b>E52</b>	Motor overload cut-out tripped	Motor faulty; Motor overload cut-out tripped; Faulty wiring; Main circuit board faulty	Disconnects the power supply to the heating unit and interrupts reversal of rotation. If the problem disappears, the alarm is stored in memory and the cycle resumes. If the fault persists after several attempts to restore the power supply (about 35 minutes), alarm E51 is generated.	OFF
<b>E53</b>	"Sensing" circuit of motor TRIAC faulty	Main circuit board faulty	Cycle stopped	OFF
<b>E54</b>	Motor stopped	Excessive wash load; voltage too low; motor/transmission system jammed	Cycle paused after a number of attempts by the motor to re-start	START

<b>E61</b>	Insufficient heating (maximum time exceeded)	Heating unit faulty; Faulty wiring; NTC sensor incorrectly calibrated/seated; Main circuit board faulty	Cycle paused	Start
<b>E62</b>	Power relay for heating unit faulty	Heating unit faulty; Faulty wiring; Main circuit board faulty	Forced cooling cycle	OFF
<b>E63</b>	Auto-reset thermostat on heating unit tripped	Thermostat faulty (replace heating group); Heating group faulty; Faulty wiring; Main circuit board faulty	Disconnect the heating unit from the power supply. If the problem disappears, the alarm is stored in memory and the cycle resumes. If the fault persists after several attempts to restore the power supply, alarm E62 is generated.	OFF
<b>E64</b>	Heating element thermostat	Heating element thermostat faulty; Faulty wiring; Main circuit board faulty		
<b>E65</b>	Fan motor TRIAC faulty	Fan motor wiring disconnected; motor faulty; TRIAC interrupted		
<b>E66</b>	Fan motor overload cut-out	Fan motor wiring disconnected; motor faulty; TRIAC interrupted		
<b>E67</b>	TRIAC control faulty	Fan motor wiring; CRM board faulty		
<b>E71</b>	NTC sensor1 faulty	NTC sensor1 faulty; Faulty wiring; Main circuit board faulty	Forced cooling cycle	OFF
<b>E72</b>	NTC sensor2 faulty	NTC sensor2 faulty; Faulty wiring; Main circuit board faulty		OFF
<b>E82</b>	Selector faulty in OFF position	Board wiring; board faulty		
<b>E83</b>	Selector positions incorrect	Board wiring; board faulty		
<b>E93</b>	Dryer configuration incorrect	Incorrect EEPROM configuration. Main circuit board faulty	Cycle stopped	OFF
<b>E94</b>	Drying cycle configuration incorrect	Incorrect EEPROM configuration Main circuit board faulty	Cycle stopped	OFF
<b>E97</b>	Incongruence between programme selector and cycles	Configuration error	Cycle stopped	OFF
<b>EA3</b>	Board selector faulty	Main circuit board faulty		
<b>EA4</b>	Incorrect selector protocol	Main circuit board faulty		

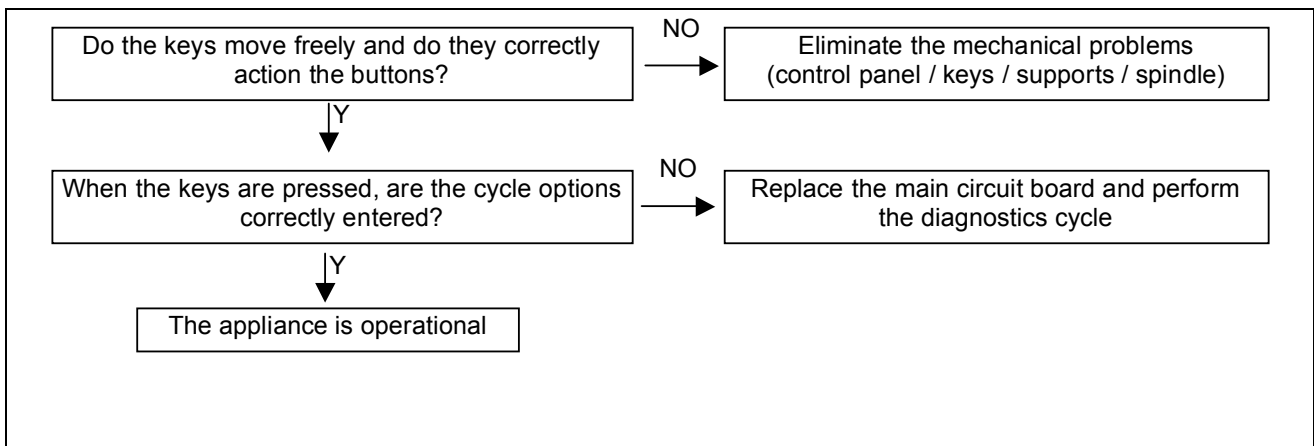
<b>EH1</b>	Power frequency not within limits	Power supply problem (incorrect/interference); Main circuit board faulty.	Cycle stopped; if the correct power supply is restored before the time-out has elapsed, the cycle resumes	OFF
<b>EH2</b>	Voltage too high	Power supply problem (incorrect/interference); Main circuit board faulty.	Cycle stopped	OFF
<b>EH3</b>	Voltage too low	Power supply problem (incorrect/interference); Main circuit board faulty.	Cycle stopped; if the correct power supply is restored before the time-out has elapsed, the cycle resumes	OFF

# 10 The diagnostics cycle does not start

## 10.1 None of the LEDs on the display board lights



## Some of the LEDs on the display board light



### **Important!**

*The diagnostics system cannot be accessed if the main circuit board has not been correctly configured. In the event of configuration errors (E93), all the LEDs flash.*

# 11 Access to components

## 11.1 Door

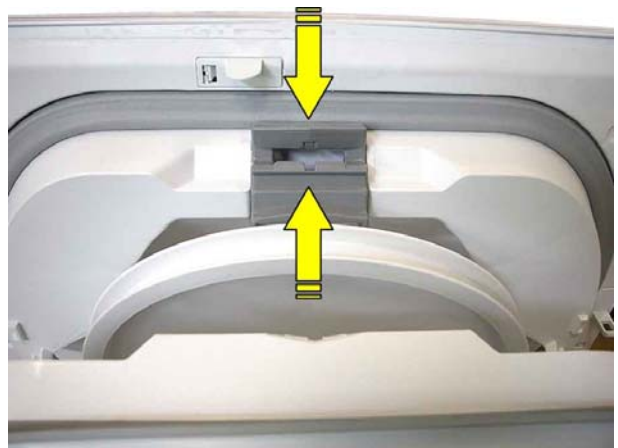
To remove the door, remove the screws which secure it to the front panel



## 11.2 Fluff filter

### 11.2.1 Fluff filter on door

Press the tab on the filter support and push upwards to remove. The filter should be cleaned after every cycle.



### 11.2.2 Lower fluff filter

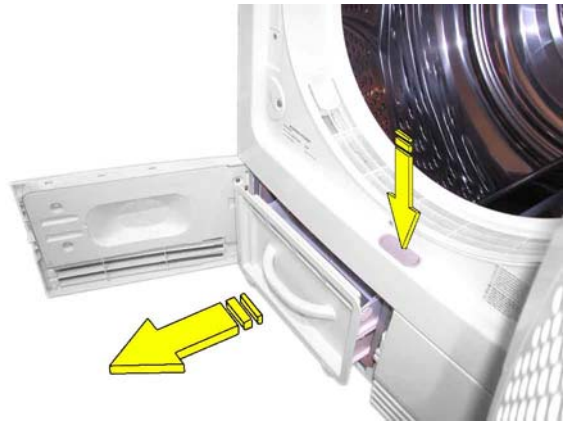
Remove the filter from its seat by lifting it upwards. The filter should be cleaned at the end of each cycle.



### 11.2.3 Evaporator fluff filter

To open the compartment, press the tab and pull the evaporator fluff filter support outwards.

Press the two locking tabs at the sides of the filter support and lift the filter out.



### 11.2.4 Fluff filter for water from evaporator

An additional filter, positioned beneath the fluff filter support, serves to prevent water containing microfluff particles from reaching the pump and blocking its operation.

To remove this filter, remove the two screws from the sides and pull outwards.

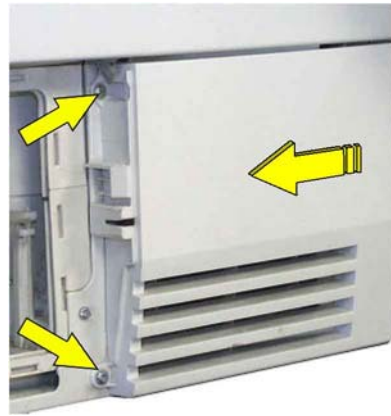


### 11.3 Compressor for fan motor

The compressor cooling motor is located in the front section, behind the right-hand section of the plinth.

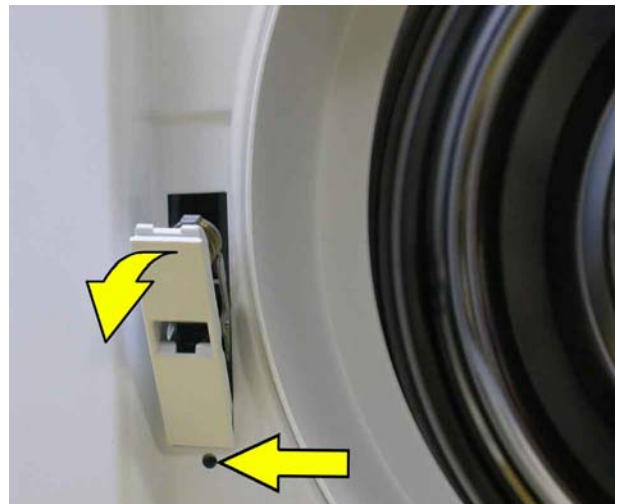
Remove the two screws, move the cover slightly to the left and remove the plinth.

Move the two motor retaining clips upwards and tilt the motor slightly downwards.



### 11.4 Door lock

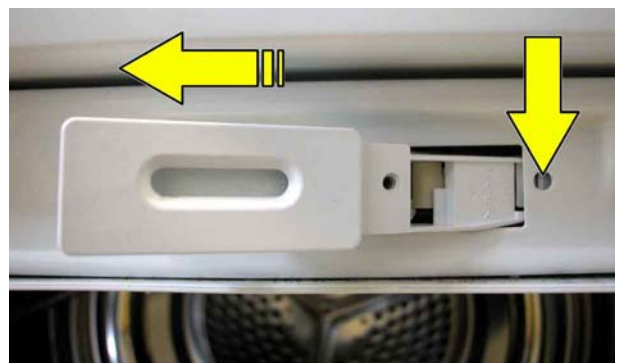
Remove the two screws, push the lock slightly downwards and tilt forward to remove.



### 11.5 Door microswitch

Remove the screw, pull the microswitch slightly outwards and to the left until it reaches the connector.

Detach the connector and apply adhesive tape to hold it in position on the front panel so that it is not retracted inside the appliance.





## 11.6 Door lock latch - Door microswitch latch

To remove the door lock latch and the microswitch latch, use a screwdriver to press the anchor tabs and turn in the direction indicated by the arrows.



## 11.7 Drum light bulb

The bulb can be replaced from inside the drum.

Unscrew the lamp cover and replace the bulb with one having the same characteristics.

When replacing the cover, ensure that the sealing ring is correctly inserted.



## 11.8 Canister

Pull the canister out completely, taking care to avoid spilling any residual water onto electrical components.



## 11.9 Work top

To remove the work top, first remove the two screws which secure it to the rear section of the dryer. Then push towards the rear of the appliance and remove.



## 11.10 Control panel/support assembly

Remove the canister and remove the screws which secure the control panel to the canister casing.



Remove the screws which secure the control panel cross-member and tilt forward the entire cross-member together with the control panel.



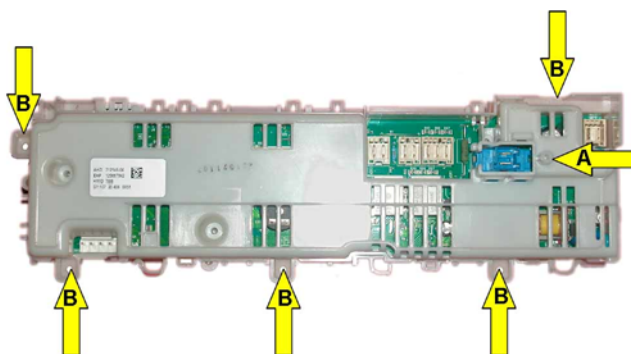
## 11.11 Main circuit board

### 11.11.1 Removing the board

After removing the entire control panel assembly, remove the screw A, which secures the selector protection connector, detach all the wiring (remember to note the positions of each connector to facilitate re-connection).

Remove the main circuit board by removing the 5 screws B which secure it to the control panel.

Use a screwdriver to lever open the anchor tabs (do not use excessive pressure) and remove the board.



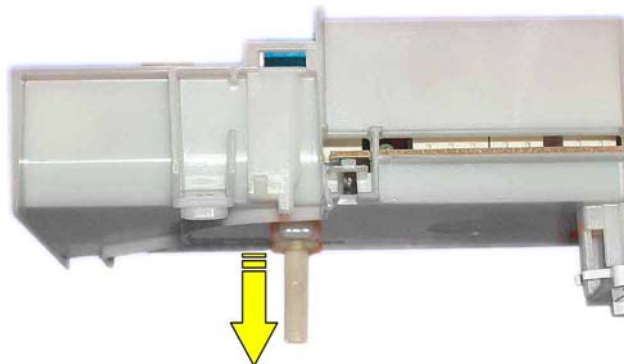
### 11.11.2 Removing the selector knob spindle

After removing the main circuit board, the selector knob spindle can be detached.

Turn the spindle to the **OFF** position and pull outwards.

#### **IMPORTANT**

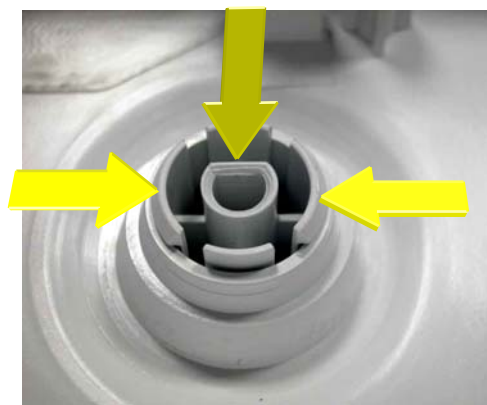
If the spindle proves difficult to remove, check that it is in the correct position.



### 11.11.3 Removing the selector knob

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

Press the two lateral tabs inwards and simultaneously push them outwards.



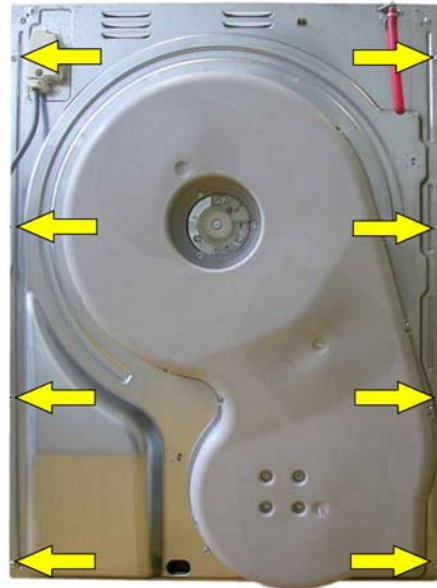
### 11.11.4 Key spring strip

The key spring strip is attached to the main circuit board support by lateral clips.

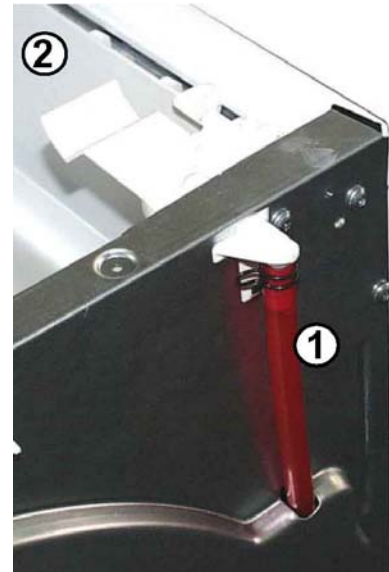
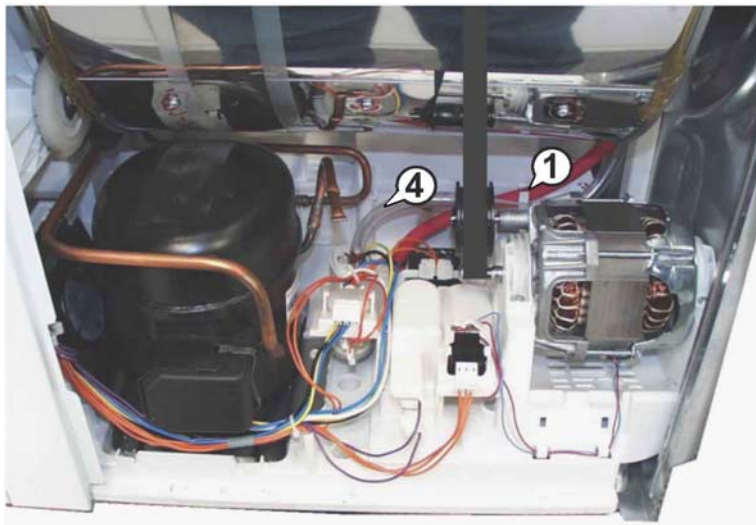
## 11.12 Side panels

First remove the screws which secure the side panels to the rear panel, then remove the screws which secure the side panels to the upper cross-members.

Lift the side panels slightly and remove.



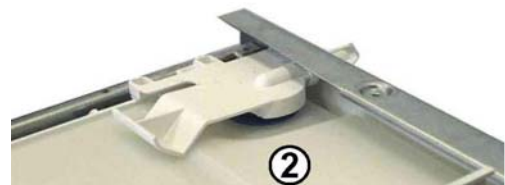
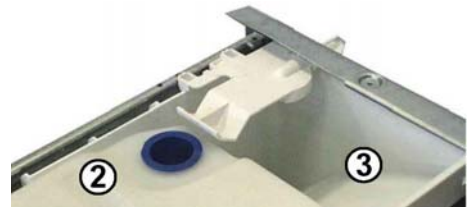
## 11.13 Water ducts



The water ducts are accessible from the right side of the appliance.

The condensation water is ducted into the canister (2) through a tube (1).

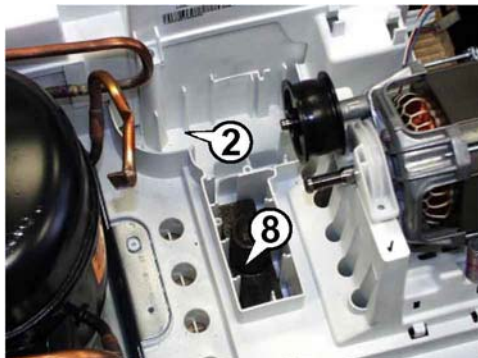
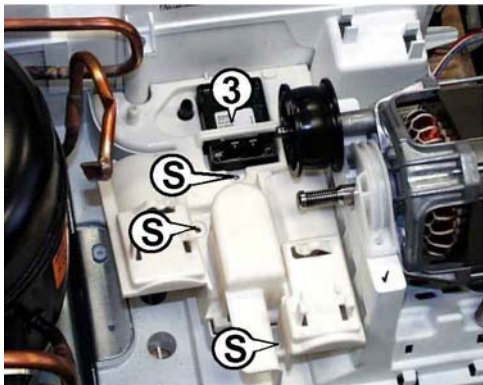
When the canister (2) is full, the water which overflows into the canister support (3) returns through a tube (4) into the sump.



## 11.14 Condensation pump / float-actioned switch

The water which condenses during the drying cycle is collected in a tray (2) communicating with the float chamber (8).

The pump (3) is fitted inside the cover (1), which is anchored to the base of the appliance using three screws (S).



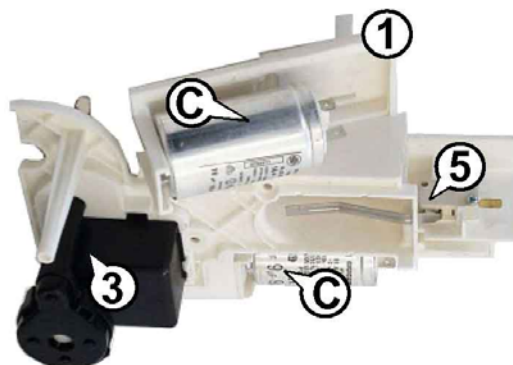
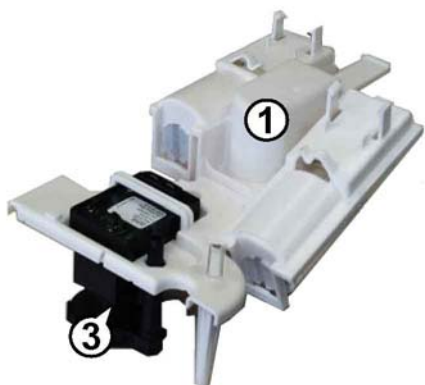
As well as the pump (3), the cover (1) also contains the run capacitor for the compressor motor (C) and the capacitor for the drum rotation motor, as well as the floating microswitch (5).

### Pump

To remove the pump (3), remove the assembly (1), detach the wiring from the pump and use a screwdriver to release the pump, which is pressure-fitted.

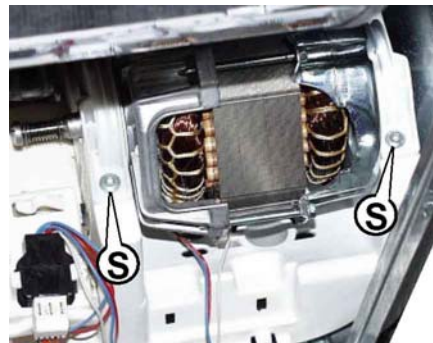
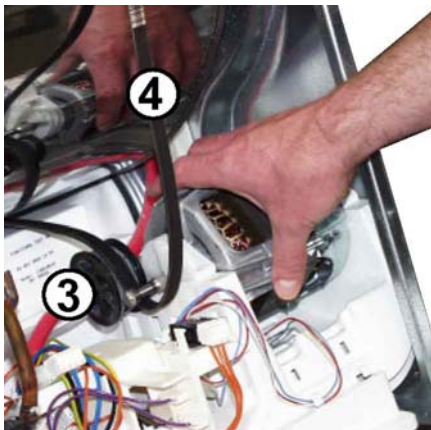
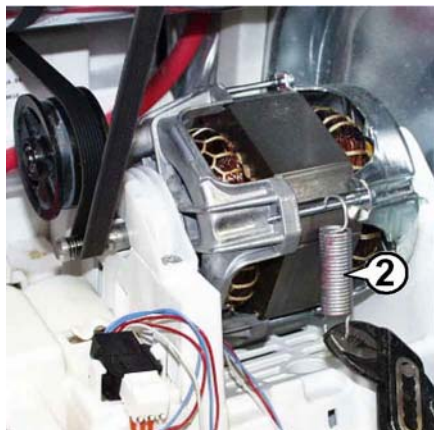
### Floating microswitch

The floating microswitch is fitted beneath the cover by screws.



When replacing the cover, care must be taken to ensure that the float moves freely.

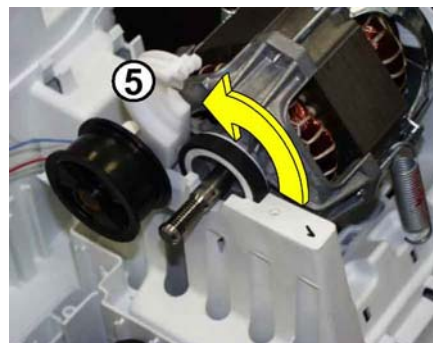
### 11.15 Drum rotation motor



Detach the belt tensioner spring (2). This loosens the belt tensioner pulley (3), which is attached to the motor.

Turn the motor towards the interior of the dryer. This loosens the drive belt (4) which can now be removed.

Loosen the screws (S) which secure the front and rear motor brackets (5), rotate 90° and remove the brackets.



#### IMPORTANT

In some models, a plastic spacer is inserted between the rear bushing and the motor. Ensure that this spacer is correctly inserted when re-assembling.

### 11.16 NTC heat pump circuit



The NTC (1) is housed in a special pocket fitted to the side of the dehydration filter (3) in the heat pump circuit, between the condenser and the evaporator. The NTC is secured by a spring (2).

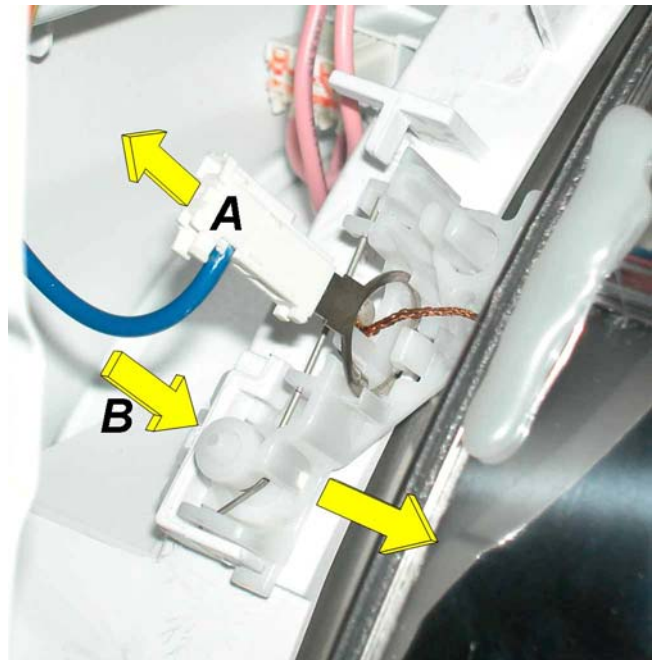
To remove the NTC, press the spring to release the lower extremity and remove the NTC.



### 11.17 Drum brush

The carbon drum brush is located between the main board and the drum.

To remove the brush, detach the electrical connector (A), lower the clip (B) and pull the brush support unit outwards.



### 11.18 Rear brush

Remove the screws which secure the drum spindle cover.

Turn the cover until the lower anchor clip is released.

The brush is housed inside the drum spindle cover.



### 11.19 Rear air duct

Detach the connector from the fan (2).

Remove the 18 screws which secure the air duct to the rear panel. Do NOT remove the four screws (1) which secure the fan.

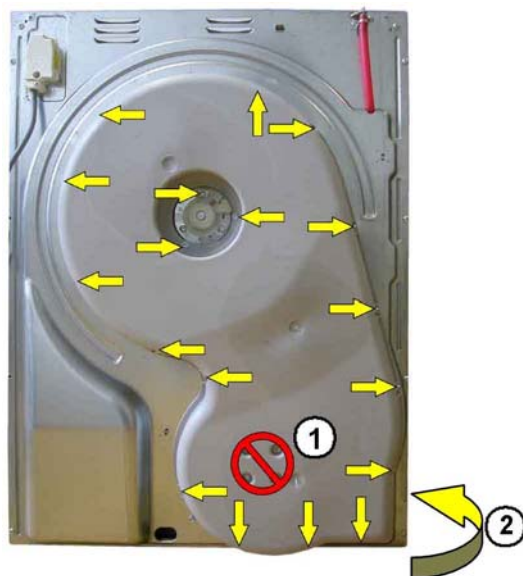
List the air duct slightly and remove from the rear panel.

After removing the air duct assembly, remove the four screws (1) and remove the fan (6). Separate the three components which form the air duct assembly.

External cover (3).

Insulating layer (4).

Internal air duct (5).

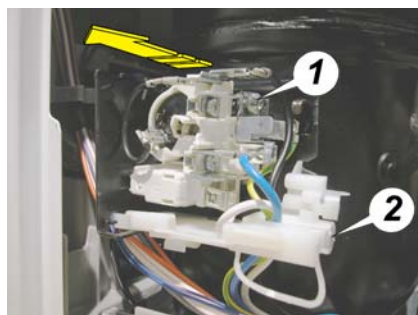
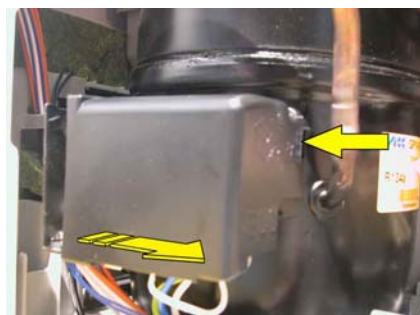


### 11.20 PTC and motor overload cut-out

To access the overload cut-out PTC, insert a screwdriver into the slot and move the cover to the right.

To remove the overload cut-out PTC, remove the screw (1) which secures it to the compressor, and remove the cable clamp (2).

Pull the entire overload cut-out PTC assembly outwards.



PTC overload cut-out



## 11.21 Dismantling the chassis for servicing



- Remove the side panels.
- Detach all the wiring.
- Remove the belt tensioner spring and loosen the drive belt.
- Remove the three screws (S) which secure the rear panel to the base.
- Remove the two screws (S) which secure the rear panel to the upper supports.
- Remove the red condensation tube.

After removing the rear panel together with the drum, the service engineer can easily access all the electrical components housed in the base of the appliance.



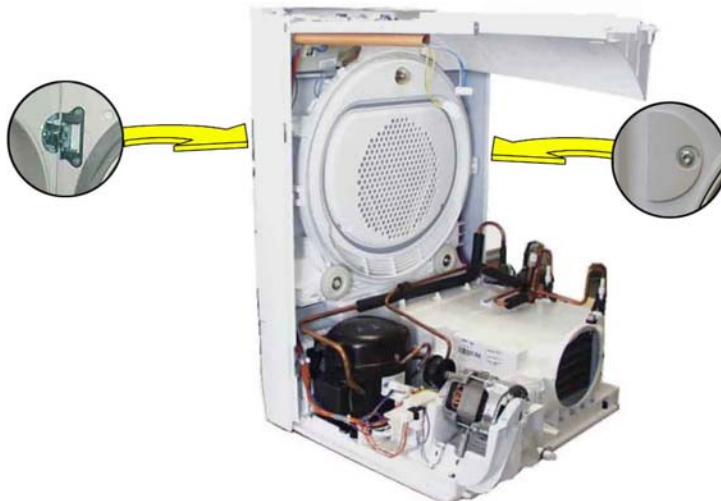
## 11.22 Air duct

Remove the drum.

Remove the screws which secure the hinges and the covers to the duct.

Detach the wiring as necessary.

Remove the duct



## 11.23 Front air seal

After removing the drum, the front air seal can be removed simply by pulling it out of its groove.

## 11.24 Idle pulleys

The idle pulleys can be removed after removing the drum.

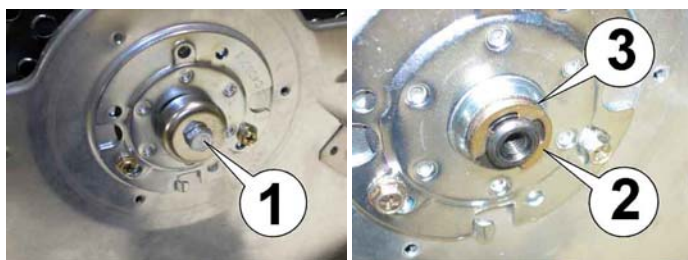
Remove the screws which secure them in position and remove the pulleys.

### IMPORTANT

*Do NOT attempt to remove the pulleys before removing the drum!  
This might cause irreparable damage to the air duct.*



## 11.25 Rear air seal



Remove the drum spindle cover.

Remove the screw (1) which secures the bushing.

Remove the elastic ring (2) and the spacing washer (3).

Detach the connectors from the main terminal block.

Detach the belt tensioner spring.

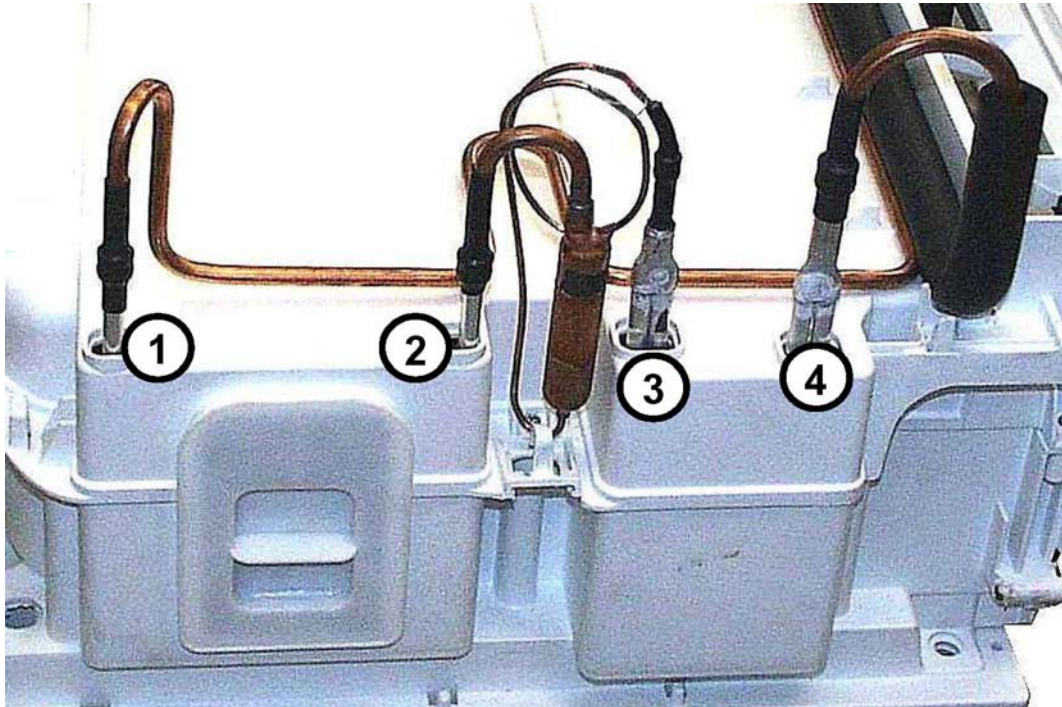
Remove the screws which secure the rear panel to the cross-members and the base, and remove the rear panel.

Remove the sealing strip from the groove.



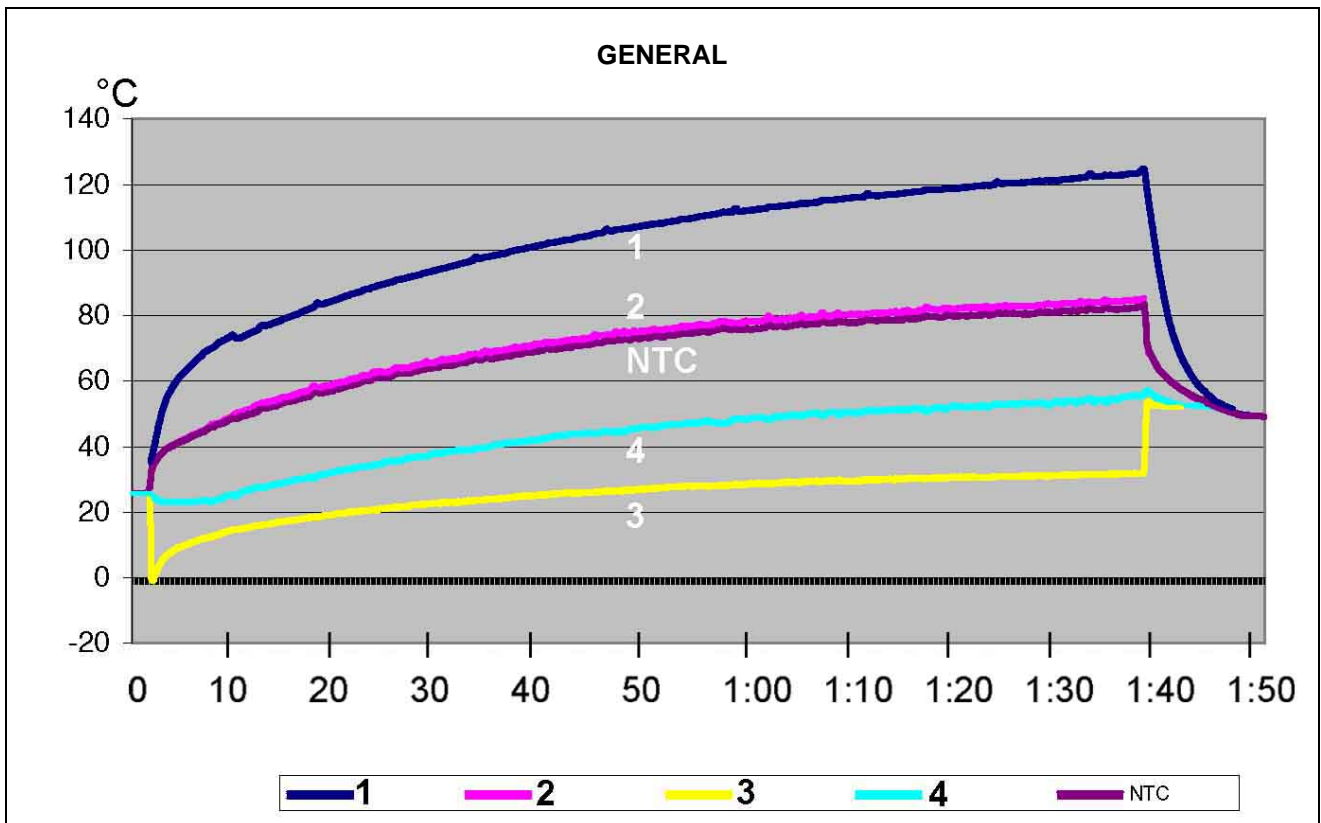
## 12 Checking the efficiency of the heat pump

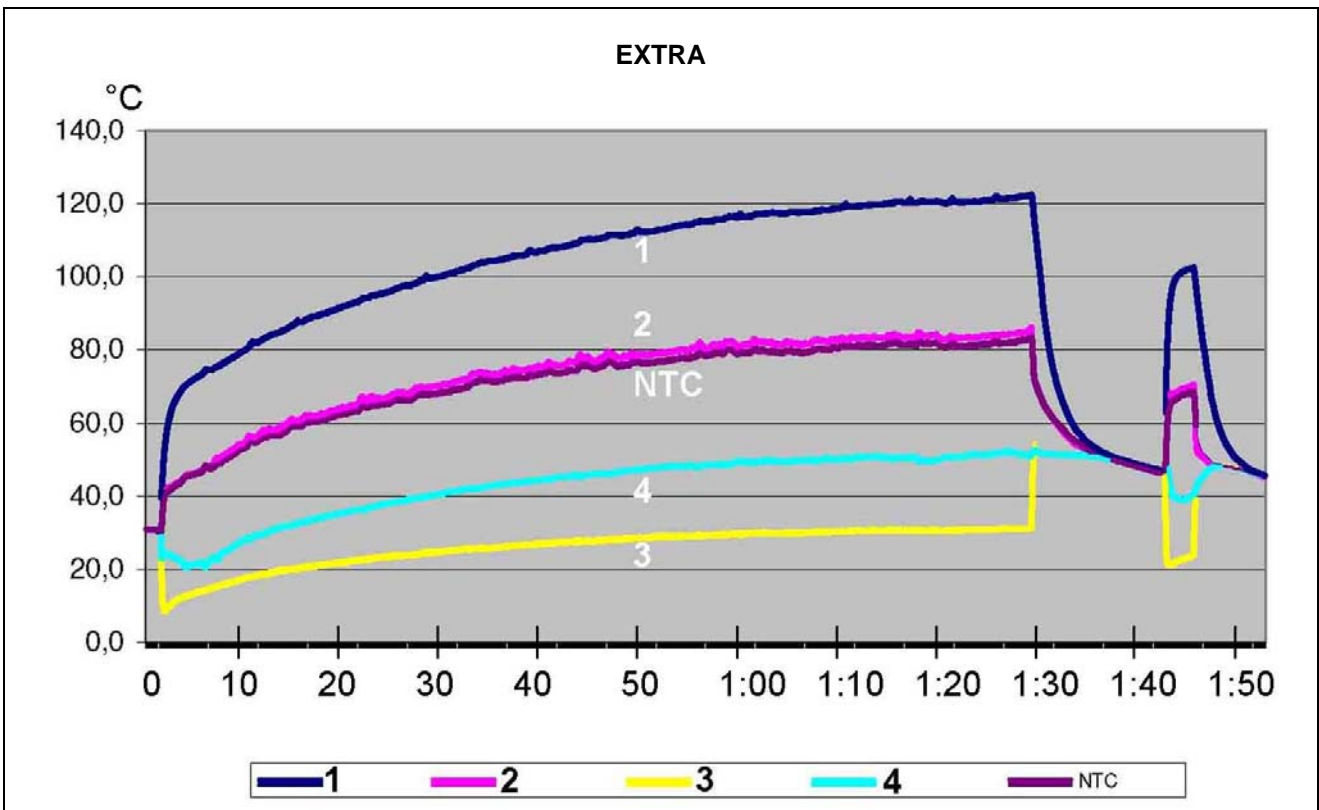
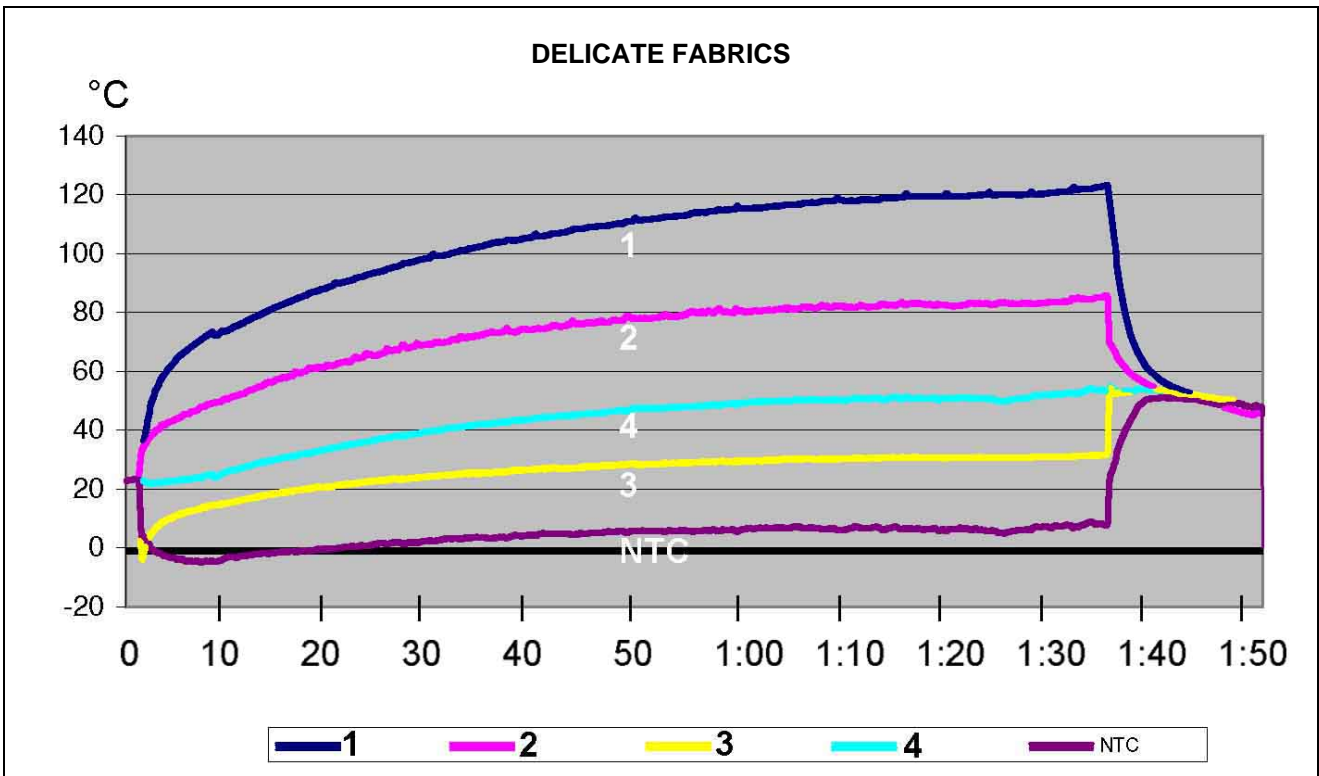
To check the efficiency of the heat pump, place the sensors in the positions indicated in the figure and compare the resulting graphs with those shown below.



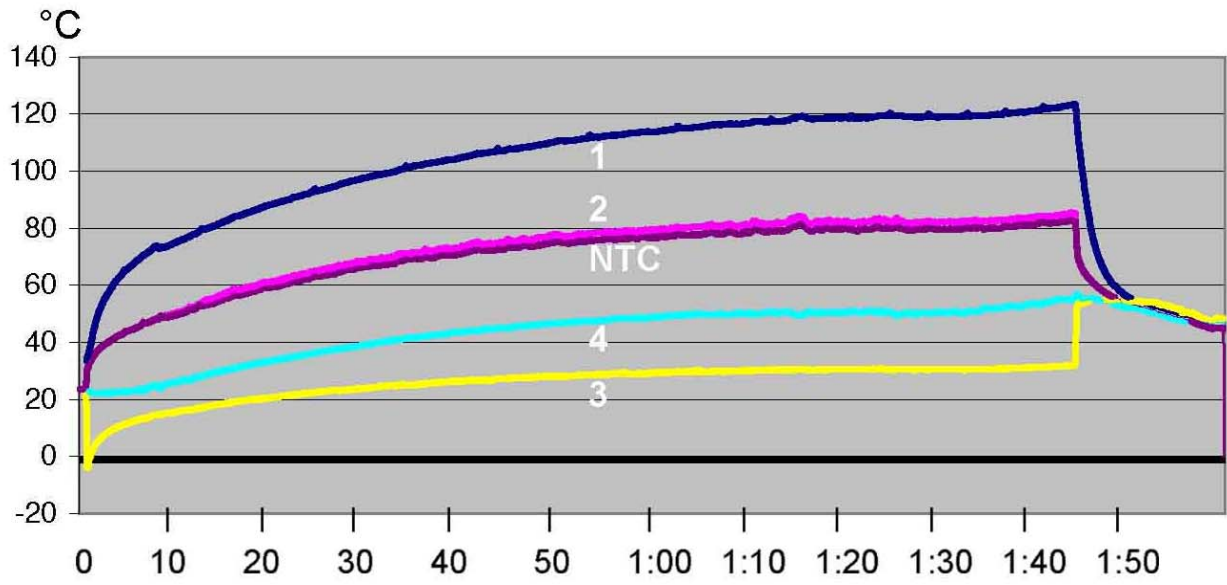
- 1 Condenser inlet
- 2 Condenser outlet

- 3 Evaporator inlet
- 4 Evaporator outlet





EXTRA 5 Kg - 3 litres WATER



## 12.1 Servicing the heat pump circuit

### 12.1.1 Replacing the compressor

Disconnect the appliance from the power supply.

Use the special needle valve (1) to evacuate the gas.

Dispose of the R134a liquid coolant in the appropriate manner.

Loosen the compressor anchor elements to facilitate access.

Use a pipe-cutter to cut the intake pipe (2) and the delivery pipe (3).

The compressor can now be replaced.

Connect the intake and delivery pipes to the circuit using LOCKRING couplings.

A Schrader valve (4) may be fitted to the intake pipe for filling and draining the circuit of the heat pump.

Alternatively, it is possible to connect a separate filling coupling with a valve (6) to the existing fill pipe (5).



### 12.1.2 Evacuation

The duration of the evacuation cycle must be at least 15 minutes. Evacuation should be performed on the intake side only.

This operation removes most of the extraneous gas and humidity from the cooling circuit.

The evacuation of the circuit must take place with the compressor switched off. During evacuation the compressor should be shaken at least once in order to release as much extraneous gas as possible from within the oil.

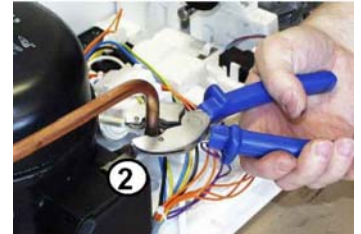
### 12.1.3 Filling

The liquid coolant may be topped up directly from the canister using a special balance.

R134a liquid coolant is sold in disposable canisters.

When filling with coolant, the compressors must be switched off and the service engineer must wear the appropriate protective clothing.

**R134a 270g**



### 13 Reversibility of the door

Open the filter compartment door

Remove the filter compartment door by removing the two screws which secure the hinges (A) to the appliance.

Remove the masking plates (B) and (C) by levering off with a flat screwdriver.

Remove the door lock latch (D) by pressing with a screwdriver and fit it to the other side of the door (remember to turn it upside down).

Unscrew the hinges (A) from the door and replace them on the other side (rotate the hinges 180° before replacing).

Replace the masking plates (B) and (C) on the opposite sides (again, rotate 180°).

Unscrew the two masking plates (E) from the front panel, rotate them by 180°, and replace on the opposite side.

Remove the latch plate (F) by pushing it slightly upwards and then tilting forward.

Press the release tab on the masking plate (G) and, at the same time, push it downwards and tilt forward.

Move the latch plate (F) to the opposite side and use the screw removed previously to secure it in position.

Move the masking plate (G) to the opposite side and insert so that the tab enters the hole correctly.

Replace the door with the hinges now on the opposite side. Insert and tighten the screws and check for correct alignment and closing.

