ELECTROLUX HOME PRODUCTS PTY LTD

ABN 51 004 762 341

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Electrolux

Condenser Dryers
SERVICE INSTRUCTION

1 CONTENTS

2 PRECAUTION

	Information "Safety"

- All the work to be performed inside the appliance requires specific skills and knowledge and may only be carried out by qualified and authorised Service Engineers
- This platform is not fitted with an ON/OFF switch. Before you access internal comP-ONEnts, take the plug out of the socket to disconnect the power supply.
- Some of the comP-ONEnts in the mechanical part could cause injuries, so wear suitable protection and proceed with caution
- Always empty all the water from the condensation tank before laying the appliance on its side.
- If the appliance has to be placed on its side for maintenance or another reason, lie it on its left side, to avoid the risk of any residual water falling onto the main circuit board.

3 PURPOSE OF THIS MANUAL

The purpose of this Service Manual is to provide Service Engineers who are already familiar with the repair procedures with information regarding: **Tumble dryers**

fitted with **EDR16** electronic control systems.

This document describes the basic functional concepts of all User Interface types designed for:
- P-ONE

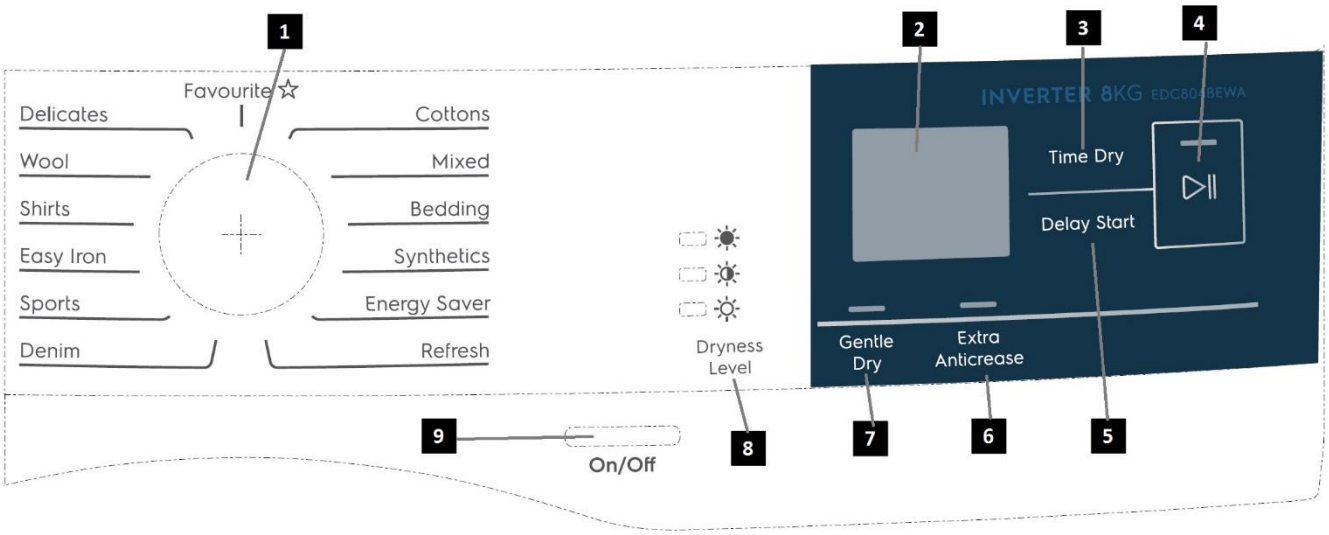
For each aesthetic level, according to buttons/lights layout, specific electronic boards are provided. Such boards are separated from the main power board that controls the tumble dryer and communicates with it by means of MACS serial protocol.

The compatible main boards are based on:

The manual deals with the following topics:
- General characteristics
- Control panel
- Guide to diagnostics

3.1 MODEL: EDC804BEWA

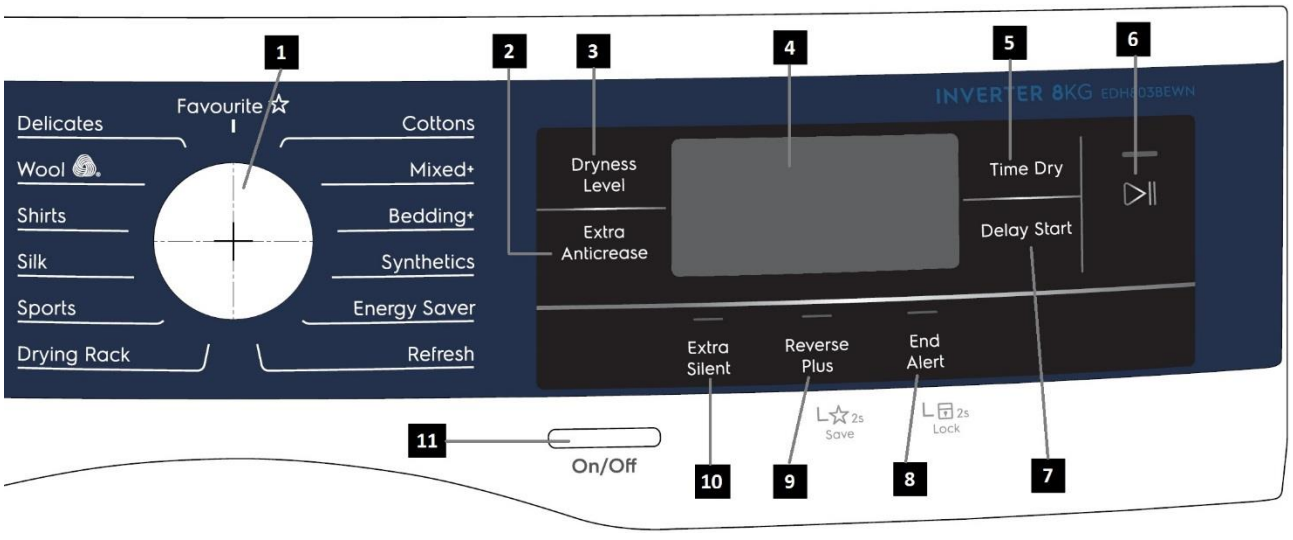
3.1.1 CONTROL PANEL



1 Programme knob
2 Display
3 Time Dry touch button
4 Start/Pause touch button
5 Delay Start touch button
6 Extra Anticrease touch button
7 Gentle Dry touch button
8 Dryness Level touch button
9 On/Off button

3.2 MODELS: EDH803BEWN, EDH803CEWA

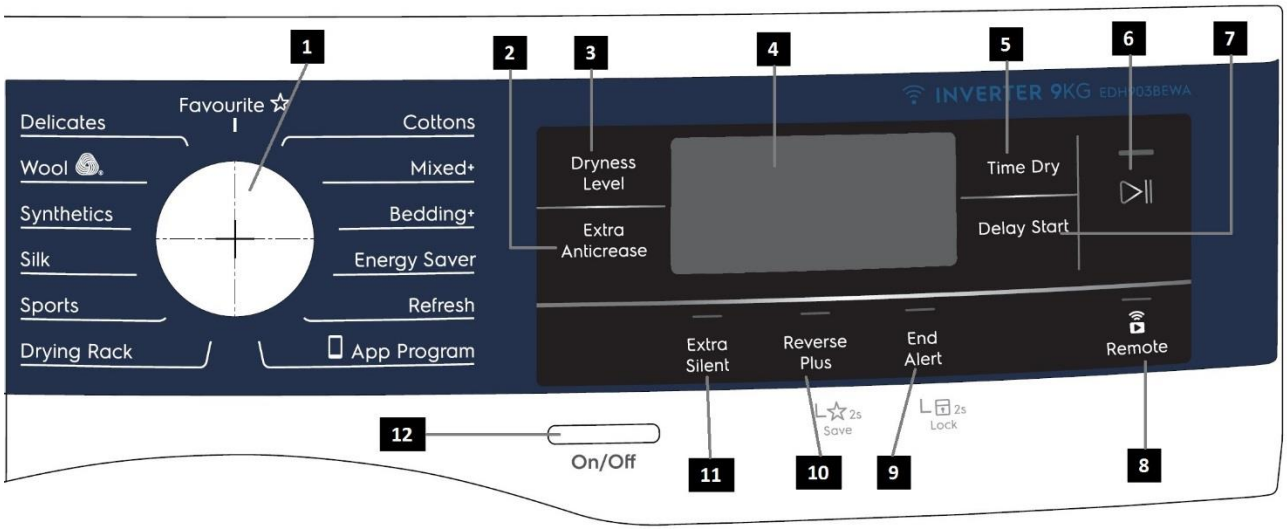
3.2.1 CONTROL PANEL



1 Programme knob
2 Extra Anticrease touch button
3 Dryness Level touch button
4 Display
5 Time Dry touch button
6 Start/Pause touch button
7 Delay Start touch button
8 End Alert touch button
9 Reverse Plus touch button
10 Extra Silent touch button
11 On/Off button

3.3 MODEL: EDH903BEWA

3.3.1 CONTROL PANEL



1 Programme knob
2 Extra Anticrease touch button
3 Dryness Level touch button
4 Display
5 Time Dry touch button
6 Start/Pause touch button
7 Delay Start touch button
8 Remote touch button
9 End Alert touch button
10 Reverse Plus touch button
11 Extra Silent touch button
12 On/Off button

3.4 COMMON FUNCTIONALITIES

3.4.1 ON/OFF BUTTON

All the other aesthetics levels of Electrolux range have a dedicated mechanical tact-switch button for On/Off function always present. Depending on the main board features of the machine, this button could completely disconnect the machine from the mains, or alternatively put the machine in a special low power consumption mode. When the main board mounts the 0 Watt power consumption circuit the machine is automatically and completely disconnected from the mains; without 0 Watt circuit, the user has to unplug machine to disconnect mains power. In any case the user interface behaviour is the same.

See also next "Stand-by mode" paragraph.

To switch on the appliance press and hold the On/Off button for a short time. The user interface plays the dedicated jingle and switches the lights and display turns on according to default programme.

To switch off the appliance, press and hold the On/Off button a bit longer. The user interface plays the dedicated jingle and all lights and display are switched off. All previously selected options and the possible program in progress are reset, so that at next machine power up the default drying program is selected.

3.4.2 LOW POWER CONSUMPTION MODES

The machine is put in low power consumption mode to avoid wasting energy when the cycle is not running, in accordance with international standards in terms of energetic consumption normative.

The low power mode in this document is referenced as **Stand by**.

3.4.3 STAND-BY MODE BEHAVIOUR

This mode applies to all UI levels where On/Off button is provided.

The appliance goes in Stand-by mode when it is "virtually switched off" by pressing On/Off button or the user does not interact with control panel for 5 minutes during program setting up or after that cycle has finished (auto stand-by). The machine is "virtually switched off" because all LEDs and display are lighted off and buttons are disabled, but the electronic boards are supplied anyway.

To cut out mains supply the appliance needs to be unplugged or mount the so called Zero-Watt circuit to provide the auto-off feature.

The appliance exits Stand-Off mode when the user presses the On/Off button to switch machine on.

The auto-off feature combined with Zero-Watt circuit works in two ways:

- **when pushing the Off button**, the electronics cuts out mains supply after some seconds, after having set machine in safety conditions (motor stops, ...). Cycle is reset, previously selected options are cleared so that next machine switching on the default programme is prompt;
- **after 5 minutes without interaction with the customer**, during programme setup or after the cycle is finished, the electronics cuts out mains supply automatically for energy saving purposes in accordance with power consumption norms. In case of cycle end, the cycle status and previously selected options are kept so that next machine switching on the same programme in cycle end phase is prompt; this way the customer is aware the cycle finished normally and can restart it if desired. During programme setup, the cycle and options are reset so that next machine switching on the default programme is prompt.

Automatic auto-off is disabled in case an alarm is displayed.

3.5 BUZZER

A multi-tone buzzer is provided to sound in following cases:

- switching machine on and off, with 2 different short jingles;
- pressing a button, with a very short "click" sound;
- when a selection error occurs, with three very short "click" sounds;
- when the cycle is finished, for about 2 minutes with a specific sequence of beeps;
- when alarms/warnings occur, for about 5 minutes with a specific sequence of short beeps.

The buzzer can be active or not by configuration; anyway **the default factory setting has to be active** to meet the norms regarding eyesight handicap people. To deactivate it the specific push buttons combination has to be used (see "Buttons Combinations" paragraph).

When deactivated the buzzer doesn't play the anti-crease start and cycle end melodies, while sounds anyway in case of button "click", the on/off jingles and selection error/alarms occurrence.

Volume level is pre-fixed and can't be changed by user. The behaviour is the same for all UI levels.

3.6 FAULTS/WARNINGS SIGNALS

3.6.1 SELECTION ERROR

The selection errors are noticed to customer by a specific buzzer melody.
The selection errors are given in following cases:

- when an incompatible option button with selected program has been pressed;
- when an option button is pressed or the selector is moved during the cycle execution.

4 CONDUCTIVITY/MOISTURE LEVEL SETTING

Used to set the water conductivity degree among three levels: low, medium, high, to adjust humidity algorithm parameters for more precise final drying result.

Water contains, a variable quantity of limestone and mineral salts of which quantities vary according to geographical locations thus varying its conductivity values. Relevant variations of the conductivity of the water compared to those prefixed by the factory could slightly influence the residual humidity of the laundry at the end of the cycle. The dryer allows to regulate the sensitivity of the drying sensor based on conductivity values of the water.

To adjust this setting please refer to the individual model's User Manual, Moisture Level Adjustment section.

5 EDR14 EU, EDR 16

5.1 INTRODUCTION

EDR14, EDR 16 is an electronic platform based on a double board architecture: a power board (MB) to manage all sensors/loads and a separate user interface board (UI).

UI supported:
- Diamond-Plus(Electrolux models)

**supported only by EDR 14 EU and EDR 16*

The **Power Board** electronic control have the purpose to:

- drive all the machine loads (motor control board, pumps, heating element, drum light, drying fan).
- read the several inputs necessary to control the functionality (water tank full/empty status, door status, motor speed, air temperature, power supply status).
- manage a serial port to connect the machine to external devices for testing, configuration, remote control purpose (EAP protocol).

The **User Interface Board** electronic control has the purpose to:

- manage the user selections and the machine status display by driving Leds and LCDs, and by reading buttons and/or rotary knobs,
- manage a serial port to allow connection to external devices for testing, remote control purpose (EAP protocol).

The purpose of this document is to describe the diagnostic architecture implemented on this electronic platform.

5.2 SYSTEM ARCHITECTURE

The machine can work in several functional modes:

- User mode
- Demo mode
- Electric test mode
- Special function mode
- Diagnostic mode
- Remote controlled mode

The last one can be set only by serial port using specific tools.

All the other modes are available using the machine itself.

User mode is the normal way to use the machine to execute normal cycles (used by the end customer).

Demo mode is used in the shops to show to the customer how to set and execute a cycle without drying.

Special function mode is used to show special parameters of the machine (for example the cycles/working hours counter – pay per dry architecture).

Electric test mode is used, on assembly line, to perform the electric safety tests according the International Standards.

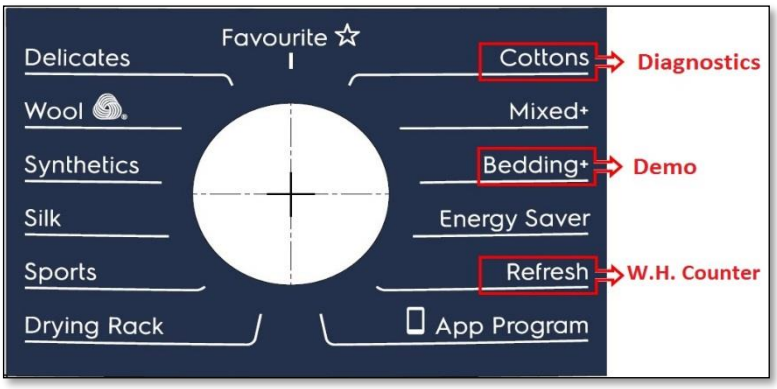
Diagnostic mode is used by service/lab people to test the machine, read/reset alarms.

Remote control mode apart, the other functional modes can be set by configurable buttons combinations.

Information
Standardisation

- If the key combination is recognised within 10 seconds since the machine was switched on (via On/Off button), a specific mode is entered according to the position of the main knob or according the program selected in case of LCD Blue Fire or Pilot 2 levels:
  - Position 1: Diagnostic mode set
  - Position 3: Demo mode set
  - Position 5: Working hours counter

5.3 DIAGNOSTIC/DEMO MODE/WORKING HOURS COUNTER KEY COMBINATION



DIAGNOSTIC/DEMO/WORKING HOURS COUNTER MODE

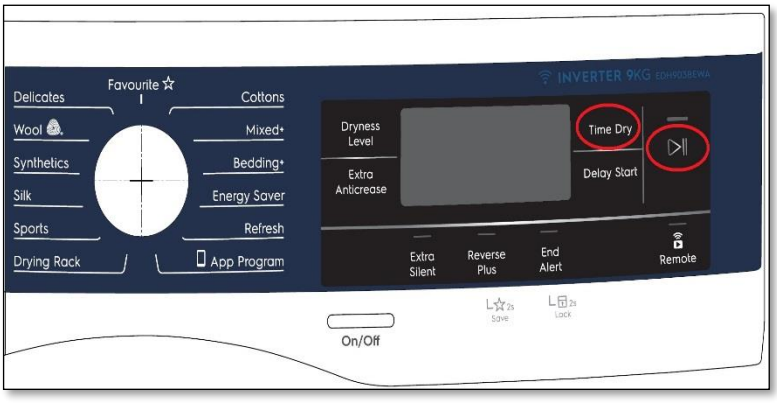
5.3.1 MODEL EDH903BEWA

1. Select the required function via selector knob as shown

1. Switch the machine ON using ON/OFF switch

2. Within 7 seconds touch and hold both **Start/Pause & Time dry** touch pads simultaneously for a few seconds until all LEDs and display light up in sequence.

- **Note: If unsuccessful switch off the machine via ON/OFF switch and repeat above**



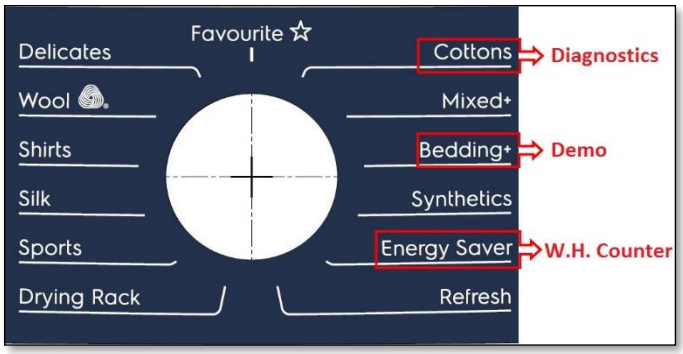
5.3.2 MODEL EDH803BEWN

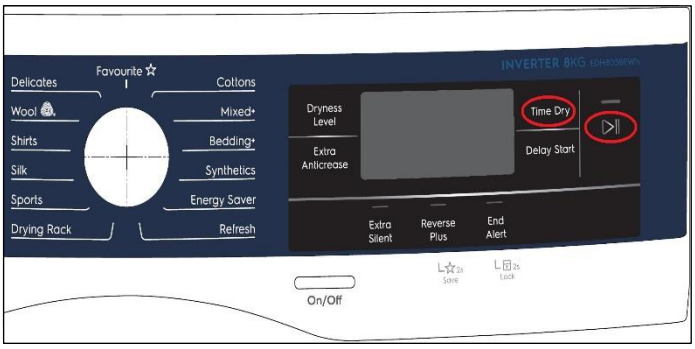
2. Select the required function via selector knob as shown

3. Switch the machine on using ON/OFF switch

4. Within 7 seconds touch and hold both **Start/Pause & Time dry** touch pads simultaneously for a few seconds until all LEDs and display light up in sequence.

   - **Note: If unsuccessful switch off the machine via ON/OFF switch and repeat above**





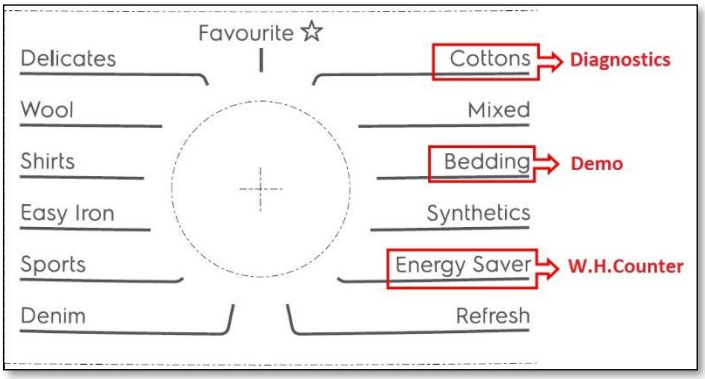
5.3.3 MODEL EDC804BEWA

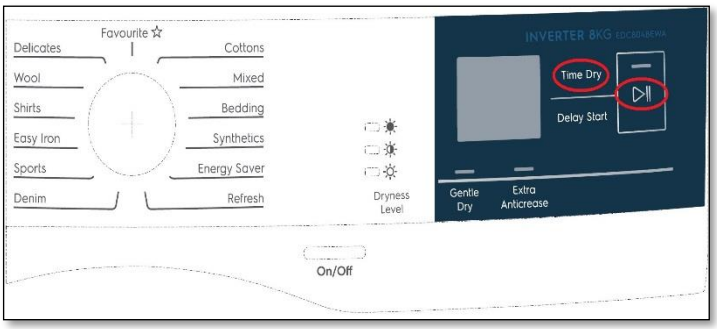
1. Select the required function via selector knob as shown

2. Switch the machine ON using ON/OFF switch

3. Within 7 seconds touch and hold both **Start/Pause & Time dry** touch pads simultaneously for a few seconds until all LEDs and display light up in sequence.

   - **Note: If unsuccessful switch off the machine via ON/OFF switch and repeat above**





5.4 WORKING HOURS COUNTER

Using a specific procedure(page 13), the operator can display the total operating time for the appliance, which is counted from the moment it is first switched on.
The unit can count up to a maximum of **6 550** hours of operating time.

- Only the operating time of normal programmes (and not diagnostic cycles) is counted
- The actual operating time for the cycle is counted (which does not include pauses, delayed start time, rinse hold time and soaking phases)
- The precision of the counter is 30 seconds per programme.
- Only whole hours of operation are counted (1hr and 59 min = 1hr)

Working hours
Dispplay

- The thousands digit is showed only when value is over 999, the rule is valid for all platforms
- Examples:
  15 = Hr 0 15
  150 = Hr 1 50
  1550 = Hr 15 50

This time is displayed with a sequence of two digits at a time: the first two digits indicate thousands and hundreds, the second two digits indicate tens

5.5 DEMO MODE

In the shops and exhibitions sometime it could be necessary to show to the customer the machine behaviour in set-up condition and also during cycle execution. The duration of a cycle execution is in any case too long for a brief show.

The Demo works in two ways: one **interactive mode** and one **automatic loop**.

Interactive mode allows the user, by selecting programs and options, to experience the interface without activating the appliance.

If no one has interacted with the interface for 3 minutes, or Start button hasn't been pushed, it proceeds to display an automatic loop instead, simulating the cycle execution only on display.

DEMO mode alters the execution of a cycle in such a way that these problems are avoided:
- In set-up state the machine behaviour is the same of the user mode one.
- During cycle execution all times are shorter.
- No drying is executed. All the user interface functionality is shown as in the normal condition (time to end ...).

Information
"DEMO mode"

- Once the DEMO mode is set, after each machine switching on DEMO mode is automatically recalled; this occurrence is signalled after some seconds from the start-up by the steady text "dEn"
- To exit the DEMO mode the machine has to be unplugged from mains net.

5.6 DIAGNOSTIC MODE

This mode is used in several conditions:
- In factory assembly line to perform a manual test of the machine functionality (final assembly test).
- By service people to check for faults and repair the machine.

- In the labs to check the right machine functionality.

5.7 ENTERING DIAGNOSTIC MODE

See 5.3 for access to diagnostics mode

Information
"DIAGNOSTIC mode"

- If the key combination is recognised within 7 seconds since the machine was switched on (via On/Off button), a DIAGNOSTIC mode is entered
- To exit from DIAGNOSTIC mode it's sufficient to switch off the machine.
- According to the machine configuration, at the next machine switching on the electric test cycle may be activated. To stop it, switch off again the machine.

5.8 DIAGNOSTIC PROGRAM DEFINITION

In the 1st selector or program position (LCD or Pilot 2) the User Interface test is performed; all LEDs or LCD symbols are lit sequentially to allow checking the outputs. For each LCD display a specific sequence of screens is performed in order to test all icons and backlight LEDs.

Pressing any button the associated LEDs and display icons are lit and the related position number is shown on cycle time (TTE) digits if present, till button is released; besides, the buzzer plays a single "beep" sound (mechanical switch) or "click" sound (touch sensor).

When the selector knob is moved the TTE digits show the "C" letter followed by the knob position code for about 2 seconds; Series 9 level shows also "Knob position" on text row.

Information
Enter "last alarm display" or "electric test"

After the diagnostic mode was entered, the same combination has the following functions:

- In "last alarm display" selector position (the 10th counting clockwise) the last alarms are cleared.
- In all other positions it sets the "electric test" mode at the next machine switching-on.

FOR ANY POSITION THERE IS A DIFFERENT TEST:	
POSITION	VERSION : DESCRIPTION
1	User Interface Test
2	Condense Tank Switch + Condense Tank Pump
3	Counter Clockwise drum rotation
	Counter Clockwise drum rotation + Condenser Heat up
4	Clockwise drum rotation (for visual check of the drum)
	Compressor Cooling Fan
	Compressor Cooling Fan + Steam Generation
5	Heater ½ power + Clockwise drum rotation
	Clockwise drum rotation
6	Heater full power + Clockwise drum rotation
	Compressor ON + Clockwise drum rotation
7	Conductimetric sensor: drum open circuit
8	Conductimetric sensor: drum short circuit
9	Condense Tank Switch
	Condense Tank Switch + Condenser Emptying + Steam Tank Level
10	Last alarm display and possible reset

Information
Test cycles

The test cycles are working only if:
- There is no communication error between main board and user interface.
- The machine is configured with a valid configuration (no configuration alarm).

- In case of MB-UI communication alarm, the only test available is the user interface test, because the user interface can be tested alone only supplying the 12 Volts.
- Pressing together the key combination during one of the diagnostic cycles (from position 2 to 9) the machine will set in electric test mode at the next power on.
- Pressing together the key combination in the last alarm display position (10), the alarm codes that were stored in memory will be reset.
- Pressing another valid key combination (the ones configured for Child Lock, Conductivity level, Tank warning…) during one of the diagnostic cycles (from position 2 to 9) the factory default settings are restored, that is:
  - disable permanent modes/options such as Child Lock, Buzzer;

During the test the display will show some data concerning the cycle being performed. The details are explained in the following tables, which also specify, for each selector position, the purpose of the associated test, the components activated and the conditions under that the test is performed.

C01 USER INTERFACE TEST	
Selector-test position:	**Position 1** in clockwise direction or in test sequence (LCD).
Purpose of test:	To test the functionality of all lights, switches and buzzer.
Activated comP-ONEnts:	All LEDs, LCD display (if present) and buzzer
UI behaviour with display:	All led in sequence, pushing a button correspondent led is lit, the key number is showed on LCD and the buzzer sound. All LCD icons blink together ☝ *See the descriptions below*
UI behaviour for	All led in sequence, pushing a button correspondent led is lit and the buzzer sound. ☝ *See the descriptions below*
Working conditions:	There isn't any control to run the test (always active).

C02 CONDENSER TANK SENSOR + PUMP => add water to tank for testing	
Selector-test position:	**Position 2** in clockwise direction or in test sequence (LCD).
Purpose of test:	Test condense tank sensor and pump.
Activated comP-ONEnts:	Line Safe Relay + if the basement is full of water and the tank sensor recognises the condition, the pump is switched on.
UI behaviour with display:	Water level high: **000** Blinking Water level low: **1 1 1** Steady
UI behaviour for S5 / TC5	Water level high: Tank, Condenser, Filter warning LEDs blink Water level low: warning LEDs remain off Phase LEDs are lit steady to indicate service mode.
Working conditions:	Door closed (Time out 10 min.).

C03 CCW drum	
Selector-test position:	**Position 3** in clockwise direction or in test sequence (LCD).
Purpose of test:	Test drum motor in counter-clockwise direction.
Activated comP-ONEnts:	Line Safe Relay + CCW Motor Relay + Tank Pump
UI behaviour with display:	---
UI behaviour for S5:	Only phase LEDs are lit steady to indicate service mode.
Working conditions:	Door closed (Time out 10 min.).

C04	CW drum (standard models)
Selector-test position:	**Position 4** in clockwise direction or in test sequence (LCD).
Purpose of test:	Test drum motor in clockwise direction.
Activated comP-ONEnts:	Line Safe Relay + CW Motor Relay
UI behaviour with display:	---
UI behaviour for S5:	Only phase LEDs are lit steady to indicate service mode.
Working conditions:	Door closed (Time out 10 min.).

C04	Fan Cooling (Heat pump Models)
Selector-test position:	**Position 4** in clockwise direction or in test sequence (LCD).
Purpose of test:	Test compressor cooling fan
Activated comP-ONEnts:	Line Safe Relay + Cooling Fan Triac
UI behaviour with display:	---
Working conditions:	Door closed (Time out 10 min.).

C05	Heater ½ power + CW drum (standard models)
Selector-test position:	**Position 5** in clockwise direction or in test sequence (LCD).
Purpose of test:	Test Higher Power Heater Element
Activated comP-ONEnts:	Line Safe Relay + CW Motor Relay + Heater 1 (Higher Power Heater Element)
UI behaviour with display:	digits on LCD show NTC1(fan) drying temperature.
Working conditions:	Door closed (Time out 10 min).

C05	CW drum (Heat pump models)
Selector-test position:	**Position 5** in clockwise direction or in test sequence (LCD).
Purpose of test:	Test drum motor in clockwise direction
Activated comP-ONEnts:	Line Safe Relay + FCV Power
UI behaviour with display:	digits on LCD show NTC1(compressor) drying temperature
Working conditions:	Door closed (Time out 10 min).

C06	Heater full power + CW drum (standard models)
Selector-test position:	**Position 6** in clockwise direction or in test sequence (LCD).
Purpose of test:	Test both Power Heater Elements
Activated comP-ONEnts:	Line Safe Relay + CW Motor Relay + Heater 1 (Higher Power Heater Element) + Heater2 (Lower Power Heater)
UI behaviour with display:	digits on LCD show NTC2(heating element) drying temperature.
Working conditions:	Door closed (Time out 10 min.).

C06	Compressor + CW drum (Heat pump models)
Selector-test position:	**Position 6** in clockwise direction or in test sequence (LCD).
Purpose of test:	Test Compressor
Activated comP-ONEnts:	Line Safe Relay + FCV Power + Compressor Relay (Compressor Driven at 750W)
UI behaviour with display:	digits on LCD show NTC2(Condenser) drying temperature
Working conditions:	Door closed (Time out 20 min)
Allow this test to run until the end (approximately 20 minutes). If error ED5 appears on screen it indicates there is no gas in the circuit. Note: this test is only available for models with serial numbers starting from **820xxxxx**	

C07	Conductimetric open circuit
Selector-test position:	**Position 7** in clockwise direction or in test sequence (LCD).
Purpose of test:	Verify conductimetric sensor in open circuit condition.
Activated comP-ONEnts:	Conductimetric sensor reading.
UI behaviour with display:	Test Running: **000** Blinking Test Completed: **1 1 1** Steady
Working conditions:	Open Circuit between two sensor bars.

C08	Conductimetric short circuit (must place a short circuit across the sensor bars for this test)
Selector-test position:	**Position 8** in clockwise direction or in test sequence (LCD).
Purpose of test:	Verify conductimetric sensor in short circuit condition.
Activated comP-ONEnts:	Conductimetric sensor reading.
UI behaviour with display:	Test Running: **000** Blinking Test Completed: **1 1 1** Steady
Working conditions:	Short Circuit between two sensor bars.

C09	Condense Tank Sensor (for factory assembly line ONLY)
Selector-test position:	**Position 9** in clockwise direction or in test sequence (LCD).
Purpose of test:	Test the tank switch (for assembly line only).
Activated comP-ONEnts:	Line Safe Relay + if the basement is full of water and the tank sensor recognises the condition, the pump is switched on
UI behaviour with display:	Water level high: **000** Blinking Water level low: **1 1 1** Steady
Working conditions:	Door closed (Time out 10 min).

C10	Last alarm display and possible reset
Selector-test position:	**Position 10** in clockwise direction or in test sequence (LCD).
Purpose of test:	Display last alarm and possible reset
UI behaviour with display:	Alarm complete code is showed in the format **E**xx (E 4 2) on Time to End digits
To Reset	Press and hold diagnostic key combination for a few second to clear alarm codes

Condenser Empty Tank	
Selector-test position:	**Position 2-9** in clockwise direction or in test sequence (LCD).
Detailed description:	If the reed of steam tank is on void position, related icon on LCD blinks

6 WARNINGS

In electronic platforms: **EDR12, EDR14, EDR 16** in normal functioning mode, **to final user are shown only those warnings that he is able to manage** without the attendance of after sales service personnel. In case of **EDR10** all alarms codes are shown.
These warnings are not considered permanent machine faults, but normally temporary faults due to carelessness of the user.
Such warnings are highlighted by using LED, turning on an icon on the display:

-  - fill the water container for steam system
-  - clean the steam system filter
-  - drain the water container
-  - clean filter
-  - do the check of the heat exchanger

or displayed with a specific message in the text line:

- *"Close the door"* - cycle started with door opened
- *"Check the load"* - cycle started without laundry
- *"Unstable mains supply"* + *"EH0"* on time digits
- *"See user manual"* + specific alarm code on time digits

There are also other alarms that stop machine and cannot be managed by the final user, that are requested to be shown:

- *E5A* - FCV Board overheating
- *E6A* - VSC Board overheating
- *E97* - Missing Program on CTF Alarm
- *EH1 (EB1)* - Power Supply Frequency out of Range
- *EH2 (EB2)* - Power Supply Amplitude out of Range (too HIGH)
- *EH3 (EB3)* - Power Supply Amplitude out of Range (too LOW)
- *EC6* - Condenser Heater Sensing Alarm
- *ECA* - Possible Empty Steam Tank

All the other warnings are not showed to final user because in many cases they are "false alarms" due to temporary abnormal conditions that the user sometimes neither notices and that could be simply solved switching off the machine.

The complete set of alarms is showed only in diagnostic mode for final test in factory assembly line or for after sales service personnel.

Information
Warnings

- Buzzer sounds (regardless of configuration) on alarm presence only for warnings that are shown to final user, mains supply alarms excluded (EH0).
- Buzzer sounds (also if deactivated by customer via buttons combination) with a specific sequence of 3 short beeps about every 20 seconds for maximum 5 minutes.
- Stand-by mode is disabled on alarm presence only for warnings that are shown to customer.
- Warning code is displayed as long as the fault condition is present.
- For the these codes EH1(EB1), EH3(EB3), the alarm puts the machine in pause state:
  - **DIGITS DISPLAY**
    the Start/Pause button **yellow** / **white** (Blue Fire); **red LED** (AEG Perfekt 10); **yellow** (Pilot2) **LED** blinks continuously.
  - **NO DISPLAY**
    the **yellow** (Blue Fire, Pilot2) / **red** (AEG Perfekt 10) **LED** is off, while the **alarm red LED** (Blue Fire, Pilot2) **/ yellow LED** (Perfekt 10) under Start/Pause button blinks continuously for almost all warnings, except for "Software Configuration", "Boards Communication" and "Mains Supply"alarms.

  The blinking times for the LED are: 0.5 sec lit, 0.5 sec lighted off.
- In some rare cases, other warning codes could be displayed to the customer, such as E91 – communication failure between electronic boards; in this case if failure repeats after unplugging/plugging machine, after sales service needs to be contacted.
- Alarm complete code is shown if the alarm belongs to the "Software Configuration" family, that includes also "Boards Communication" alarm, and "Mains Supply" family; this is in order to give the final user a valid indication of the alarm even if the configuration itself (needed to operate LEDs and Display) is damaged or missing.

DIGITS DISPLAY

warnings are displayed on the **7-segments digits** display used to show the cycle time.

A specific code appears on digits while the buzzer sounds (also if deactivated by customer via buttons combination) with a specific sequence of 3 short beeps about every 20 seconds for maximum 5 minutes.

After the problem has been solved, pressing Start/Pause push button the warning code is not showed anymore, buzzer stops sequence and cycle restarts.

Standard warnings codes that can be showed to final user, with related actions to perform, are the following:

Displayed code	Warning condition
E5A	*FCV Board overheating*
E6A	*VSC Board overheating*
E97	*Missing Program on CTF Alarm*
EH1 (EB1)	*Power Supply Frequency out of Range*
EH2 (EB2)	*Power Supply Amplitude out of Range (too HIGH)*
EH3 (EB3)	*Power Supply Amplitude out of Range (too LOW)*
EC6	*Condenser Heater Sensing Alarm*
ECA	*Possible Empty Steam Tank*

Alarm example

7 ALARMS

One of the main requirements of the diagnostic system is to be transparent to the final user except for some most common warnings.

To increase the flexibility of the system it was introduced the possibility to enable/disable the alarms display by the machine configuration in order to cover requirement as field test context, particular countries requirement …

All alarms display is enabled during diagnostic test/cycles. They are displayed on the TTE digits of the display (if available) and on the red/yellow LEDs mounted beside the START key.

If the TD is in diagnostic mode and an alarm is raised, its code is always shown regardless of the configuration.

Information
"Eb3" is shown like "EH3"

Please note that writing an alarm code on the LCD panels, all occurrences of "b" are replaced by "H" in order to avoid mistaking the "6" symbol, so for instance "Eb3" is shown like "EH3".

7.1 LAST ALARM READING AND RESET

The alarm indication is also used when the user interface (UI) enters LAST ALARM mode, that is when the user pushes the "special key" combination while the board is in normal mode or when the main knob is set to the 10th position while the board is in diagnostic mode.

Information
"last alarm reading and reset"

- While this mode is set, it's possible to read the code of the three latest alarms, starting from the most recent.
- It's possible to reset Last alarm pressing the defined key combination (START/PAUSE and the closest one for every UI) when in Diagnostic mode with selector in 10th position.

8 ALARMS TABLE

The alarm codes listed in the table below are divided by platform: **EDR10, EDR12, EDR14 EU, EDR16**.

Information
"Enable in setup", "Enable", "Display"

- Enable in setup – an alarm can be active during cycle selection
- Enable – an alarm can be available or not
- Display – an alarm can be displayed to end user or not

Enable in setup	Enable	Display	Description
YES			an alarm is active also when machine is in idle (during cycle selection, before cycle start) not only during cycle execution
	NO		an alarm is not available, it is not saved neither shown to both end user and service
		NO	▪ end user - an alarm is not shown ▪ service - if alarm is enabled it is saved in the history and shown in service mode
	YES	NO	an alarm is available: ▪ end user - an alarm is not shown ▪ service - an alarm is saved in the history and shown in service mode
	YES	YES	an alarm is available, saved in the history and shown to both end user and service

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	
E21	Condense Pump Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	1. Tank Pump Disconnected (Wiring or Connector Failure) 2. Tank Pump Failure 3. Tank Pump Triac Failure (Short Circuit, Diode Mode, Open Circuit) (Main Board Failure)
E22	Condense Pump Sensing Alarm	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Pump Triac Sensing Circuit Failure (Main Board Failure)
E23	Capacitive level sensor alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	-	-	-	Capacitive Level Sensor frequency out of range. 1. Sensor Disconnected (Wiring or Connector Failure) 2. Level Sensor Failure 3. Main Board Failure
E24	HP Fan Sensing Alarm	No Action	-	-	-	YES	YES	NO	-	-	-	-	-	-	Compressor Cooling Fan Sensing Circuit Failure (Main Board Failure)
E31	Conductimetric Sensor Frequency too HIGH	No Action		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	Active only during HUMIDITY SENSOR SHORT CIRCUIT diagnostic. The oscillation Frequency is out of Range (Main Board Failure)
E32	Conductimetric Sensor Frequency too LOW	No Action		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	Active only during HUMIDITY SENSOR SHORT CIRCUIT diagnostic. 1. The Drum is not Short circuited 2. Wiring Failure 3. The oscillation Frequency is out of Range (Main Board Failure)
E33			-	-	-	-	-	-		YES	NO	-	-	-	Not implemented
E45	Door Closed Sensing Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Door Closed Sensing Circuit Failure (Main Board Failure)
E51	Drum Motor Short Circuit Alarm (only for Async Motor)	Stops cycle execution	YES	YES	YES	-	-	-	YES	YES	NO	-	-	-	With Line Safe Relay Open, motor sensing detects voltage on motor. 1. Motor Short Circuit to ground (Motor or Wiring) 2. Electrical Noise 3. Line Safe Relay Problem (Main Board Failure)

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	
E52	Drum Motor Alarm (only for Async Motor)	Stops cycle execution	YES	YES	YES	-	-	-	YES	YES	NO	-	-	-	1. Drum Motor Disconnected (Wiring or Connector Failure) 2. Drum Motor Capacitor (disconnected or broken) 3. Drum Motor Failure 4. Drum Motor Triac Failure (Short Circuit, Diode Mode, Open Circuit) (Main Board Failure)
E53	Drum Motor Sensing Alarm (only for Async Motor)	Stops cycle execution	YES	YES	YES	-	-	-	YES	YES	NO	-	-	-	Drum Motor Triac Sensing Circuit Failure (Main Board Failure)
E54	Drum Motor Blocked Alarm (only for Async Motor)	Pauses cycle execution		YES	YES	-	-	-	NO	YES	NO	-	-	-	1. Too much load into the drum 2. Too low power supply voltage 3. Drum/Motor mechanical abnormal frictions 4. Drum Motor Capacitor (disconnected or broken) 5. Drum Motor Failure
E55	FCV Safety Alarm	Stops cycle execution		YES	YES		YES	NO		YES	NO	NO	YES	NO	Not implemented
E56	FCV motor plug not connected	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. Motor Wiring 2. Motor Windings 3. FCV Board
E57	FCV Current Trip Failure	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. FCV Board - Motor Wiring 2. Motor Connector 3. FCV Board
E58	FCV over current Failure	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. FCV Board - Motor Wiring 2. Motor Connector 3. Motor mechanical blockage 4. FCV Board
E59	FCV - motor not following	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. FCV Board - Motor Wiring 2. Motor Connector 3. Motor mechanical blockage 4. FCV Board

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	
E5A	FCV Board overheating	Stops cycle execution		YES	YES		YES	YES	NO	YES	YES	NO	YES	YES	1. Motor mechanical blockage 2. FCV Board
E5B	FCV under voltage Failure	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. Main Board - FCV power supply wiring 2. FCV Board Failure
E5C	FCV over voltage Failure	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. FCV BOARD Failure
E5D	FCV Failure	No Action		YES	YES		YES	NO		YES	NO	NO	YES	NO	Not implemented
E5E	FCV unknown message Failure	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. Main Board - FCV communication wiring 2. Main Board - FCV power supply wiring 3. Motor Thermal Cutoff 4. Main Board or FCV Board Failure
E5F	FCV Failure	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. FCV BOARD Failure
E61	Compressor Hardware Failure	Stops cycle execution	-	-	-		YES	NO		YES	NO	NO	YES	NO	VSC Board
E62	Heater/Compressor Short Circuit Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	With Line Safe Relay Open, motor sensing detects voltage on heaters. 1. Heater/Compressor Short Circuit to ground Heaters or Wiring) 2. Electrical Noise 3. Line Safe Relay Problem (Main Board Failure)
E63	Heater/Compressor Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	1. Heater/Compressor Disconnected (Wiring or Connector Failure) 2. Heater/Compressor Failure 3. Heater/Compressor Relay Failure (Short Circuit, Open Circuit)
E64	Heater/Compressor Sensing Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Heater/Compressor Sensing Circuit Failure (Main Board Failure)
E65	VSC Safety Alarm	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	VSC Board faulty (compressor inverter board)(models with VSC only)

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	
E66	VSC motor plug not connected	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. Motor Wiring 2. Motor Windings 3. VSC Board
E67	VSC Current Trip Failure	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. VSC Board - Motor Wiring 2. Motor Connector 3. VSC Board
E68	VSC over current Failure	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. VSC Board - Motor Wiring 2. Motor Connector 3. Motor mechanical blockage 4. VSC Board
E69	VSC - motor not following	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. VSC Board - Motor Wiring 2. Motor Connector 3. Motor mechanical blockage 4. VSC Board
E6A	VSC Board overheating	Stops cycle execution	-	-	-		YES	YES	-	-	-	NO	YES	YES	1. Motor mechanical blockage 2. VSC Board
E6B	VSC under voltage Failure	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. Main Board - VSC power supply wiring 2. VSC Board Failure
E6C	VSC over voltage Failure	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. VSC BOARD Failure
E6D	VSC Failure	No Action	-	-	-		YES	NO	-	-	-	NO	YES	NO	
E6E	VSC unknown message Failure	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. Main Board - VSC communication wiring 2. Main Board - VSC power supply wiring 3. Main Board or VSC Board Failure
E6F	VSC Failure	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. VSC BOARD Failure

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	
E71	Drying NTC Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	NLCD reading out of Range 1. Wiring Failure 2. NTC Failure 3. NTC reading circuit Failure (Main Board Failure)
E72	Heaters NTC Alarm	Stops cycle execution	-	-	-	YES	YES	NO	YES	YES	NO	YES	YES	NO	NTC2 reading out of Range 1. Wiring Failure 2. NTC Failure 3. NTC reading circuit Failure (Main Board Failure)
E73	Condenser NTC Alarm	Stops cycle execution	-	-	-	YES	YES	NO		YES	NO	YES	YES	NO	NTC3 reading out of Range 1. Wiring Failure 2. NTC Failure 3. NTC reading circuit Failure (Main Board Failure)
E82			-	-	-	-	-	-		YES	NO	-	-	-	Not implemented
E83	Selector Position Code Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	The code read on the selector is not supported by the configuration data (UI Board Failure)
E86	Selector configuration table error	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	1. Wrong selector configuration (MCF) 2. User Interface Failure
E87	UI board microcontroller self test failure	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	UI board microcontroller defective
E91	User Interface Communication Alarm	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	1. Wiring Failure 2. User Interface Board Failure 3. Main Board Failure
E92	User Interface Protocol Incongruence Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	The User Interface mounted is not compatible with the Main Board connected

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	
E93	MCF Checksum Alarm	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Wrong Machine Configuration File
E94	CCF Checksum Alarm	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Wrong Cycle Configuration File
E97	Missing Program on CTF Alarm	Stops cycle execution	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	1. Wrong selector configuration (MCF) 2. Missing cycle on cycle table (CCF)
E98	FCV/Power Board protocol incongruence	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. FCV Board 2. Main Board Configuration
E99	Coin meter absent (removed) alarm	Don't allow cycle execution	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	1. Wiring Failure 2. Coin meter Board Failure 3. Main Board Failure
E9C	User Interface configuration checksum alarm	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	
E9E	User Interface touch sensor not working	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	One or more touch buttons have calibration problems. 1. Electrical noise 2. Humidity/water on UI board 3. UI board defective
EH1 (EB1)	Power Supply Frequency out of Range	Pauses Cycle execution	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	1. Power Supply Problems 2. Wrong MCF 3. Main Board failure
EH2 (EB2)	Power Supply Amplitude out of Range (too HIGH)	No Action	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	1. Power Supply Problems - Too HIGH VOLTAGE 2. Wrong MCF 3. Main Board failure
EH3 (EB3)	Power Supply Amplitude out of Range (too LOW)	Pauses Cycle execution	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	1. Power Supply Problems - TOO LOW VOLTAGE 2. Wrong MCF 3. Main Board failure

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	
EH4 (EB4)	Zero Watt Relay Alarm	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Zero Relay does not open the power supply (Main Board Failure) The machine functionality is not affected by this fault, on the consumption in standby is higher
EHD (EBD)	Line Safe Short Circuit Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	With Line Safe Relay Open, motor sensing detects voltage coming form any load. 1. Any Load Short Circuit to ground (Motor, Heaters or Wiring) 2. Electrical Noise 3. Line Safe Relay Problem (Main Board Failure)
EHE (EBE)	Line Safe Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Line Sage Relay Problem (Main Board Failure)
EHF (EBF)	Line Safe Sensing Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Line Safe Sensing Circuit Failure (Main Board Failure)
EC3	Condenser Heating Timeout	No Action	-	-	-	NO	YES	NO	-	-	-	NO	YES	NO	
EC4	Condenser Heater Short Circuit Alarm	Stops cycle execution	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	
EC5	Condenser Heater Alarm	Stops cycle execution	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	
EC6	Condenser Heater Sensing Alarm	Stops cycle execution	-	-	-	YES	YES	YES	-	-	-	YES	YES	YES	Condenser Heater Sensing Circuit Failure (Main Board Failure)
EC7	Condenser Pump Alarm	Stops cycle execution	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	
EC8	Condenser Pump Diode Alarm	No Action	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	
EC9	Condenser Pump Sensing Alarm	Stops cycle execution	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	Condenser Pump Sensing Circuit Failure (Main Board Failure)

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	Enabled in	Enable	Display	
ECA	Possible Empty Steam Tank	No Action	-	-	-	YES	YES	YES	-	-	-	YES	YES	YES	
ED1	HP fan alarm (only for HP version)	Stops cycle execution	-	-	-	-	-	-	YES	YES	NO	-	-	-	
ED2	HP Fan Sensing Alarm (only for HP version)	No Action	-	-	-	-	-	-	YES	YES	NO	-	-	-	Compressor Cooling Fan Sensing Circuit Failure (Main Board Failure)
ED3	HP Fan Alarm	Stops cycle execution	-	-	-	-	-	-	-	-	-	YES	YES	NO	
ED4	HP Fan Sensing Alarm	No Action	-	-	-	-	-	-	-	-	-	YES	YES	NO	Compressor Cooling Fan Sensing Circuit Failure (Main Board Failure)
ED5	HP Circuit Alarm	No Action										YES	YES	NO	No Gas in Compressor
EF6	Safety Reset	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Certification protection failure.
EF8	Coin meter communication alarm	No Action	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	1. Wiring Failure 2. Coin meter Board Failure 3. Main Board Failure

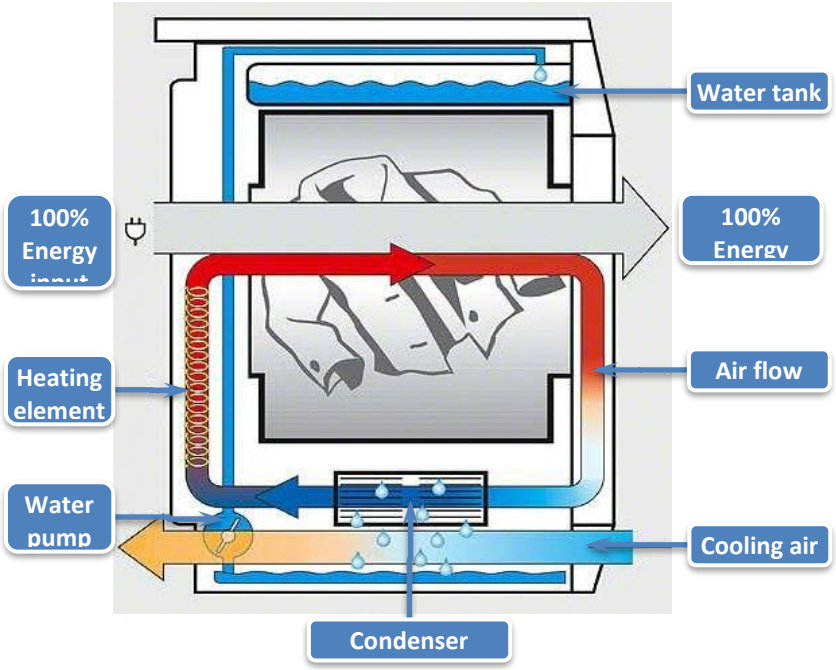
9 DEFINITION OF TERMS, ACRONYMS AND ABBREVIATIONS

TD	Tumble Dryer
UI	User Interface
PCB	Printed Circuit Board
MB	Main board, Motherboard
NTC	Negative Temperature Coefficient
MCF	Machine Configuration File
CCF	Cycle Configuration File
FCV	Filed Controlled Vector, generally used to indicate motor control board
VSC	Variable Speed Compressor
OPTIFLOW	Refers to new Heat pump design
P-ONE	New Aesthetics design (All new models are P-ONE which includes Standard or Heat pump OPTIFLOW)
Standard	Refers to models with heating element

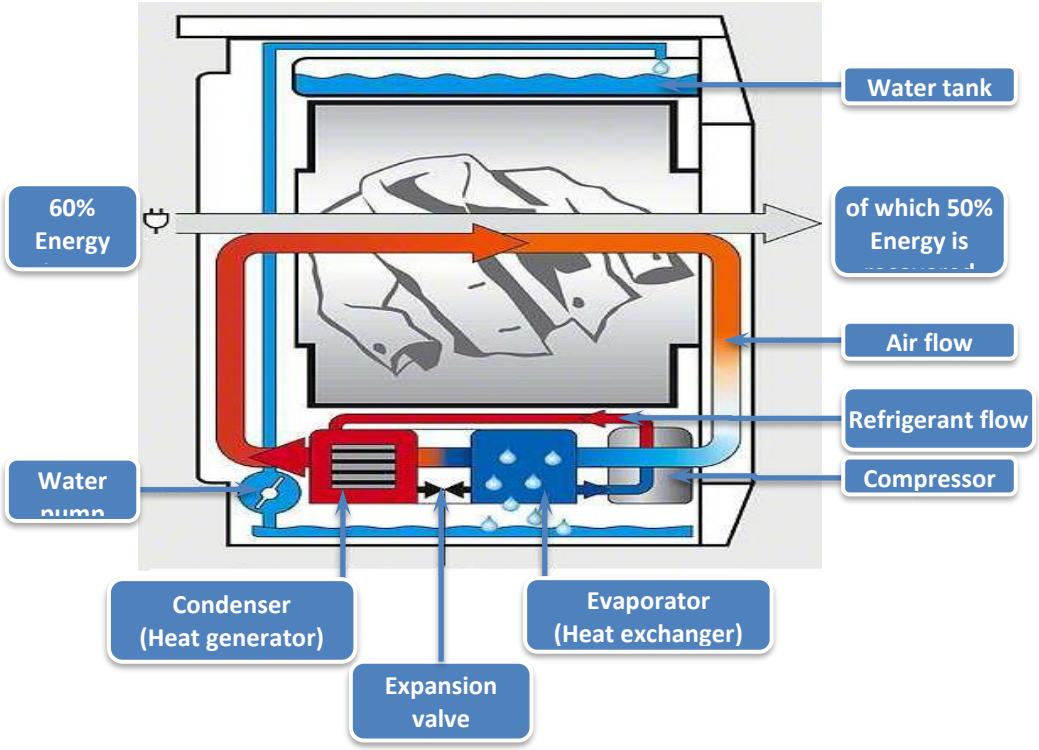
10 OPERATING PRINCIPLE

10.1 OPERATING PRINCIPLE

Standard Condenser drying system

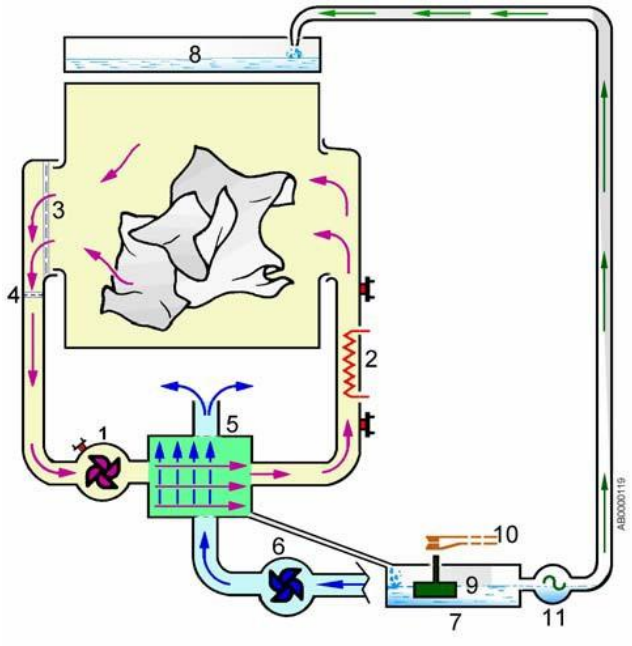


Heat pump Condenser drying system



10.2 CONDENSE DRYERS - DRYING CIRCUIT

Operating principle



1. Hot air fan
2. Heater unit
3. Fluff filter
4. Fluff filter

5. Heat exchanger
6. Cold air fan
7. Condensation collection tray
8. Condensation collection tank
9. Float device
10. Micro switch
11. Condensation water suction pump

There are two air groups inside the appliance:

- One hot one closed in on itself inside the appliance;
- One open cold one, for the circulation of ambient air through the condenser.

The first air group, which is hot and closed in on itself, circulates inside the appliance:

The fan (1) pushes air inside the heat exchanger (5), and from this via the heater unit (2), the air heats up and via a conveyor enters inside the drum passing through the holes in the back panel. The warm dry air moves through the laundry moving in the drum removing the dampness and transforming it into warm damp air; this exits from the front part of the drum through the fluff filter (3) and the lower filter (4), and is then channelled through the conduit to the fan (1); from here it is pushed inside the heat exchanger (5) where dampness is condensed. When this comes out, we have dry air and the cycle continues as described above.

The second air group, the one circulating ambient air through the condenser:

The fan (6) takes in ambient air through an air inlet in the back panel, pushing it into the heat exchanger (5), and cooling it. The air comes out on the opposite side of the exchanger, dispersing inside the appliance and coming out of the slots in the kick plate.

The two air groups, the damp hot one and the cold one cross over in the heat exchanger (5), producing heat exchange and, therefore, condensation of the humidity.

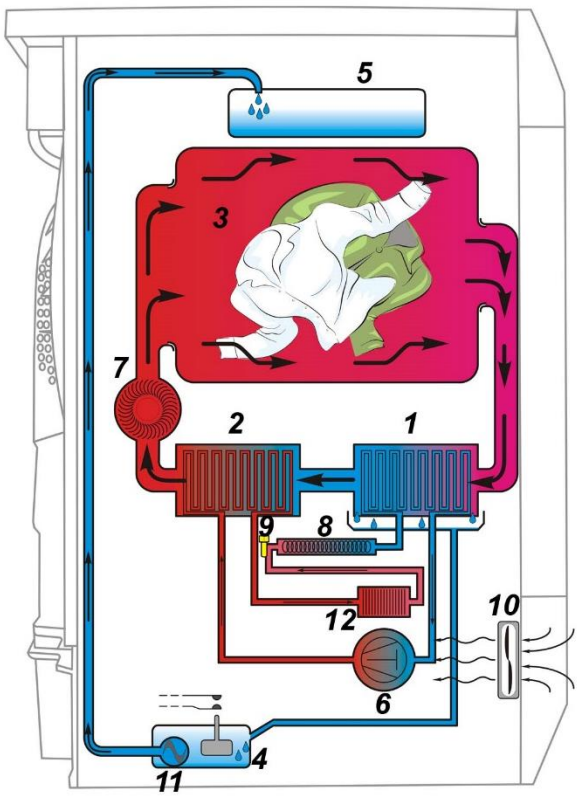
The condensation water that forms inside the exchanger is collected in a trap (7) where there is a float (9) that informs the circuit board that water is present, so the circuit board powers a pump (11) which conducts the water from the trap (7) to the tank (8).

The tank was designed to collect the condensation water of a complete cycle with a full load, so approximately 5.5 litres.

If for any reason the tank is filled beyond its capacity, any overflowing water is collected by the tank support and channelled along a pipe (not shown in the diagram) back inside the trap (7), moving the float (9) up, and thus activating the micro switch (10). The electronic control unit makes 7 attempts to empty the trap in specific amount of time, after which the electronic control unit recognizes the problem and cuts off the electricity supply to the appliance and lights a LED to inform the user that the tank is full.

10.3 HEAT PUMP DRYERS - DRYING CIRCUIT

Operating principle with auxiliary condenser



1. Evaporator	7. Air circulation fan
2. Condenser	8. Capillary tube
3. Drum	9. NTC sensor
4. Condensation collection tray	10. Compressor cooling fan
5. Condensation collection tank	11. Condensation water suction pump
6. Compressor	12. Auxiliary condenser

The cycle of the tumble dryer heat pump consists in evaporating, compressing, condensing and expanding the refrigerant.

By pressing the START/PAUSE button the drying cycle begins, the gas in the circuit is conveyed by the compressor (6) to the condenser (2), where at the outlet the circulation pipe known as capillary (8) narrows. This capillary slows down the release of gas and ensures that the pressure inside the condenser (2) increases bringing the gas to a liquid status and a pressure level of around 27 bar.

This rise in pressure subsequently increases the temperature of the gas that is now liquid inside the condenser (2) reaching around 53°C.

The air circulated by the fan (7) passes through this condenser (2) overheating before entering the drum (3) where the washing is located.

The evaporator (1) is located at the capillary outlet (8) with the gas circulation pipe being larger than the capillary which thus expands the hot, liquid gas coming from the condenser (2).

This gas expansion means that the gas in its liquid state once again becomes a gaseous state causing the gas itself to cool and subsequently cooling the entire evaporator, bringing it to a temperature of around 20°C.

The, by now hot air is circulated by the fan (6) and passes through the washing in the drum (3) absorbing humidity and reaches the evaporator (1) humid and hot. The latter which is now at a lower temperature thanks to the expansion of the gas ensures that all the humidity in the circulating air condenses.

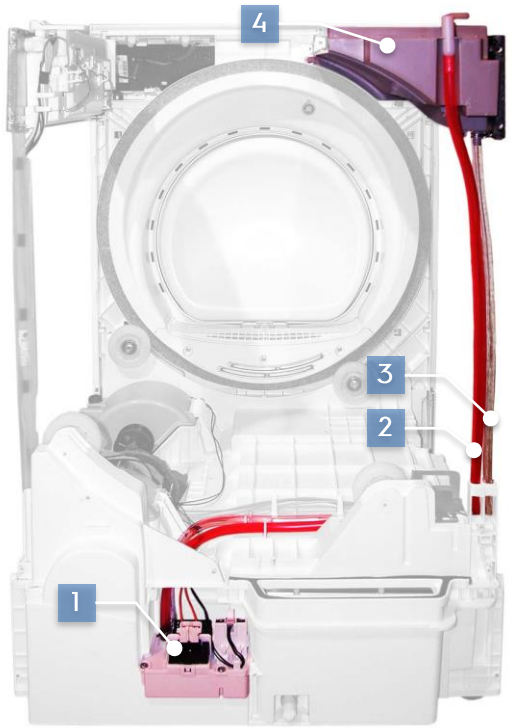
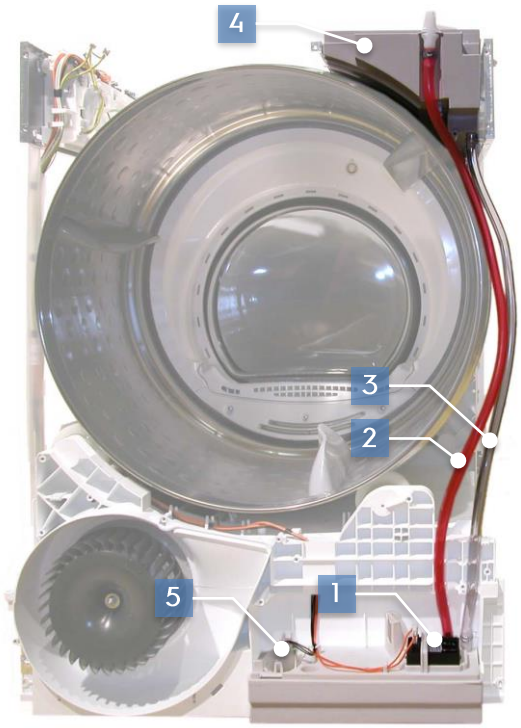
The condensed water created is collected in a tray (4) and conveyed via a pump to the tank (5) located above the drum.

At this point, the air is now cold and dry and goes through the condenser (2) again, once again overheating before entering the drum (3) and the gas now cooled in the evaporator (1) returns to the compressor where it will once again be compressed and sent into the condenser (2) re-starting the cycle.

The entire gas evaporating and compressing system is kept in balance by a NTC (9) located at the entrance to the capillary (8). This collaboration with the main circuit board ensures that if the outgoing temperature from the condenser surpasses a certain level a fan (10) located in front of the compressor starts working and lowers the temperature.

In the models with auxiliary condenser, the operating principle remains the same and the only single variant is in the auxiliary condenser positioned in series to the main condenser. This ensures that the whole system is better balanced, thus increasing performance.

10.4 WATER CIRCUIT – CONDENSE / HEAT PUMP

Condense	Heat Pump
	

1. Pump immersed in the trap.
2. Tank water drain pipe (red).
3. Water overflow drain pipe (transparent).
4. Tank support.
5. Level sensor.

The condensation water that forms inside the exchanger is collected in a trap.

There is a float (5) inside this trap that informs the circuit board that there is water. This powers a pump (1) which conveys the water through the red pipe (2) from the trap to the tank inserted in the tank support (4).

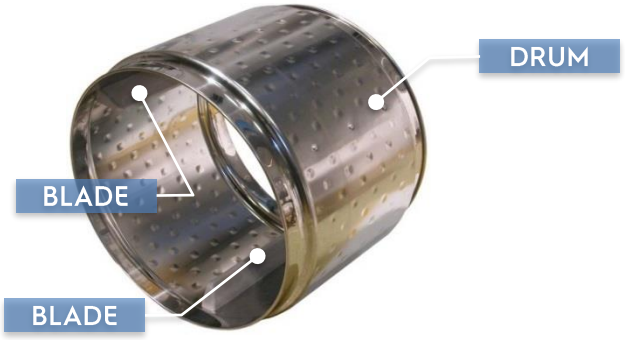
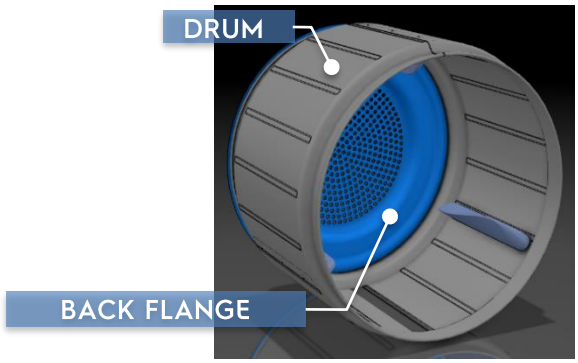
The tank was designed to receive the condensation water of a complete cycle at full load, approximately 5.5 litres.

If, for whatever reason, the tank fills up beyond its capacity, the overflowing water is collected by the support tank and via the transparent pipe (3), is re-conveyed inside the trap pushing the float (5) upwards and this activates the micro-switch. The electronic makes 7 attempts to empty the trap within a set time, after which the electronic control recognises the problem and disconnects the power supply to the appliance and lights up a LED informing the user that the tank is full.

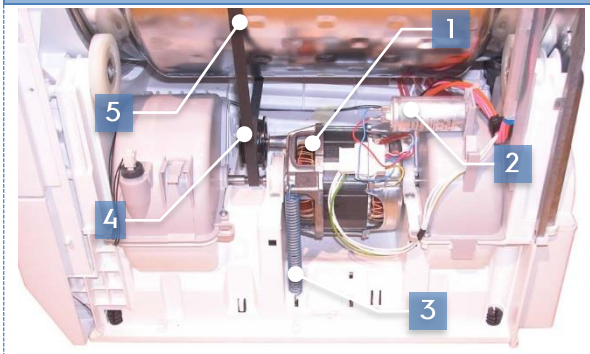
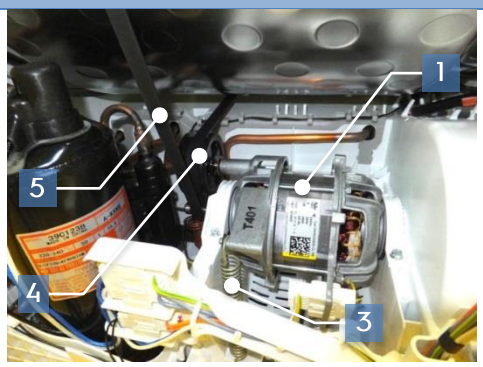
11 FUNCTIONAL PARTS

11.1 DRUM

The drum is made up of steel or zinc casing where inside there are three blades positioned at 120° one from the other which move the washing around during drum rotation.

Sahara	Optiflow
	

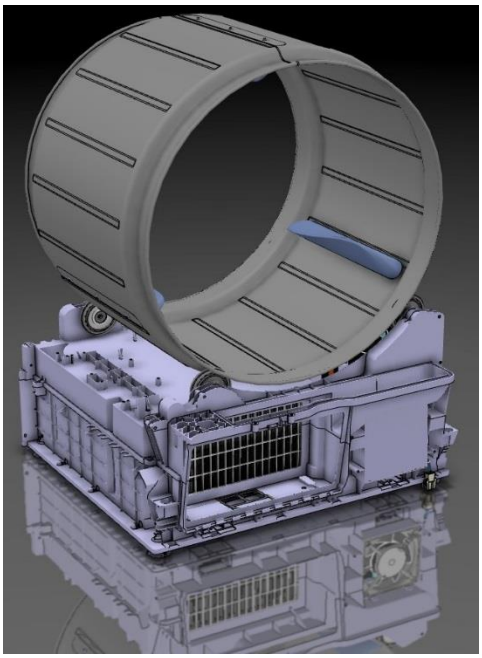
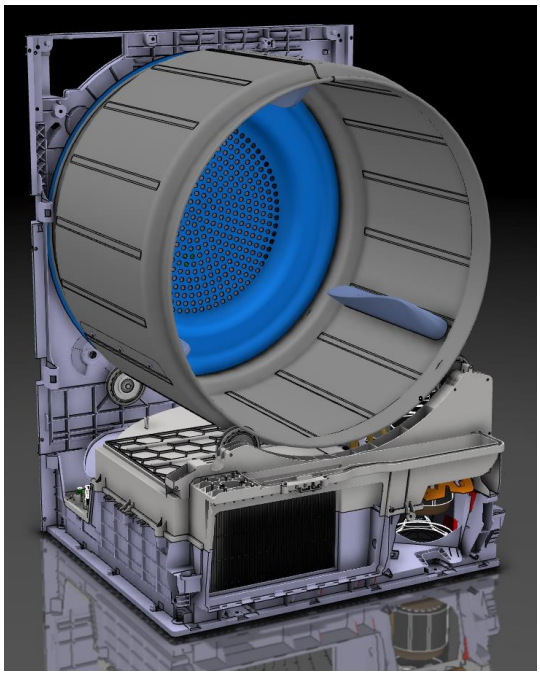
11.2 DRUM ROTATION PRINCIPLE

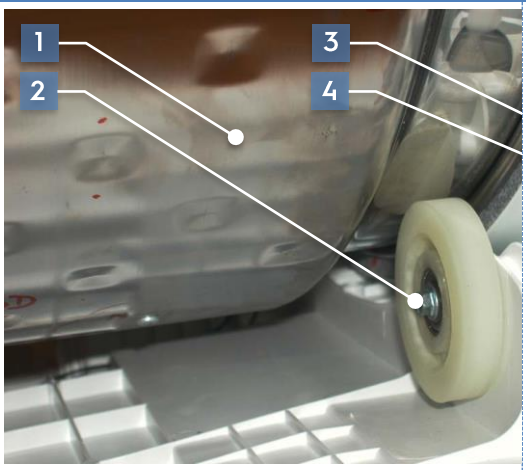
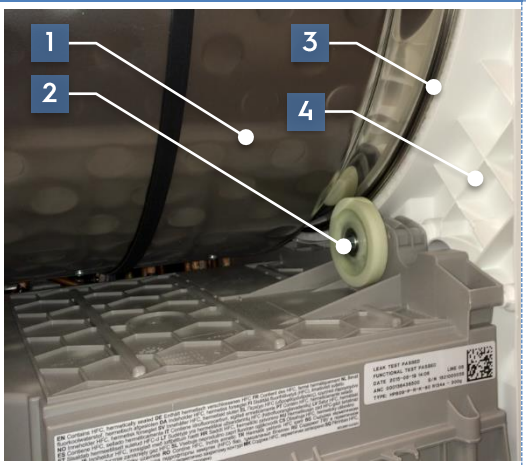
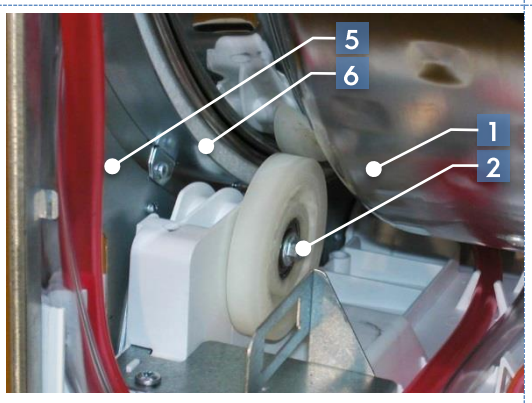
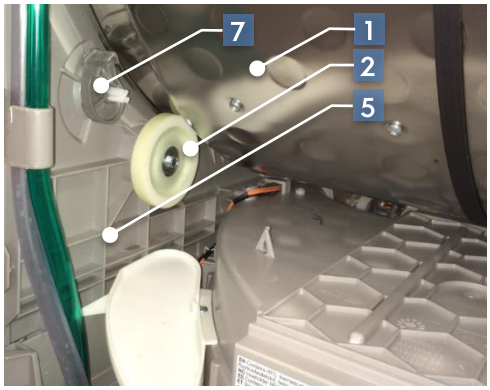
CONDENSE	HEAT PUMP	
		1. Motor 2. Run capacitor 3. Belt tensioner spring 4. Belt tensioner 5. Belt

The drum rotation occurs through a belt (5), which is moved by the motor pulley (1) secured to the base. There is a belt tensioner (4) on the motor casing, which increases the angle at which the belt winds onto the drum and works together with the belt tensioner spring (3).

Two-way rotation of the drum is determined by the circuit board, which reverses the direction of power supplied to the motor briefly. The drum rotating in the opposite direction allows the laundry to untangle. During these times, the heater unit is cut out.

11.3 AIR SEAL AND DRUM ROLLERS

Sahara(standard)	Optiflow(Heat pump)
	
Back side – rollers mounted on the upper part of the basement Front side – rollers mounted on the upper part of the basement	Back side – rollers attached to the back panel Front side – rollers mounted on the upper part of the basement

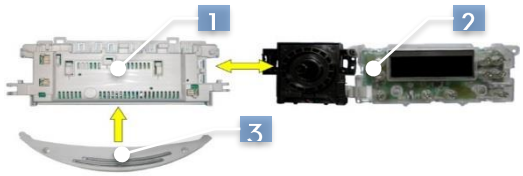
	Sahara	Optiflow
Front air seal		
Rear air seal		

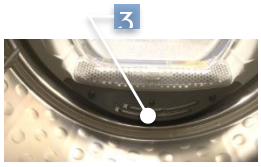
1. Drum
2. Drum rotation roller
3. Front air seal
4. Front air conduit
5. Back panel
6. Rear air seal

Drum lock*

12 ELECTRICAL EQUIPMENT

12.1 CONDUCTIVITY SENSOR





1. Main electronic circuit board
2. Control board
3. Conductivity sensor

These electronics use a conductivity sensor, comprising an electronic circuit (located inside the main circuit board) and a part outside the board comprising two sensors positioned on the front air conduit.

When the drum is empty, there is an infinite impedance between the two sensors, while its value is affected by the washing load, by the type of fabric and by the degree of humidity in the washing placed inside the drum.

The main circuit board continuously receives information about the condition of the laundry inside the drum via the conductivity sensor, receives the settings made by the operator at the start of the cycle via the control board and processes these values in order to determine the amount of time left until the end of the cycle.

12.2 TANK FILLING PUMP

Label colour	Red	White	
Insulation class	130	130	155
Motor type	Asynchronous	Asynchronous	Asynchronous
Volt (V AC)	220-240	220	220-240
Frequency (Hz)	50	60	50
Power (W)	5	10	5
Resistor at 20°C (Ω)	778 ± 8 %	479 ± 8 %	764 Ω ± 10%

The pump is activated by a synchronous motor and is used to pump condensation water from the tray to the tank.

The pump is powered by a TRIAC on the main board.

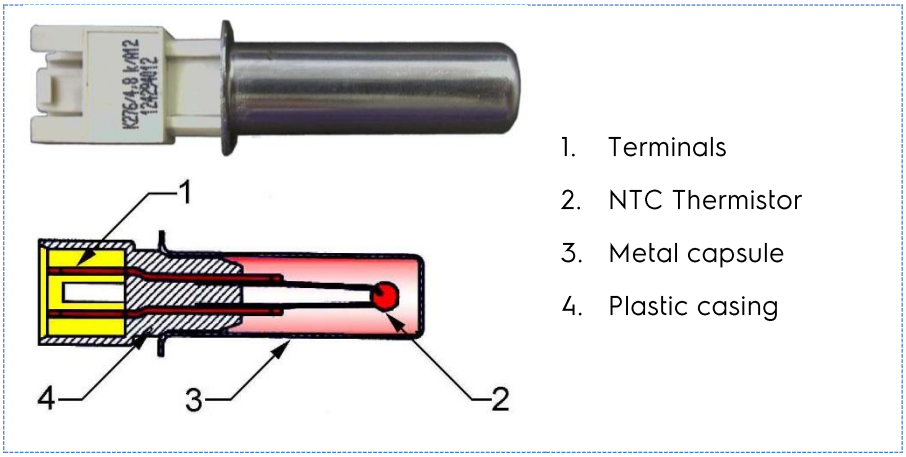
12.3 LEVEL SENSOR

The condensation water level sensor is fitted on the rear of the tumble dryer and beside the tank filling pump.

It consists of a float with a magnet at the top and a reed switch positioned on the float guide/support.

When the water forming on the heat exchanger (condenser) falls into the collection tray this causes the float to rise up subsequently bringing the magnet closer to the reed switch which sends a signal to the main circuit board activating the tank loading pump.

12.4 NTC PROBES

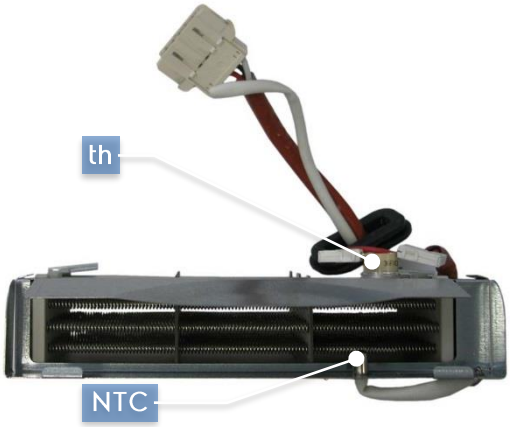


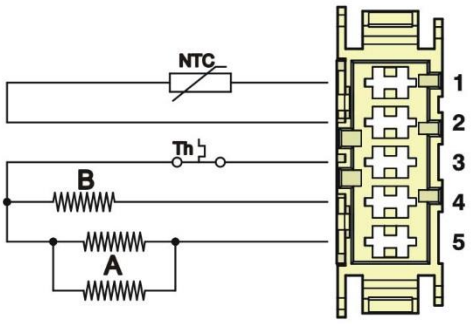
1. Terminals
2. NTC Thermistor
3. Metal capsule
4. Plastic casing

This sensor is fixed to: the front fan cover (hot air circulation, condense dryers only) or capillary tube (heat pump dryers only) and additionally to kick plate panel (heat exchanger compartment,.Optiflow structure only). It comprises a NTC Thermistor, inserted in a metal capsule. The resistance of NTC will decrease as the temperature increases. The electronic circuit reads the value of the NTC Thermistor (which depends on the temperature inside the tumble dryer) and when it drops below a certain value, cuts the power supply to the heater unit. As the air cools, the value of the resistance of NTC increases, and when it reaches a certain value the electronic circuit restores the power supply to the heater unit. This occurs every time the temperature inside the appliance exceeds a given value, which varies according to the drying cycle that has been selected.

Temperature (°C)	NTC Thermistor Ω		
	Rated value	Maximum Value	Minimum value
20 60 80	6050 - 5617 1393 - 1250 725 - 640	6335 - 5686 1419 - 1222 743 - 620	5765 - 5548 1367 - 1278 707 - 660

12.5 HEATER UNIT





A=Heating element filament.

B=Heating element filament.

Th=Safety thermostat.

NTC=Safety thermostat/probe.

The heater unit is made up of two heating elements with different powers, inserted in ceramic supports and the whole is surrounded by a sheet metal casing.

A normally closed safety thermostat and an NTC are fixed to one side of the container:

The NTC informs the main circuit board if there is an excessive rise in temperature due to various reasons, and the board intervenes by cutting off the power to the heating element and starting a cooling cycle so as not to damage the laundry inside the drum.

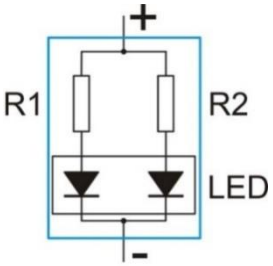
The thermostat (th) triggers at 140 °C ± 5 and, after opening the contact, it remains in this state and cuts the power supply permanently.

WARNING
Faulty thermostat

- If the thermostat is faulty, the entire heater unit must be replaced!

NTC probe		Heating element				
Temperature (°C)	Ω		Rated power (W)		Resistance 20 °C (Ω)	
25	4997	Voltage (V)	Branch A (3-5)	Branch B (3-4)	Branch A (3-5)	Branch B (3-4)
100	476	230	950 950	700	49.23 49.23	66.81
200	59.21		1900		24.61	
		230	700 700	700	66.81 66.81	66.81
			1400		33.40	
		240	950 950	700	53.60 53.60	72.75
			1900		82.6	

12.6 DRUM LIGHT



R1	3.3Ω
R2	3.3Ω
Current	150mA
Power	3.3V

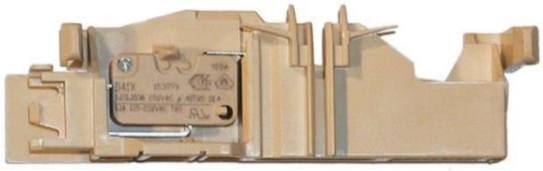
The drum light consists of a high luminosity LED diode inserted in a plastic support and fitted onto the front air conduit.

The lamp is powered directly by the main circuit board when the door is opened with a voltage of 5V.

12.7 COMPRESSOR COOLING FAN

Axial fan on ball bearings	
Power supply voltage	132-240V 50-60Hz
Power consumed	23W
Rotating speed rpm	2600/3000
Air flow at 2600 rpm	2.32m³
Air flow at 3000 rpm	2.72m³

12.8 DOOR MICRO-SWITCH



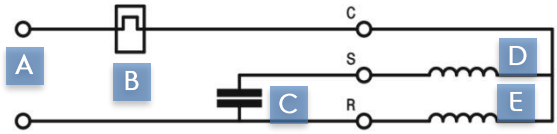
The door switch makes it possible for the electric comP-ONEnts to be powered after the door has been closed.

The switch is located above the door and it is closed, when the door itself is closed, by means of a pin located on the door itself.

The LED lights and level sensor is positioned on the left side of the tank containing the water necessary to generate steam.

It consists of 5 LED diodes (**1**) which only light up if you select a cycle that uses steam and a magnetic switch (**2**) that is triggered by a float with a built-in magnet found inside the tank.

12.9 COMPRESSOR



A Line

B Heat protection

C Run capacitor

D Auxiliary coil

E Primary coil

The compressor activates the coolant fluid circuit.

Power supply voltage 220V 50Hz

Power consumed 480 Watt.

Main coil resistance	6.84Ω	± 7%
Auxiliary coil resistance	5.88Ω	± 5%
Overall weight	8.5kg	

Oil 210cm³ +-10cm³ NMOC Ze – Gles RB68EP

12.10 OVER LOAD PROTECTOR

The heat protection is formed by a bimetallic which intervenes when the motor - due to excess effort - increases current absorption and consequently rises in temperature.

12.11 START-UP CAPACITOR

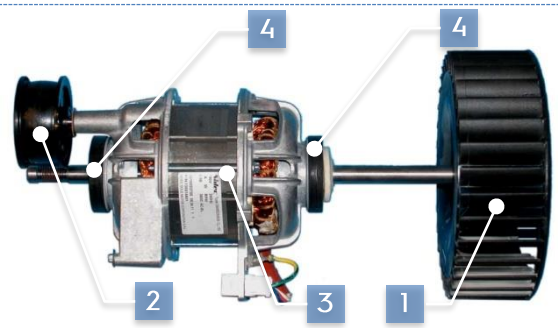
The start-up capacitor enhances the performance of the compressor motor.

18µF 400V

425V~ 10 000h cl.B

475V~ 3 000h cl.C

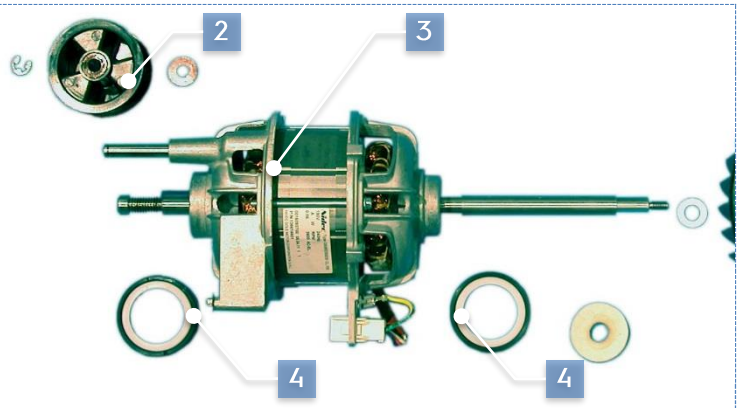
12.12 MOTOR – HEAT PUMP DRYERS

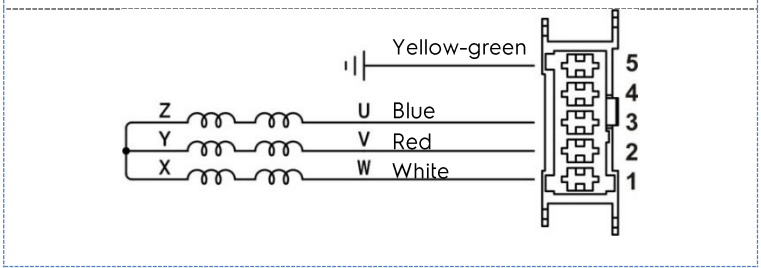


1. Fan (with hot air circulation straight blades)
2. Belt tensioner
3. Motor
4. Vibration damping bushes

The asynchronous three-phase motor used in this tumble dryer has permanent magnets and is driven directly by the main board.

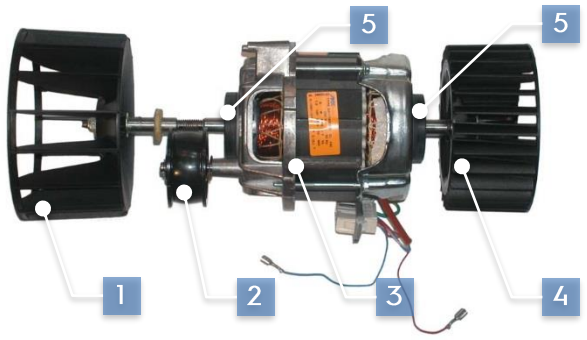
The motor unit consists of a belt tensioner (2) situated on an axis on the motor casing and secured by a spring ring, with one fan (1) for the circulation of hot air, bolted to the motor shaft, of the motor (3) with thermal cut-out and two vibration damping bushes (4) positioned on the two motor casings. The motor power connector is located on a shaft fixed to a casing.





Technical detail	
	Three-phase or Inverter
Power supply voltage	230 V
Frequency	50 Hz
RPM	2700
Coil resistance 1 – 2	20.4 Ω ± 7 % at 20 °C
Coil resistance 1 – 3	20.4 Ω ± 7 % at 20 °C
Coil resistance 2 - 3	20.4 Ω ± 7 % at 20 °C

12.13 MOTOR – CONDENSE DRYERS (STANDARD)

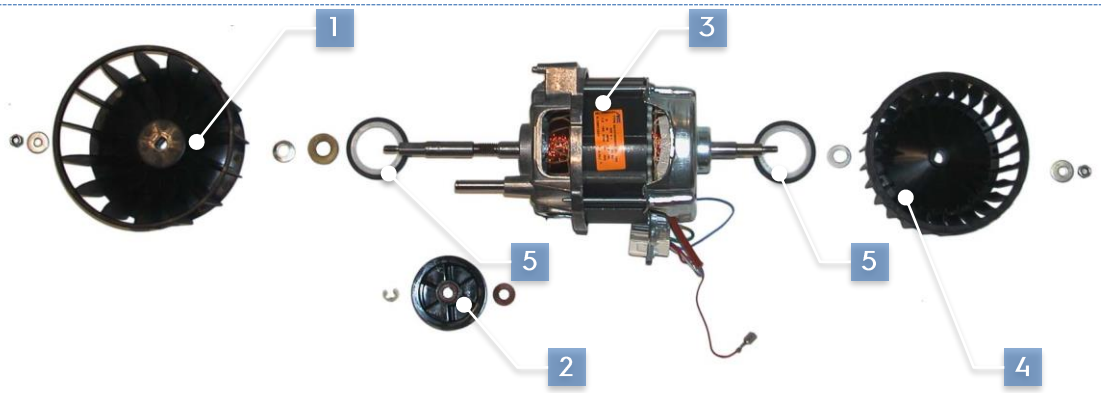


5. Fan (with hot air circulation straight blades)
6. Belt tensioner
7. Motor
8. Fan (with cold air circulation inclined blades)
9. Vibration damping bushes

Both the asynchronous single-phase motor and the asynchronous three-phase or inverter motor look the same. The only difference lies in the connections and operation.

While the former is controlled directly by the main board, the latter needs a specific board (Inverter motor control board), which in turn receives commands from the main circuit board.

In both cases, the motor unit consists of a belt tensioner (2) situated on an axis on the motor casing and secured by a spring ring, of two fans (1 and 4) respectively for the circulation of cold air and hot air, which are bolted to the motor shaft, of the motor (3) with thermal cut-out, of two vibration damping bushes (5) positioned on the two motor casings and a variety of spacers (washers). The motor power supply connector is situated on a bracket which is screwed onto the lamellar bundle.

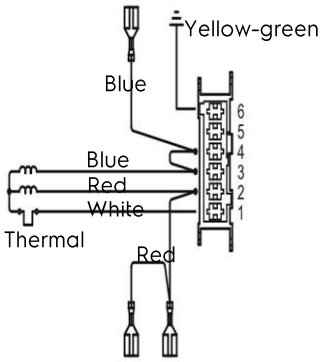


WARNING

Fan reassembling

- When refitting the fans onto the motor, do not invert them otherwise the air circulation inside the tumble dryer will not work properly.

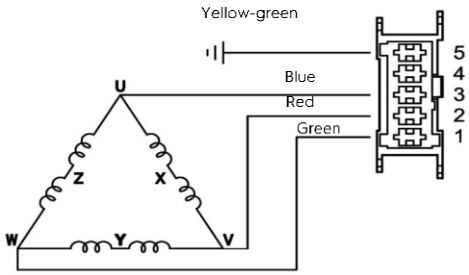
Asynchronous single-phase motor



Technical detail

	Single-phase	Three-phase or Inverter
Power supply voltage	220 V	230 V
Frequency	50 Hz	60 Hz
Power	167 W	-
RPM	2660	3600
Coil resistance 1 - 3	18.1 Ω ± 7 % at 20 °C	26.7 Ω ± 7 % at 20 °C
Coil resistance 1 - 2	18.1 Ω ± 7 % at 20 °C	26.7 Ω ± 7 % at 20 °C
Coil resistance 2 - 3	-	26.7 Ω ± 7 % at 20 °C
Thermal cut-out activation	150 °C ± 5 °C	-

Asynchronous three-phase or Inverter motor



13 DISASSEMBLY

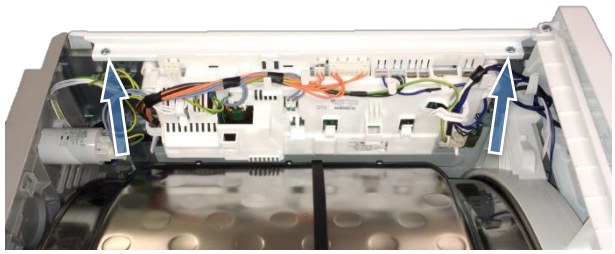
Note: Some components in the photo instructions below may look different than the model you are repairing. Assembly/disassembly methods remain the same regardless of machine aesthetics.

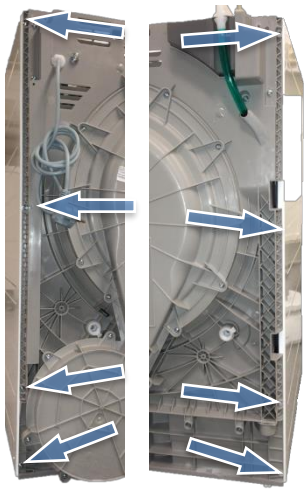
13.1 WORKTOP

Standard	OPTIFLOW (HP)
	 
Remove the tank. Loosen the front fixing screw.	Loosen the 2 rear fixing screws. Move the worktop towards the rear and remove it.

13.2 SIDES

Standard and HP



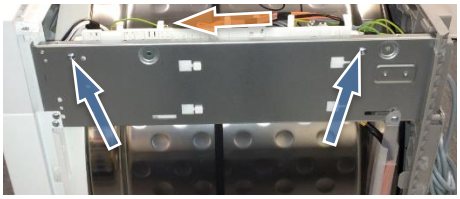


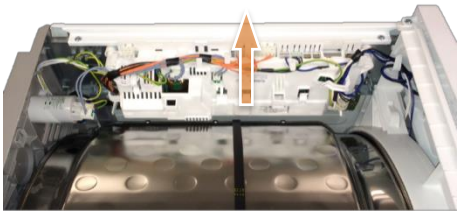
Remove the worktop.

Loosen the screws that secure the sides to the top crossbars.

Loosen the 4 screws for each side panel from the rear of the tumble dryer.

14 MAIN CIRCUIT BOARD





Remove the worktop.

Remove the right side panel.

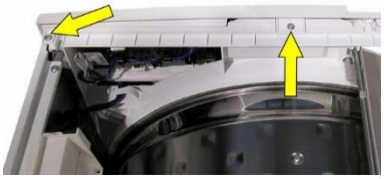
Release the fixing clips from the board guard and remove it by pulling it up.

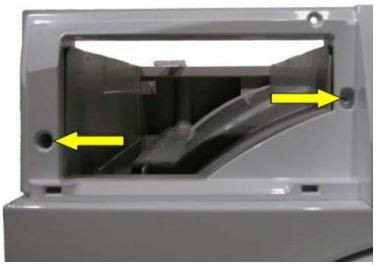
Disconnect all connectors, making a note of their positions.

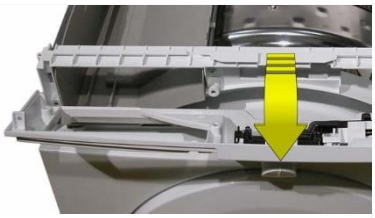
Remove the two fastening screws from the crossbar.

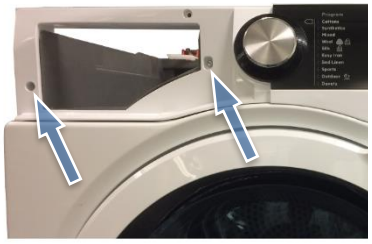
Move the entire board assembly to the left so as to remove it.

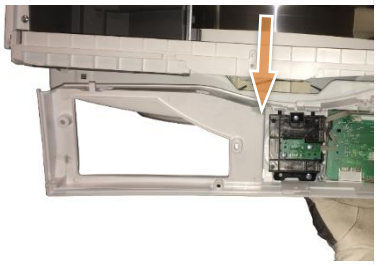
14.1 CONTROL PANEL











Remove the worktop.

Remove the tank.

Loosen the three screws securing the control panel to the uprights and air conduit.

Loosen the 2 screws that secure the control panel to the tank support.

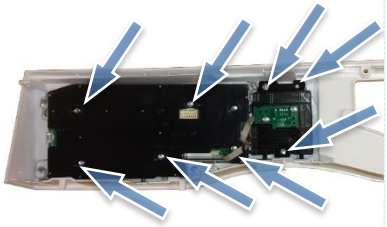
Turn it forward.

Remove the wiring, making a note of the position of the various connectors.

Remove the entire control panel.

14.2 CONTROL BOARD

P-ONE



Remove the six screws, which secure the display board cover and three screws from selector board.

Unclip and take out the selector's box.

Carefully take the cover out and pay attention to the gasket that sits on it.

When reassembing start with the gasket around "MACS In". Using a thin screwdriver put it in the right position, paying attention not to break it, and simultaneously place the cover on the UI board

Release the hooks securing the display board to the control panel.

14.3 DOOR

Remove the tumble dryer door as follows:

Unscrew the 2 screws that hold the door to the front.

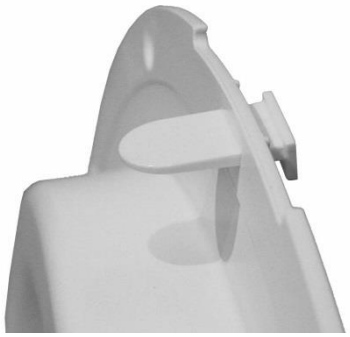
Lift up slightly so that the hook unhooks and remove it.

<u>Warning:</u>

Glass door

- The glass door weighs approximately 4.5 kg

14.4 DOOR MICRO-SWITCH LEVER (TAPPET)



Insert the door micro-switch lever so that the reference pocket is positioned towards the inside the inner frame and it coincides with the notch in the outer frame.

14.5 TRANSPARENT DOOR HANDLE, LATCH AND HINGE

PLASTIC

Unscrew the 13 surrounding screws that attach the inner door frame.

1 Door hinge

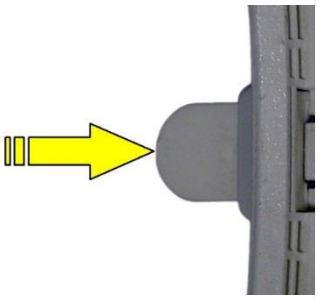
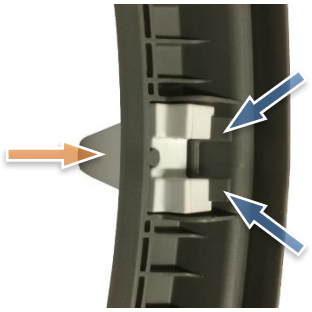
2 Internal door frame

3 Internal transparent plastic pane

4 External transparent plastic pane welded (not removable) with external door frame

5 Plastic cover plate

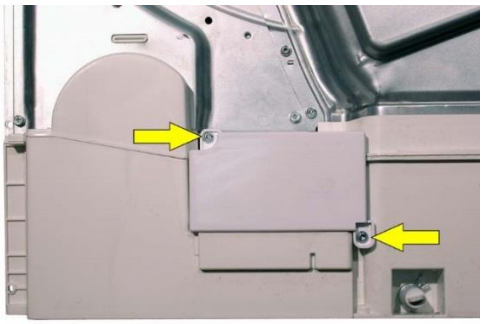
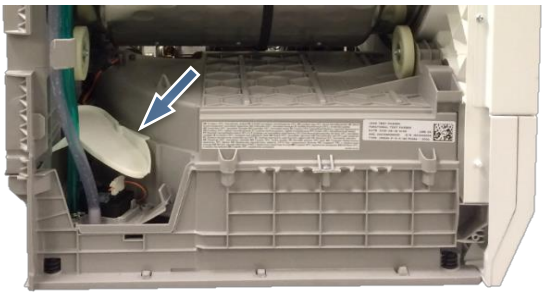
14.6 GLASS / PLASTIC DOOR MICRO-SWITCH LEVER

GLASS DOOR	SAN PLASTIC DOOR
	

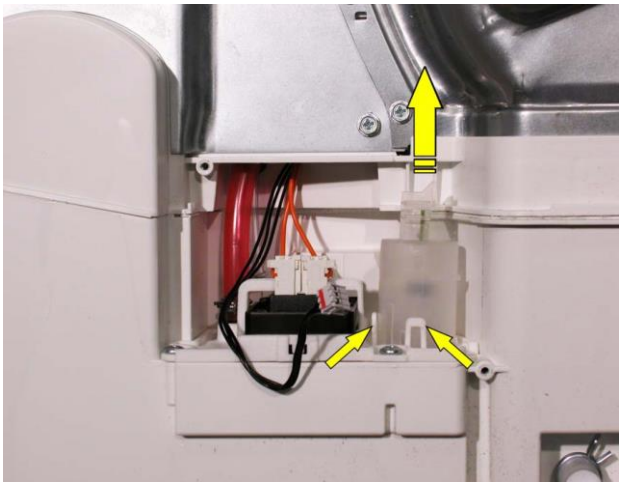
To remove the door micro-switch lever, press the fastening clip (glass door) or the two fastening clips.

Push the lever in the direction shown by the arrow until you have removed it completely. Insert the lever as far as it can go to re-assemble it so that the fastening clips block it

14.7 LEVEL SENSOR AND CONDENSATION WATER PUMP

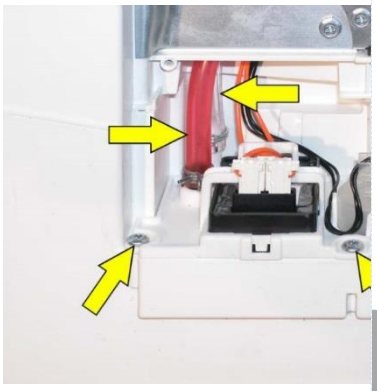
Condense	Heat Pump Optiflow
	
Remove the condensation water filling pump and level sensor cover.	Remove worktop. Remove the left side panel (water tank). Loosen the screw and remove the protection plate.

14.8 LEVEL SENSOR

Condense	Heat Pump Optiflow
	

14.9 CONDENSATION WATER PUMP

Standard



Disconnect the 2 pump connectors and the level sensor connector.

Using pliers, loosen and raise the clamp securing the red pipe (supply) and raise it a few centimeters.

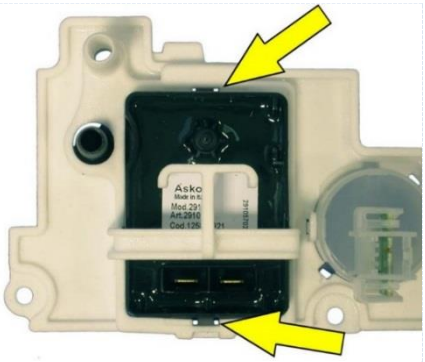
Repeat the operation with the transparent pipe (overflow return).

Warning:

Pipes

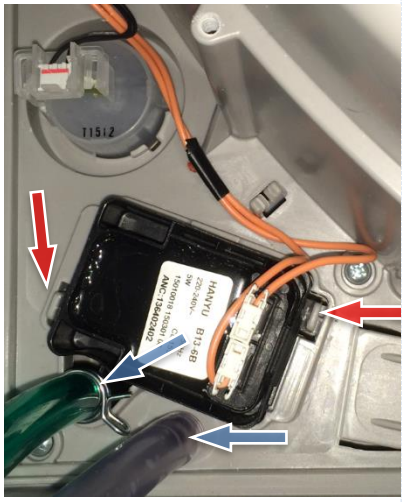
- Make sure both pipes do not return completely into the appliance.

Loosen the 2 screws securing the entire pump support and level sensor to the appliance and remove it without using excessive force.



Insert a screwdriver in the slots indicated by the arrows and remove the pump by pushing it down.

Heat Pump OPTIFLOW



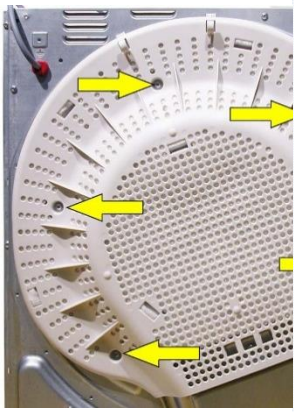
Using pliers, loosen and raise the clamp securing the supply pipe and raise it a few centimetres.

Repeat the operation with the transparent pipe (overflow return)

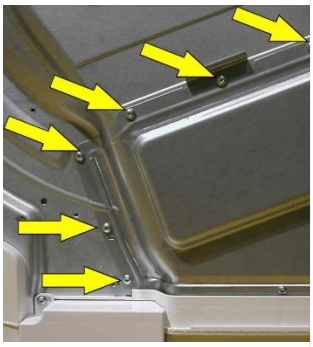
Disconnect the pump connectors.

Insert a screwdriver in the slots indicated by the red arrows and remove the pump by rotating it clockwise and pulling it up.

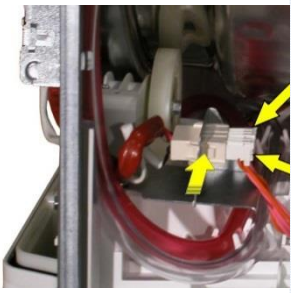
14.10 HEATING ELEMENT – Standard



Remove the plastic back panel guard by loosening the 5 screws indicated by the arrows.



Remove the 9 screws securing the heater unit guard.

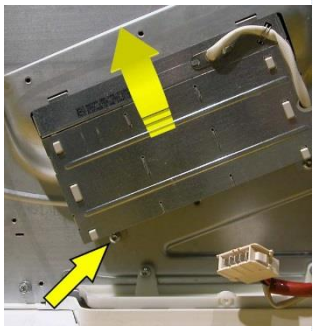


Remove the worktop.

Remove the left side panel.

Disconnect the 2 heater unit connectors.

Press the 2 fixing clips and remove the connector from its seat.

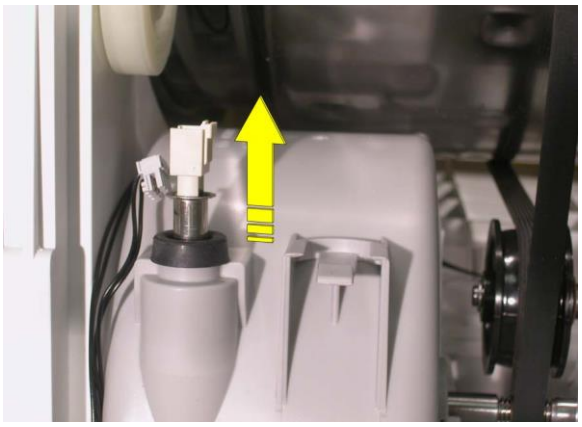
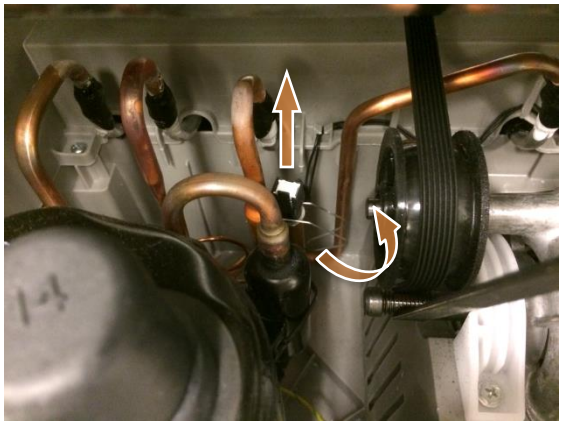


Remove the rubber cable cleat.

Loosen the 2 heater unit fixing screws.

Turn the entire heater unit slightly and remove it.

14.11 TEMPERATURE PROBE

Standard	Heat Pump Optiflow
	

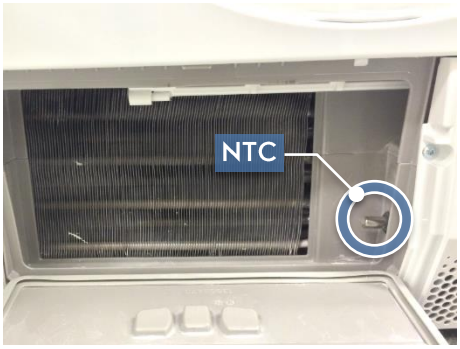
Remove the worktop.

Remove the right side panel.

Disconnect the connector.

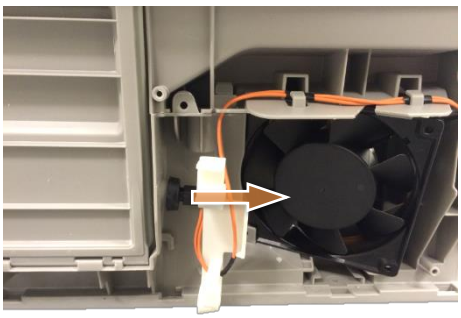
Pull the probe up to remove it from its seat.

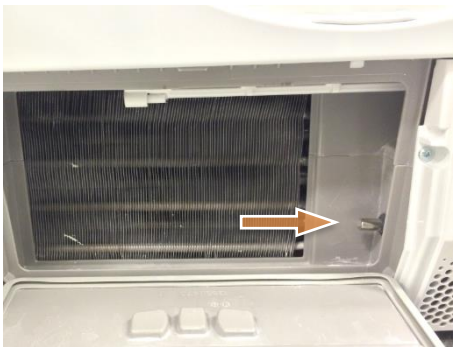
14.12 NTC PROBE, KICK PLATE PANEL – OPTIFLOW Heat Pump



Remove the plinth.

Losen the screw.





Pull the NTC probe up. You can help yourself by pushing it from the left side after opening the heat exchanger compartment door.

14.13 COMPRESSOR PROTECTOR – Heat Pump Dryers

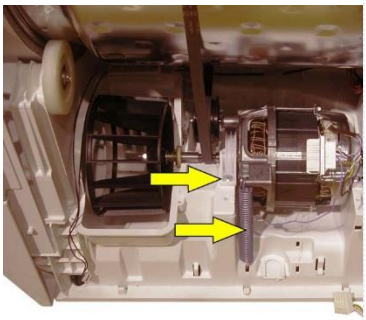
To reach the thermal motor protection, loosen the screw indicated by the arrow which secures the protective cap.

The thermal motor protection is located inside it (indicated by the arrow), kept in contact with the motor by a spring and the motor contacts.

	Warning: Wires
	▪ Before disconnecting the electrical wires, make a note of their position.

14.14 MOTOR - Standard

Asynchronous single-phase motor



Remove the 2 front and rear screws.

Disconnect the motor connector.

Using pliers, release the spring keeping the belt tensioner in tension.

Loosen the screws that secure the front and rear motor fixing brackets.

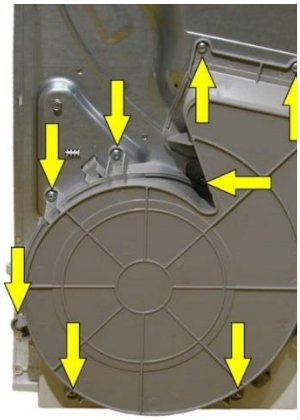
Raise them, turn them and remove them by pulling them off the rear hook.

Turn the entire motor and fan unit slightly towards the inside of the tumble dryer.

Raise it and remove it, feeding the rear fan through the belt.

14.15 MOTOR - Heat Pump Dryer

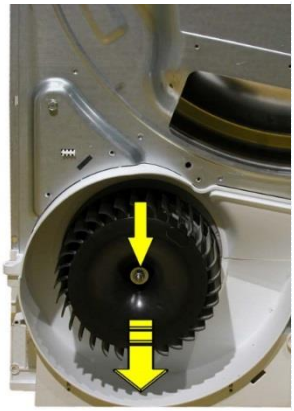
Three-phase asynchronous motor



Remove the right side panel.

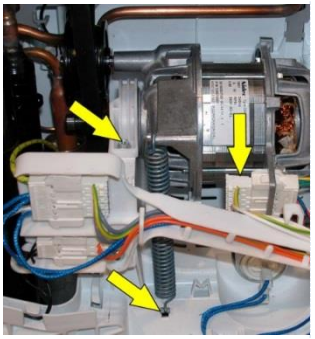
Loosen the 10 screws that hold the rear air conduit.

If necessary, use a screwdriver to unhook the clips that hold it and remove it.



Loosen the bolt that holds the hot air circulation fan.

Remove it by pulling it outwards.



Disconnect the motor connector.

Using a pair of pliers, detach the spring that keeps the tensioner spring under tension.

Remove the belt from the tensioner belt and motor axis.

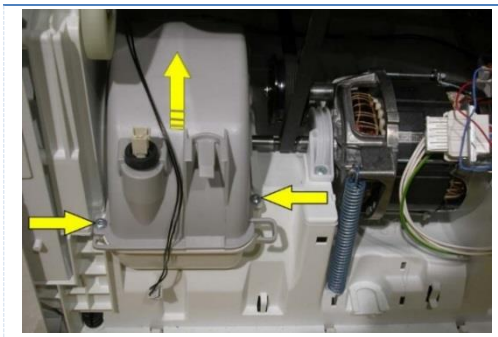
Loosen the screws that hold the front and rear motor fastening rods, lift them up by rotating them and remove them by pulling them off the rear hook.

Slightly rotate the whole motor unit.

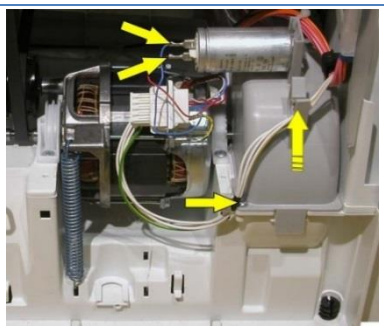
Lift it up and remove.

14.16 FAN COVER Standard

FRONT (hot air circulation)	BACK (cold air circulation)



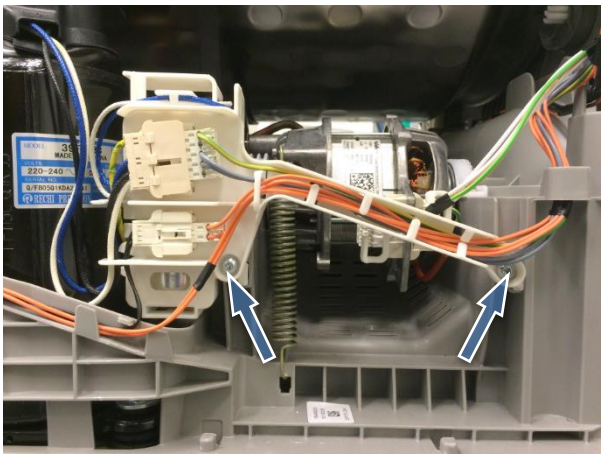
Disconnect the temperature probe. Loosen the 2 screws .Raise and pull out the screw.

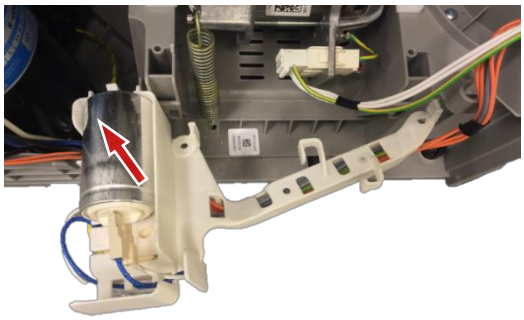


Disconnect the condenser. Loosen the screw fixing screw. Raise and pull out the screw.

14.17 STARTUP CAPACITOR

OPTIFLOW





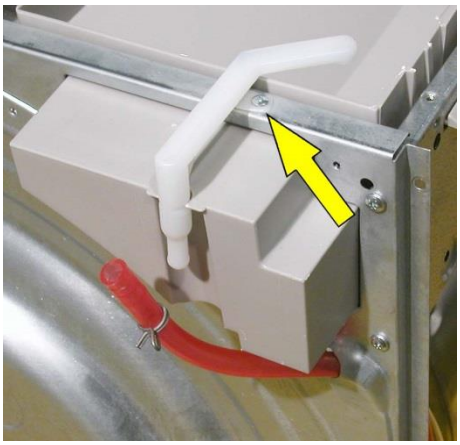
Remove the worktop.

Remove the right side panel.

Loosen the screws that holds the box.

Take the Capacitor out by pulling it upwards.

14.18 REAR PANEL - Standard



Remove the worktop.

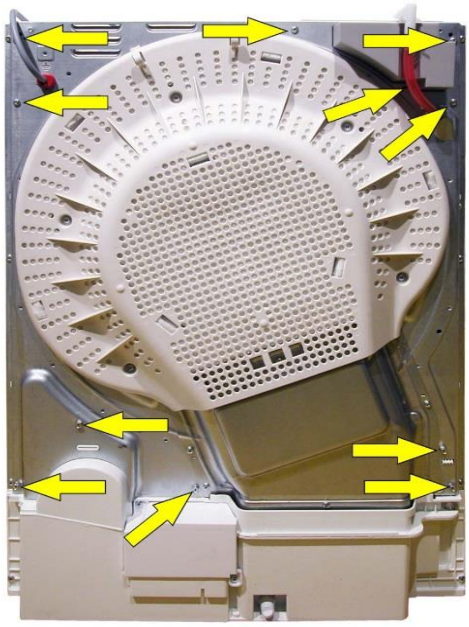
Remove the sides.

Disconnect the heating element and remove the connector from its seat (you do not need to remove the cable cleat).

Using pliers, open the clamp and disconnect the red pipe from the fitting.

Pull out the red pipe so it is free from the back panel.

Loosen the screws securing the tank fitting and remove it.

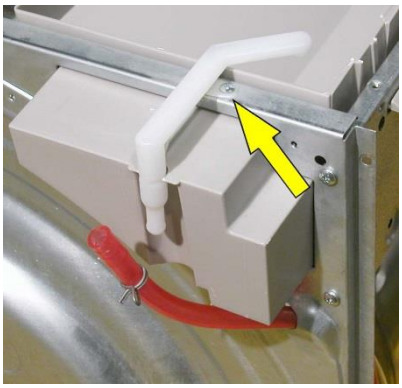


Disconnect the power supply cable from the main board. Loosen the 5 screws securing the back panel to the appliance base.

Loosen the 4 screws securing the back panel to the side crossbars and the screw securing it to the central crossbar. Release the clip on the tank support.

Tilt and remove the back panel.

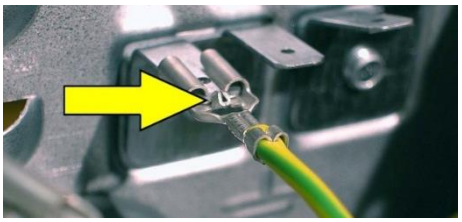
14.19 REAR PANEL -Standard



Remove the worktop.

Remove the sides.

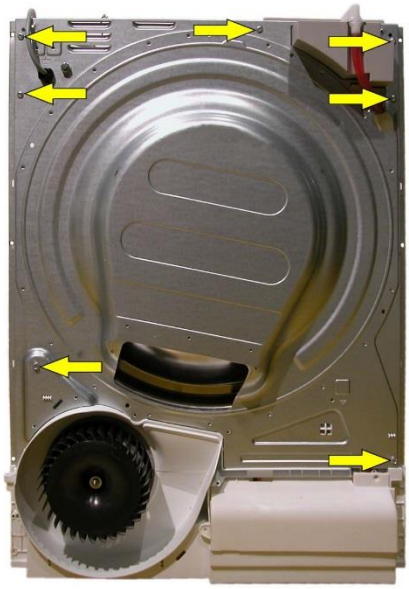
Using pliers, open the clamp and disconnect the red pipe from the fitting.



Disconnect the power supply cable from the main board.

Disconnect all the mass connections on the back panel

Pull out the red pipe so it is free from the back panel.Loosen the screws securing the tank fitting and remove it.



Remove the rear air conduit.

Loosen the screws securing the back panel to the appliance base.

14.20 REAR PANEL -OPTIFLOW

Remove the worktop.

Remove the sides.

Warning:

Wires

- Lock the drum by turning 2 white screws located on the backpanel.
- Put a Styrofoam underneath the drum in order to protect it from falling off the rolls.

Using pliers, open the clamp and disconnect the pipe from the fitting.

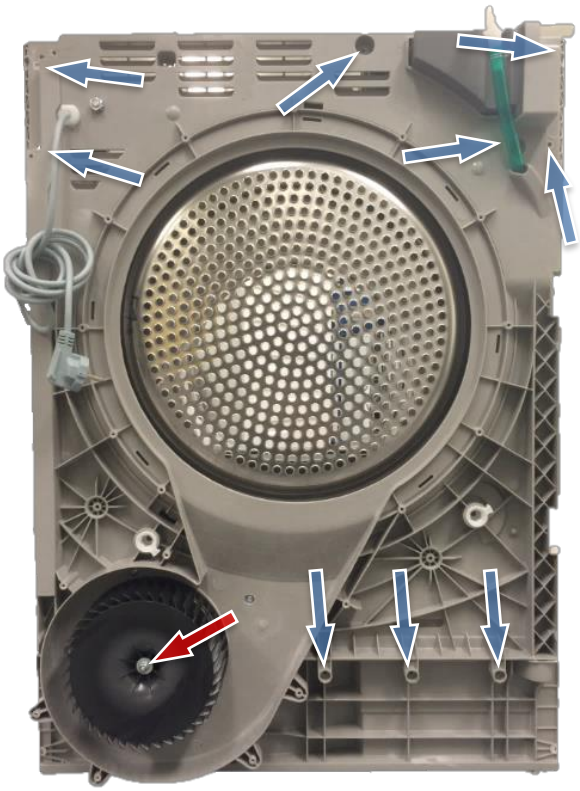
Pull out the pipe so it is free from the back panel.

Loosen the screws securing the tank fitting and remove it.

Disconnect the power supply cable from the main board.

Loosen the screws that hold the rear air conduit.

Remove the rear air conduit.



Loosen the 4 screws securing the rear panel to the side crossbars and the screw securing it to the central crossbar.

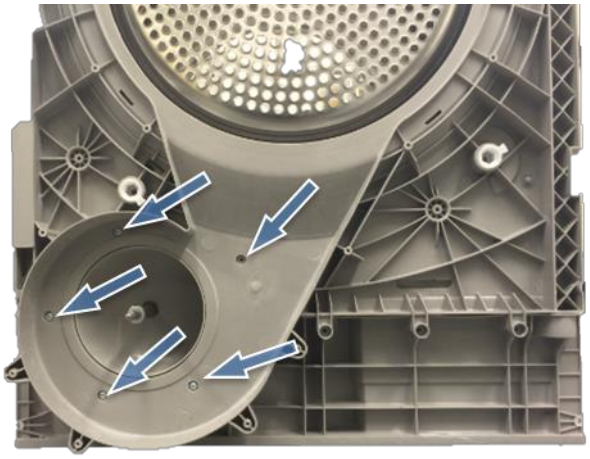
Release the clip on the tank support.

Loosen the bolt that holds the hot air circulation fan.

Remove it by pulling it outwards.

Loosen the screws securing the rear panel to the basement.

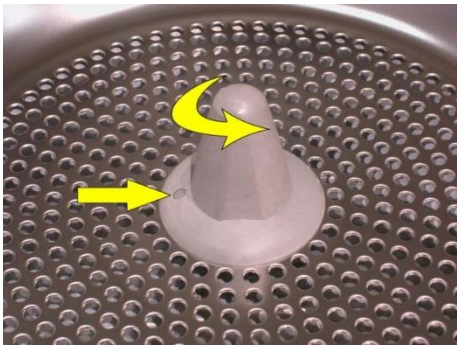
Tilt and remove the back panel.



Loosen the screws securing the rear panel to the basement.

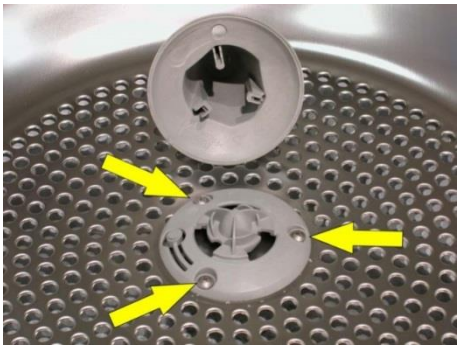
Tilt and remove the back panel.

14.21 ANTI-ENTANGLEMENT CONE – Standard models only



The anti-entanglement cone ensures that during the drying stage the washing does not get tangled up in itself.

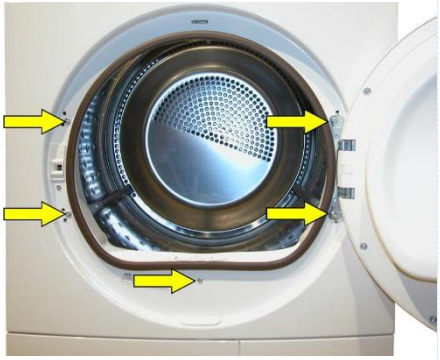
Press the blocking pin to remove and rotate the cone anti-clockwise



Loosen the three fastening screws to also remove the base.

Insert the cone in its slot to re-assemble it and rotate it clockwise until you hear a click that indicates the correct insertion of the blocking pin.

14.22FRONT PANEL



Remove the worktop

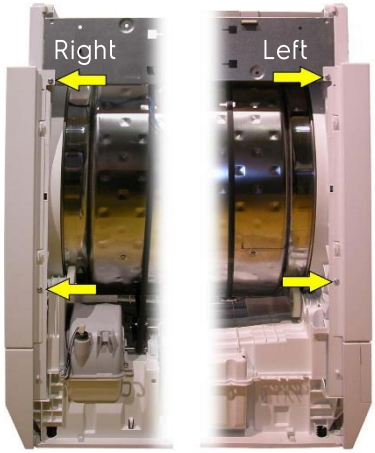
Remove the control panel (you do not need to disconnect it electrically).

Loosen the 2 screws securing the appliance door to the air conduit

If present, remove the aesthetic cover above the door block (not shown in the figure) using a screwdriver.

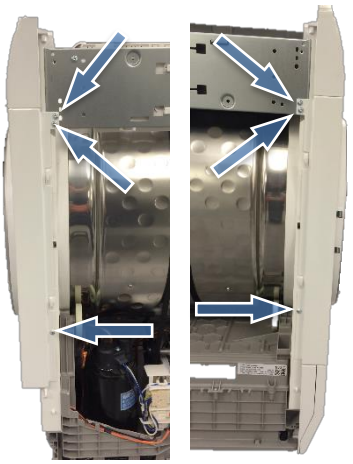
Loosen the 3 screws securing the front panel to the air conduit.

Standard	OPTIFLOW Heat Pump



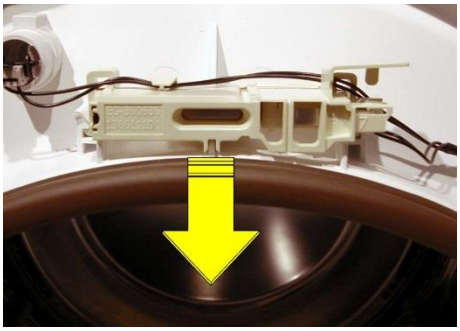
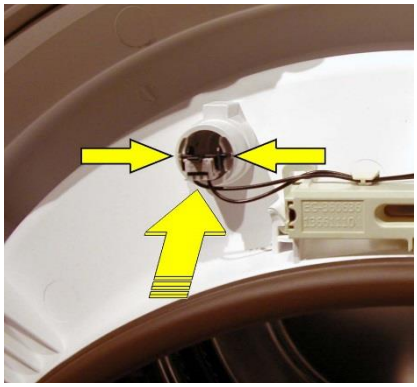
Loosen the screws on either side securing the front panel to the air conduit.

Tilt the front panel slightly forward and lift it.

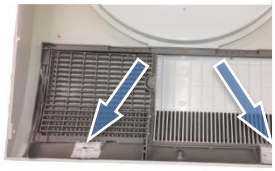


		Lossen fan cover screw and lift up slightly then slide to the left to remove cover

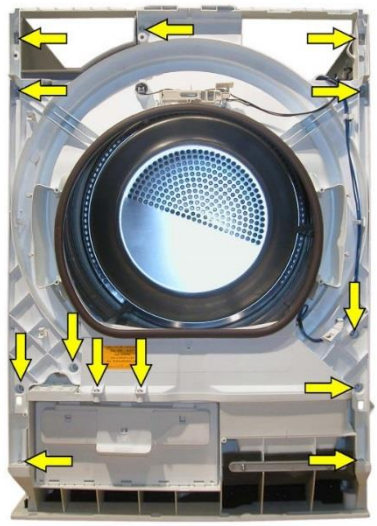
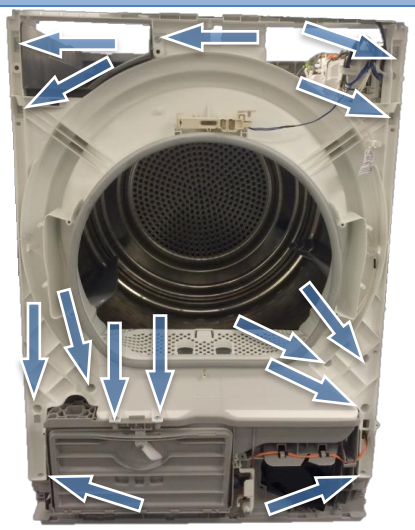
14.23 DOOR MICRO-SWITCH AND DRUM LIGHT

DOOR MICRO-SWITCH		DRUM LIGHT	
	Remove the front panel. Disconnect the connector. Pull out the entire assembly.		Remove the front panel. Disconnect the connector. Press the two clips securing the drum light slightly and concurrently push it in until it is fully removed.

14.24 PLINTH

	Remove the front panel. Loosen the 2 front screws.		Using a pair of pliers, unhook the holding clips on the left and right.	When re-assembling, firstly insert the 3 lower blocking hooks.
P-One	 Remove the front panel.	 Loosen the 2 front screws.	 With help of a screwdriver carefully unhook the hinges.	

14.25 FRONT AIR CONDUIT

Standard	OPTIFLOW - Heat Pump	
		Remove the front panel. Loosen the 13 screws securing the front air conduit to the crossbars, to the tank support and to the appliance base. Raise the two crossbars slightly so as to remove them. Tilt the entire air conduit forward and lift it off.

14.26 FRONT AIR SEAL

OPTIFLOW		
		
Once the front air conduit has been removed, the air seal can be removed. Raise the air seal to remove it completely.		When repositioning the front air seal, make sure the joint is positioned as shown in the figure.

14.27 COMPRESSOR COOLING FAN

OPTIFLOW

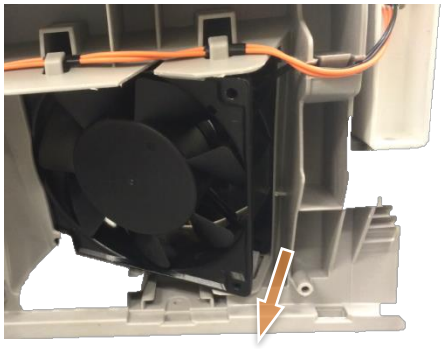
Remove the worktop.

Remove the side panels.

Remove the support.

Disconnect and pull out the cabling

.



Loosen the 2 screws that hold the fan in the lower part.

Lift up the 2 upper holding hooks and simultaneously remove the fan.

Press down on the fan latch and simultaneously remove the fan.

14.28 HEAT EXCHANGER COMPARTMENT DOOR

Standard	OPTIFLOW Heat Pump
	

Open the outer door of the kick plate.

Open the heat exchanger compartment door completely.

Turn it slightly so that the hinge pins are fully released from their seats.

To reposition the door, position the pins on the hinges.

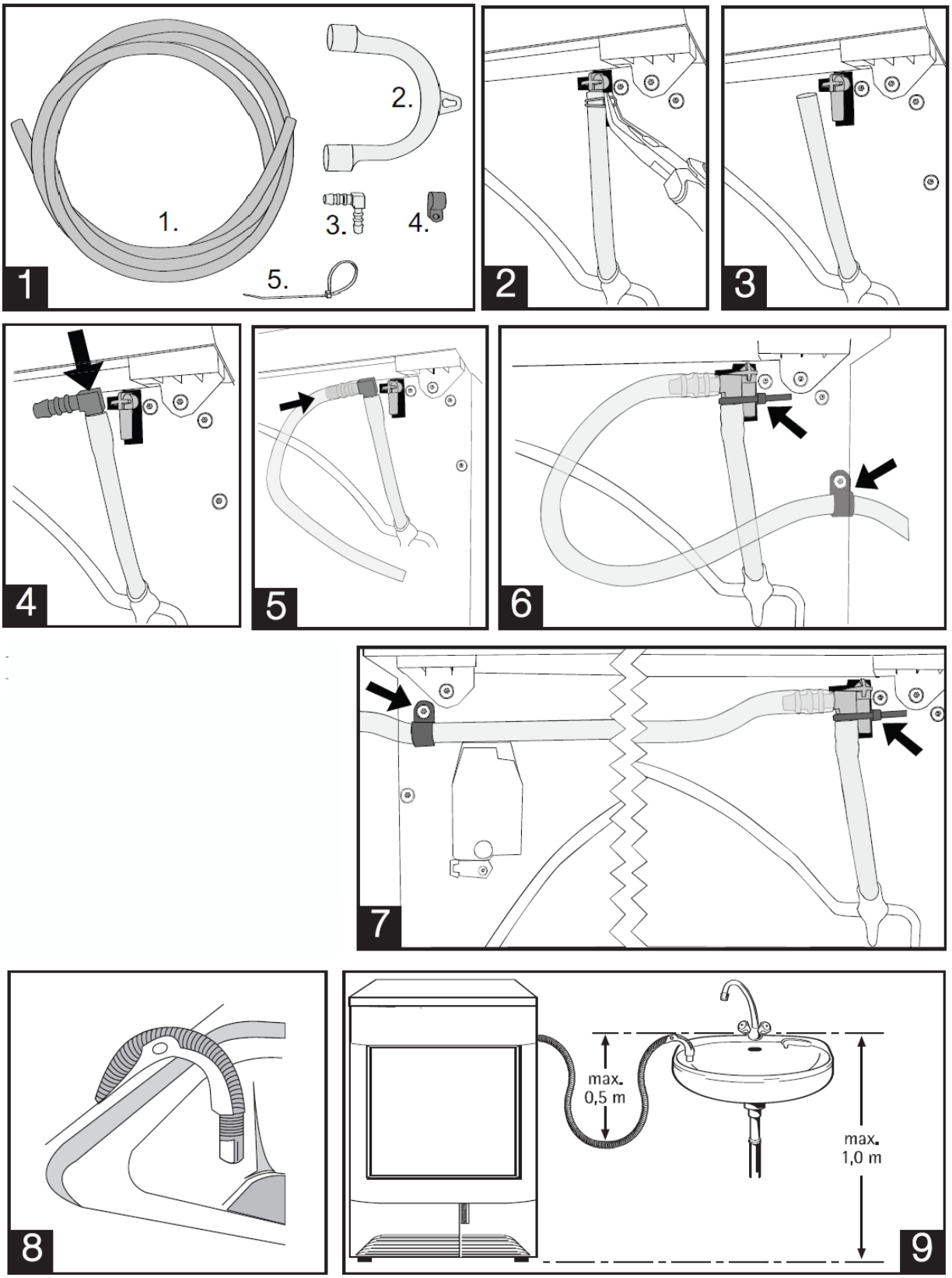
Press down fully so that the hinge pins click back into their seats.

14.29 HEAT EXCHANGER COMPARTMENT DOOR SEAL

Condense	Heat Pump

		Open the outer door of the kick plate. Open the heat exchanger compartment door completely. You do not need to remove it. Raise the seal and remove it

14.30 EXTERNAL DRAIN HOSE INSTALLATION



Important!

The operation described below must be carried out before completing the stages of the entire installation of the tumble dryer.

1 Open the door of your tumble dryer, and extract from the drum the bag that contains the following items of the discharging kit:

- a nylon band;(5)
- a 90° fitting for connecting the draining hose;(3)
- a plastic curved part to be used for discharging into a sink;(2)
- a plastic anchoring support for fastening the draining hose to the back of the machine;(4)
- 2,5 metres of semi-transparent hose;(1)

2 Position the tumble dryer so its back is towards you.

3 At the top right you can see a red hose which comes out of the back and is fastened to a plastic fitting.
Using a pair of pliers, loosen the metal band and push it down, in order to be able to extract the red hose from the plastic fitting.

4 Take the 90° fitting that has been supplied and insert it into the red hose.

5 Insert the plastic anchoring support that fastens the draining hose to the back, then connect the other end of the draining hose to the 90° fitting.

6 Using the nylon band, fasten the red hose to the fixed fitting on the back.

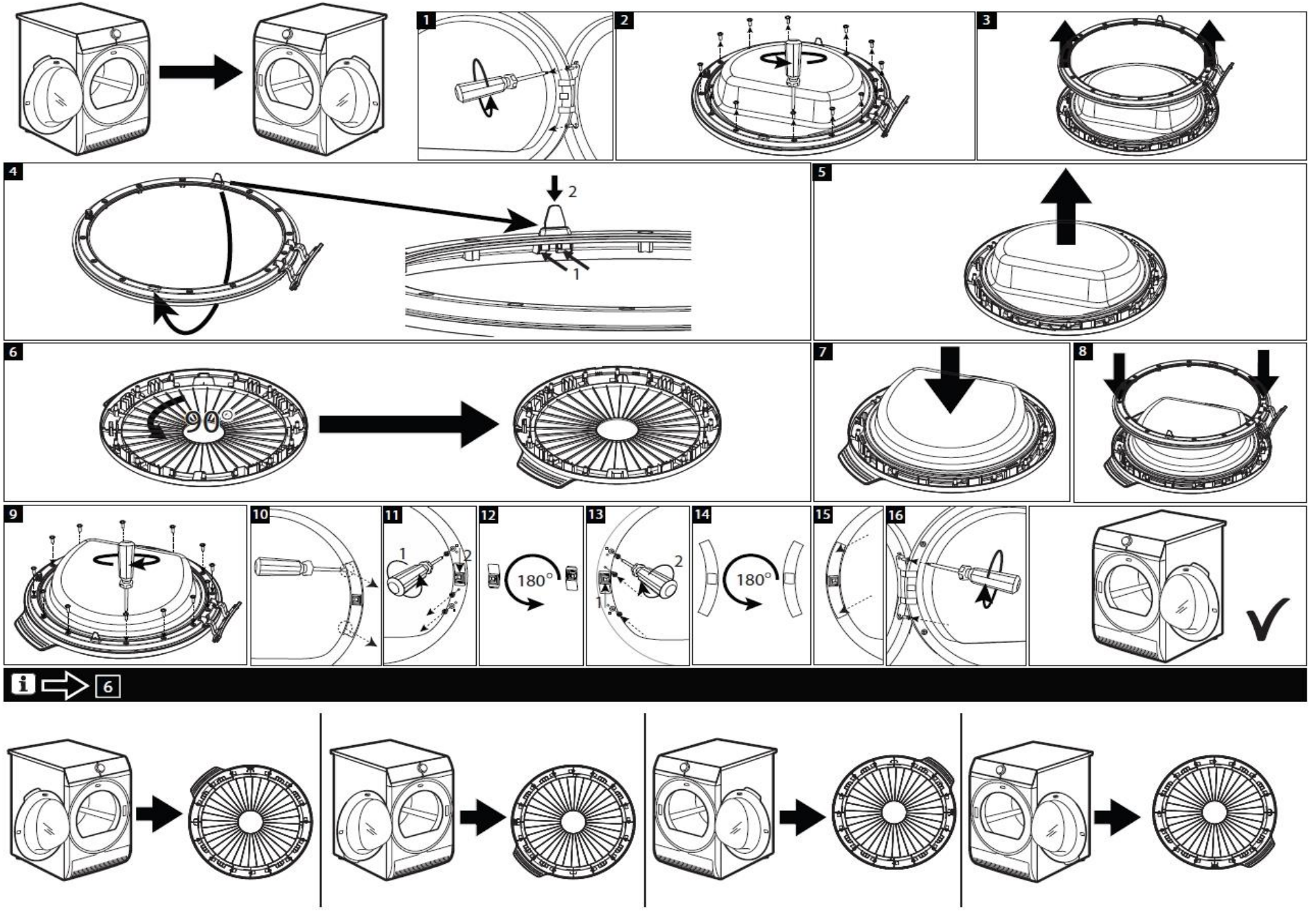
7 support, and tighten the screw, positioning the draining hose as shown in the figure.

8 If necessary, shorten the draining hose. If you wish to discharge the condensation water into a sink, you will have to apply the plastic curved part to the draining hose, in order to be able to hang it on the edge of the sink.

9 **Important!**

Do not hang the curved part at a height exceeding 1 metre, and suitably shorten the draining hose so as not to create a bend higher than 0.5 metres, as shown in the figure.

14.31 DOOR OPENING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B