



SERVICE MANUAL

TUMBLE DRYER



© ELECTROLUX HOME PRODUCTS
Customer Care – EMEA
Training and Operations Support
Technical Support

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Tumble dryer
CONDENSE
VENTED

TC3 / TC5 / TC6 Time
electronic control system
ENV06 New NORM

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

DISASSEMBLY

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1 PURPOSE OF THIS MANUAL

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

- ❖ condense tumble dryers
- ❖ vented tumble dryers

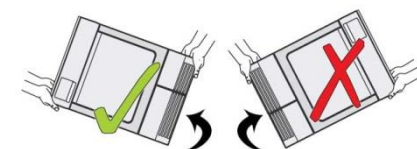
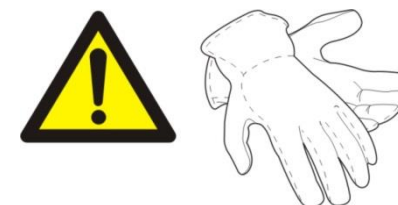
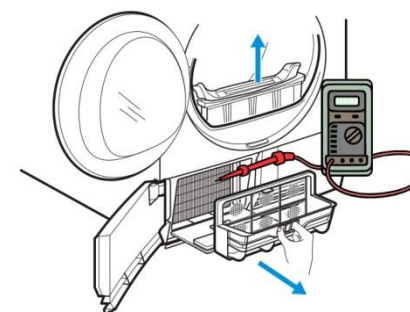
fitted with **ENV 06 New Norm** electronic control systems.

The manual deals with the following topics:

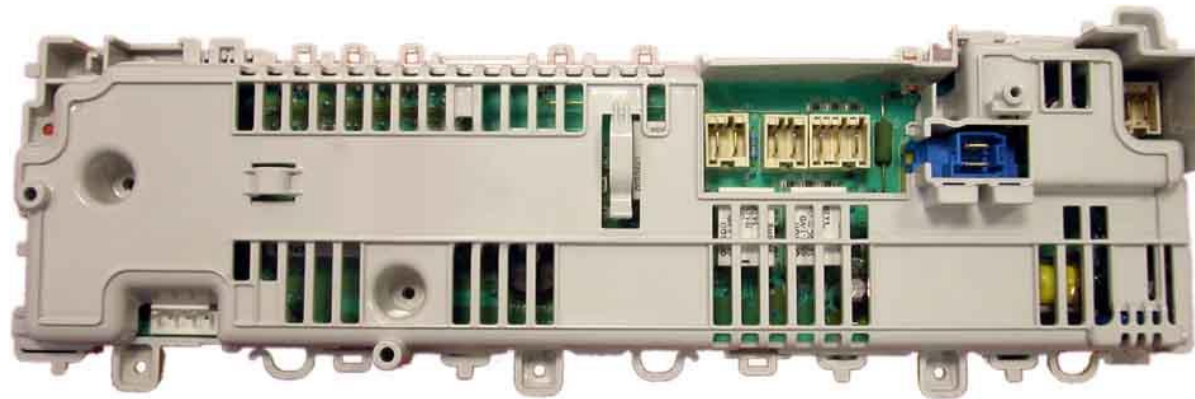
- General characteristics
- Control panel
- Alarms
- Technical and functional characteristics
- Access



- Before starting work on an appliance, check that the earth in the lodgings is working properly by using an appropriate tool and follow the instructions described/illustrated on the Electrolux Learning Gateway portal <http://electrolux.edvantage.net>
- This platform is not fitted with an ON/OFF switch. Before you access internal components, take the plug out of the socket to disconnect the power supply.
- When the servicing is completed, ensure that all the connections have been made properly and that all the appliance's safety conditions are as good as new.
- The connection between the earth terminal and the earthed metallic parts must have a low resistance.
- Servicing must be performed using a tool suitable for measuring the earthing connection in compliance with the IEC/EN 60335-1 standard and follow the instructions described/illustrated on the Electrolux Learning Gateway/Metratester portal <http://electrolux.edvantage.net>
- The resistance reading taken during the trial should not exceed 0.1 Ohm. If the compressor needs to be replaced, check the earthing resistance between the earth contact and the accessible metallic part on the condenser.
- In the event of handling/replacing the electronic circuit board, use the ESD (Cod. 405 50 63-95/4) kit to avoid electrostatic discharges damaging the electronic circuit board, see S.B. No. 599 72 08-09.
- 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.
- Some of the components in the mechanical part could cause injuries, so wear suitable protection and proceed with caution.
- If the compressor needs to be replaced, it must be welded and not connected via Lokring type connections.
- 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.
- When replacing components, please refer to the code shown in the list of spare parts relating to the appliance.



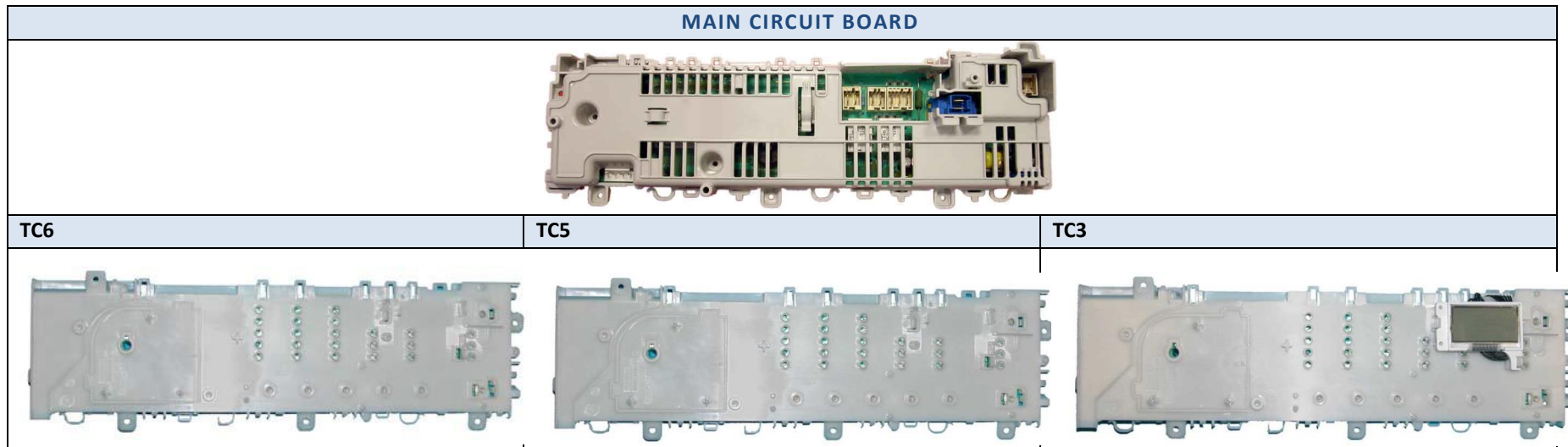
3 MAIN BOARDS



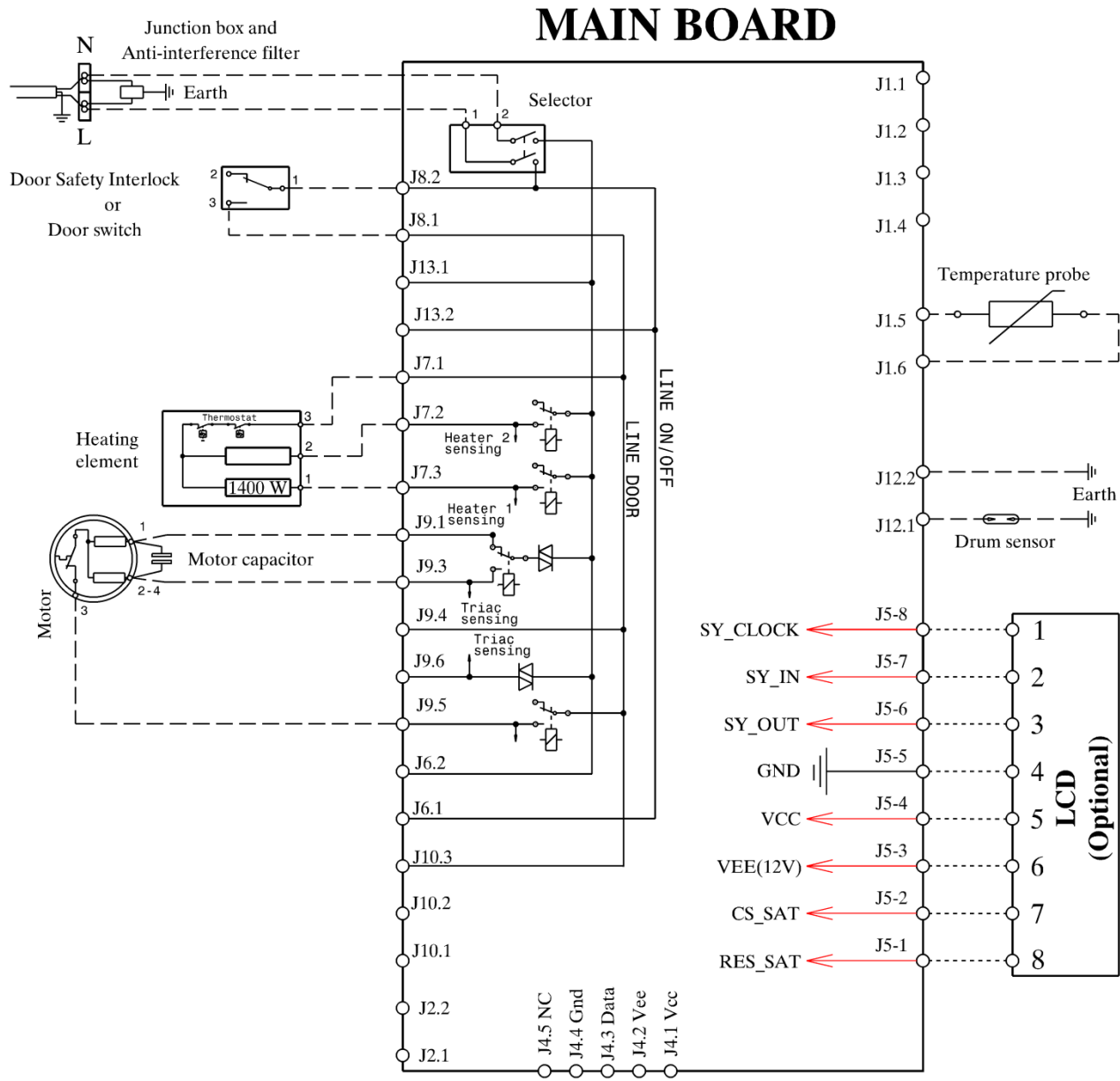
3.1 CIRCUIT BOARD & WIRING DIAGRAMS

3.1.1 MAIN CIRCUIT BOARD – ENV 06 NEW NORM

The electronic control is made up of a main circuit board with integrated selector and on certain models LCD display, which are supplied ready-assembled and tested by the manufacturer.



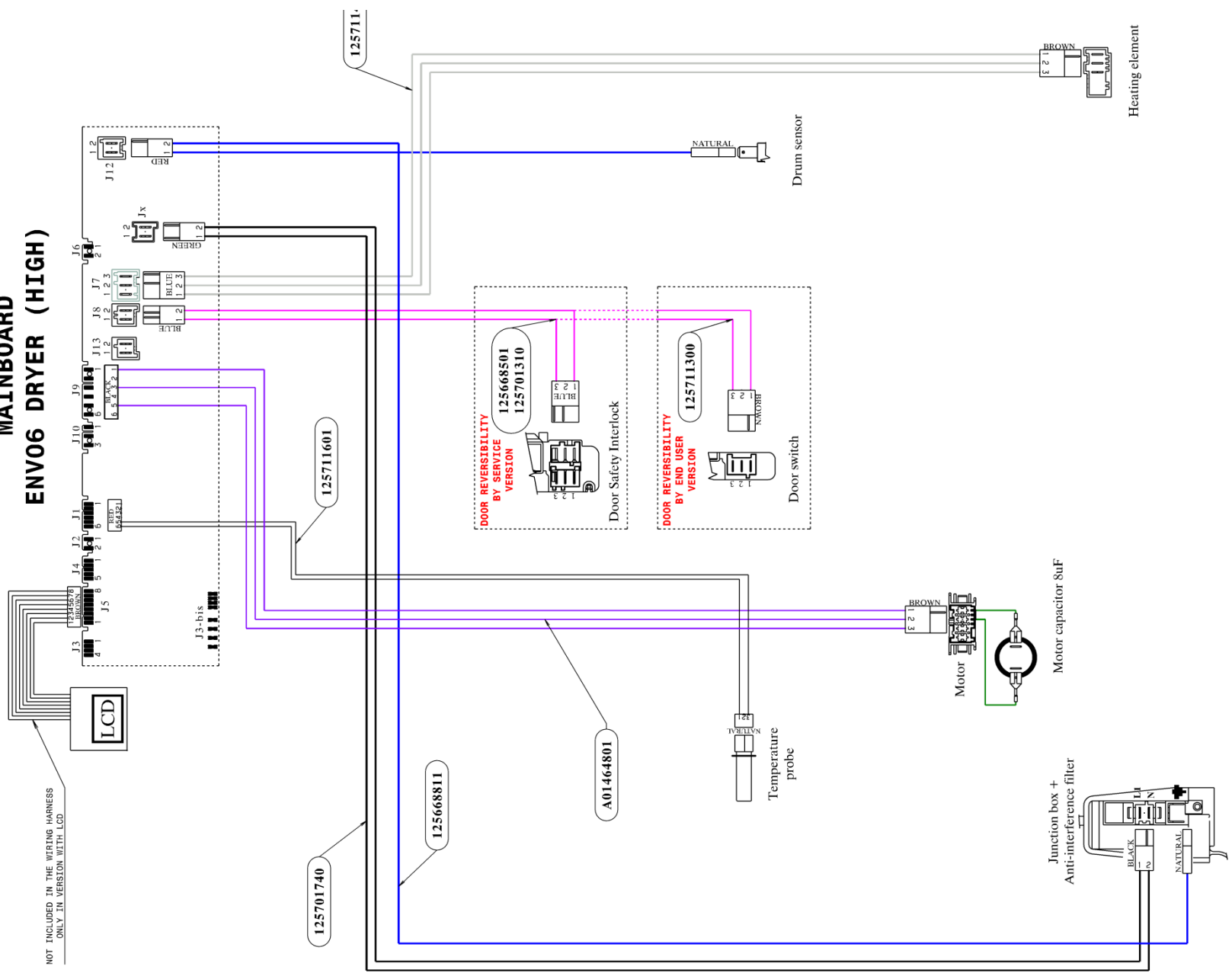
3.1.2 WIRING DIAGRAM ENV06 NEW NORM - VENTED

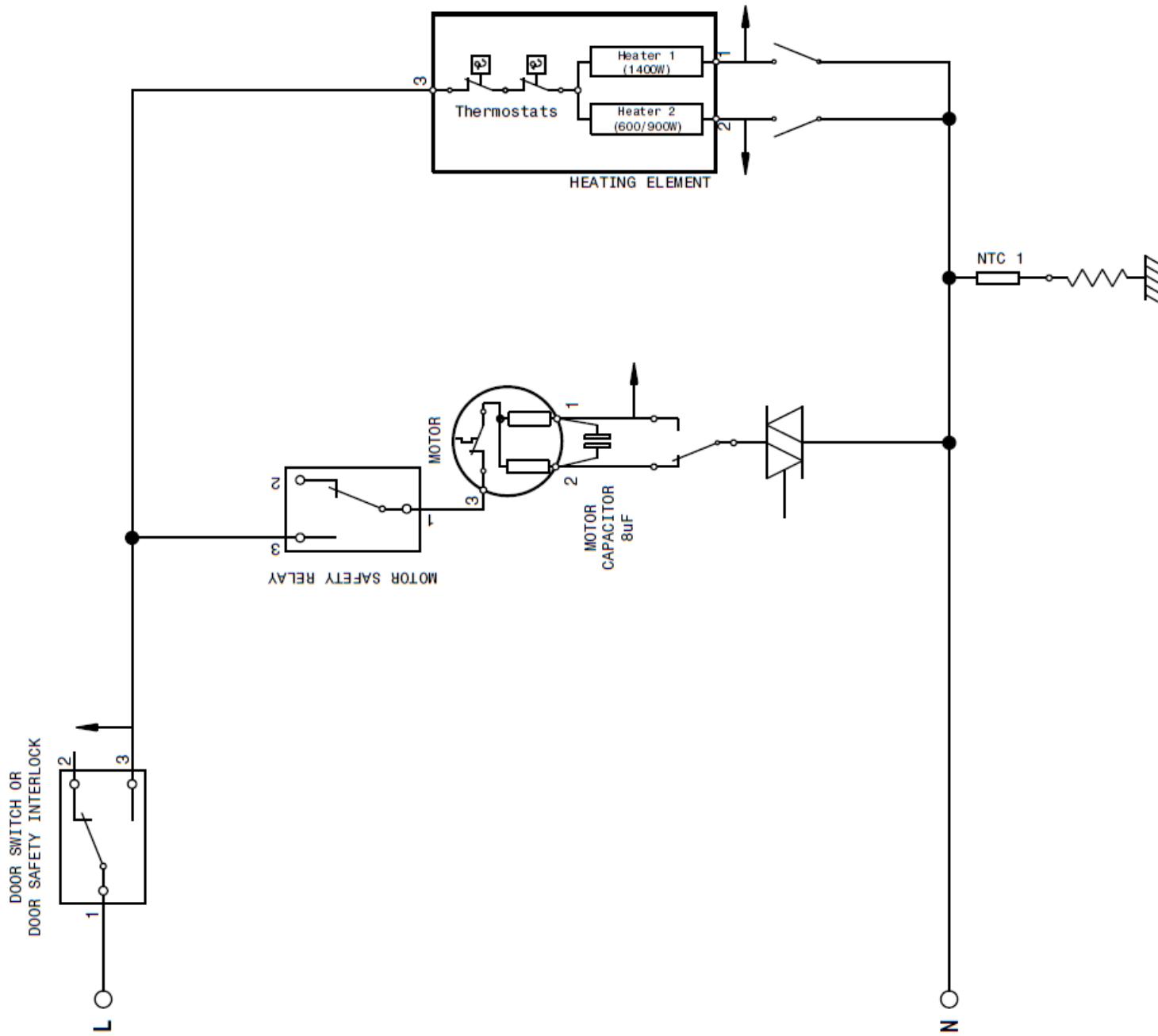


WIRING DIAGRAM

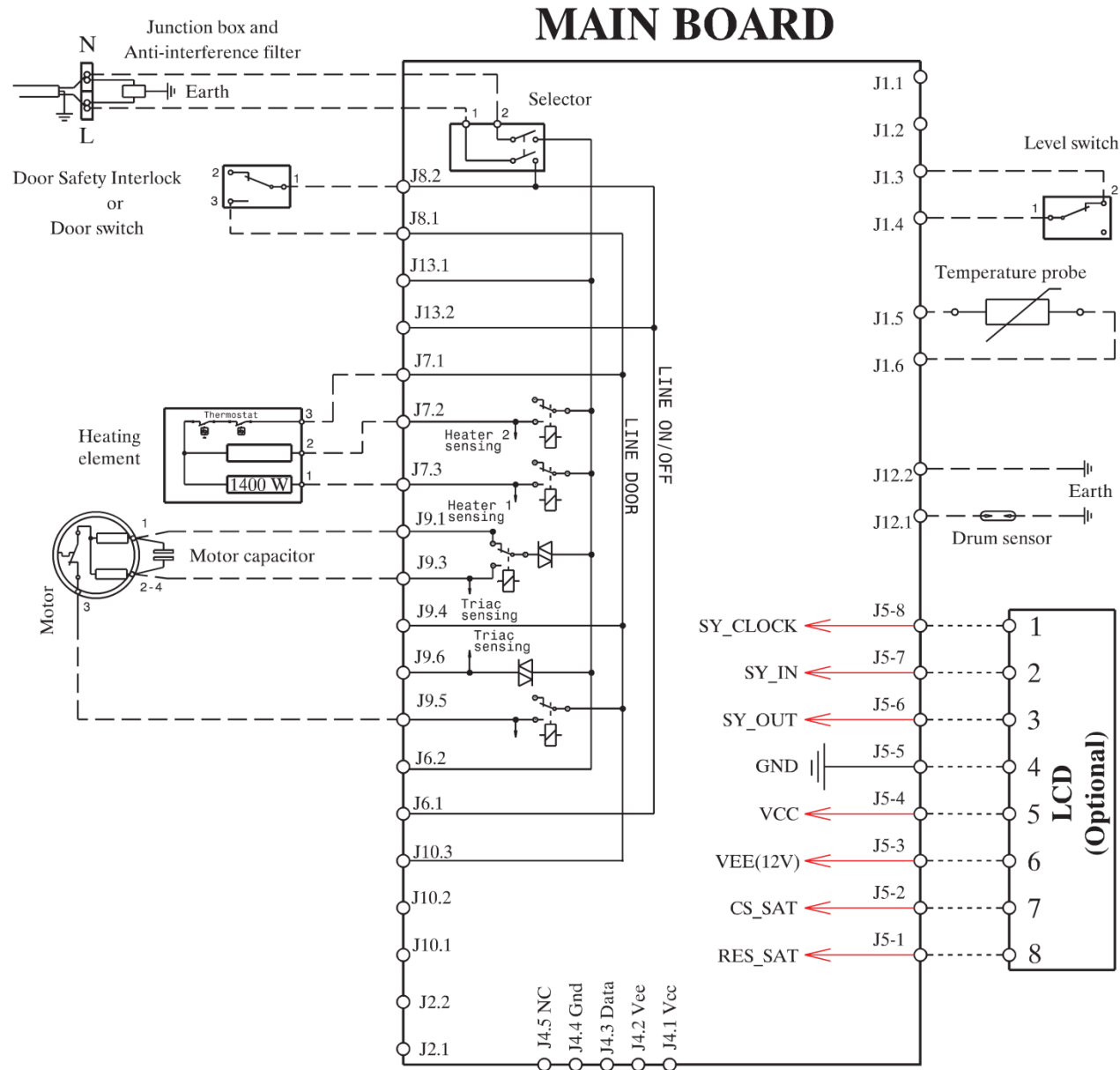
MAINBOARD ENV06 DRYER (HIGH)

NOT INCLUDED IN THE WIRING HARNESS
ONLY IN VERSION WITH LCD





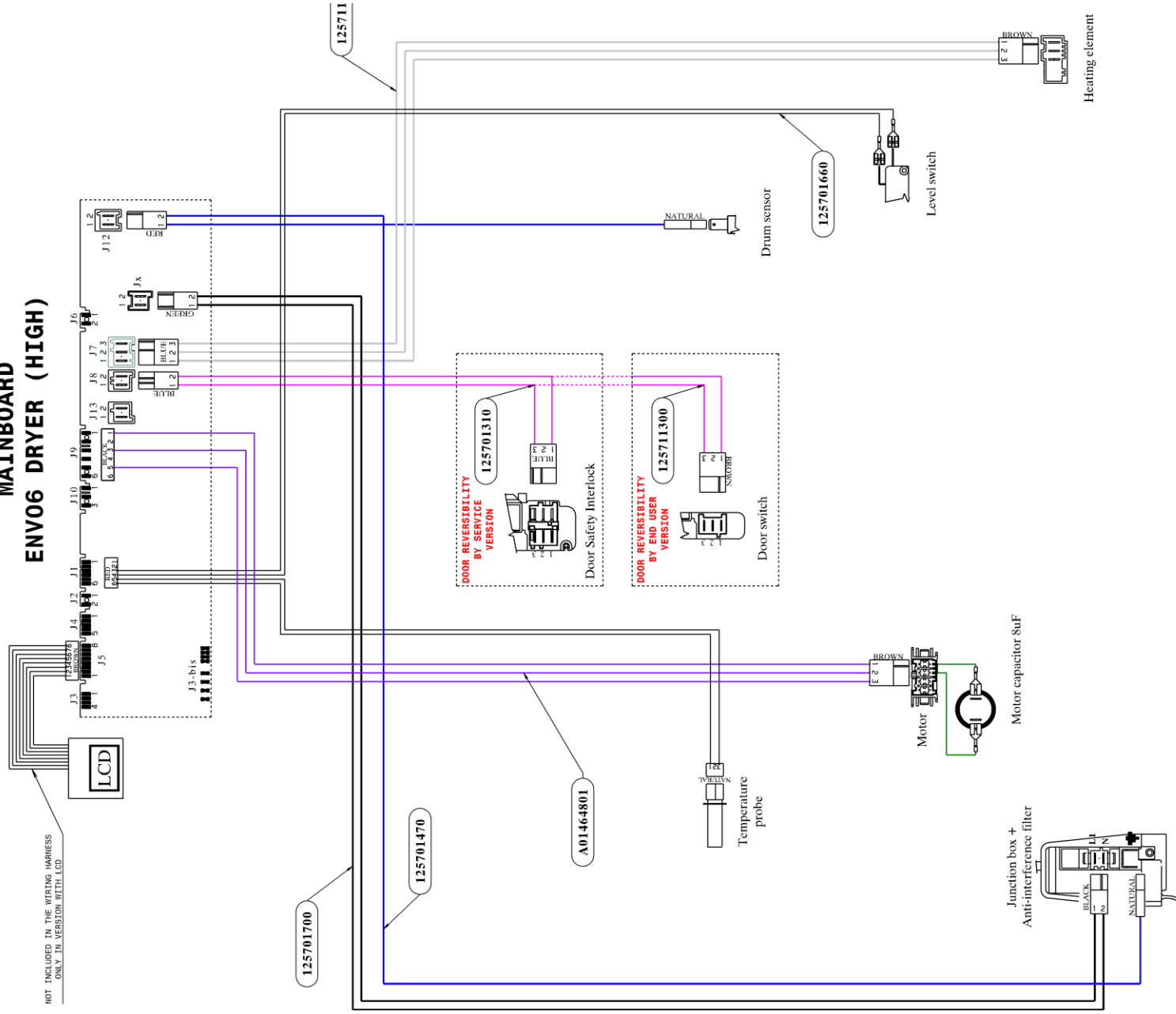
3.1.3 WIRING DIAGRAM ENV06 NEW NORM - CONDENSE LOW TANK



WIRING DIAGRAM

MAINBOARD ENV06 DRYER (HIGH)

NOT INCLUDED IN THE WIRING HARNESS
ONLY IN VERSION WITH LCD



Heating element

Level switch

Drum sensor

Temperature probe

Motor capacitor SuF

Motor

Junction box +
Anti-interference filter

A01464801

125701470

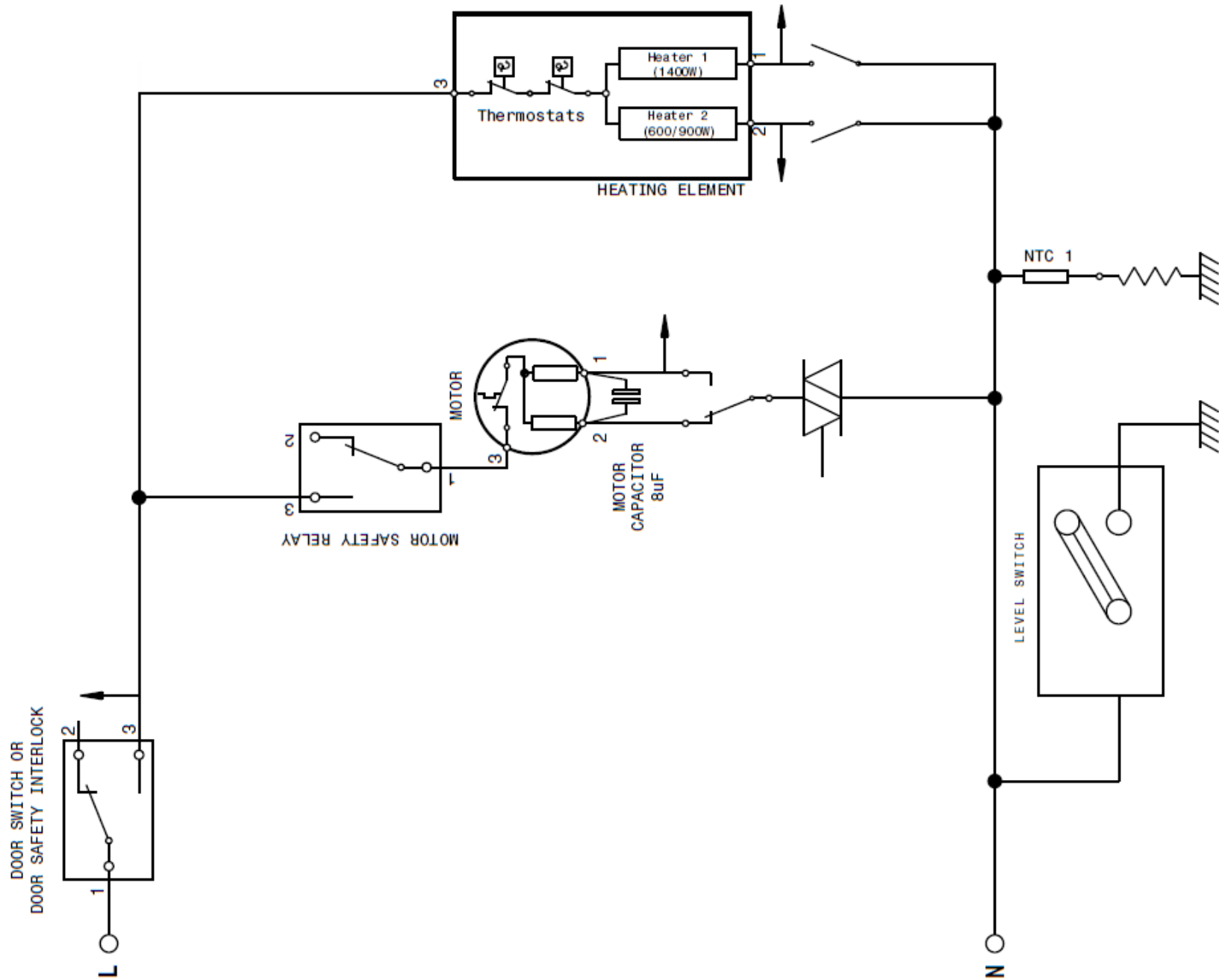
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3.2 ENV06 TUMBLE DRYERS ALARMS TABLE SUMMARY

A	B	C	D	E	F
LOW Time and Temperometric Dryer TC6	HIGH Condense Conductimetric Dryer TC2 TC3 TC5	HEAT PUMP Condense Conductimetric Dryer TC2	Clothes Refreshment Machine TC2	Clothes Refreshment Machine TC1	Condense 8Kg – FCV Motor

FAMILY		ALARM CODE	A	B	C	D	E	F	Full Name	Action	Notes and Possible Causes
0x20	TANK PUMP	0x21	X	X	X	X	X	X	Condense Pump Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	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)
		0x22	X	X	X	X	X	X	Condense Pump Sensing Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	Pump Triac Sensing Circuit Failure (Main Board Failure)
0x30	CONDUCTIMETRIC SENSOR	0x31		X	X	X	X	X	Conductimetric Sensor Frequency too HIGH	No Action	Active only during HUMIDITY SENSOR SHORT CIRCUIT diagnostic. The oscillation Frequency is out of Range (Main Board Failure)
		0x32		X	X	X	X	X	Conductimetric Sensor Frequency too LOW	No Action	Active only during HUMIDITY SENSOR SHORT CIRCUIT diagnostic. 1. The Drum is not Shortcuted 2. Wiring Failure 3. The oscillation Frequency is out of Range (Main Board Failure)
		0x33									Not implemented
	DOOR	0x45	X	X	X	X	X	X	Door Closed Sensing Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	Door Closed Sensing Circuit Failure (Main Board Failure)
0x50	DRUM MOTOR	0x51	X	X	X	X	X		Drum Motor Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	1. Drum Motor Disconnected (Wiring or Connector Failure)
		0x52	X	X	X	X	X		Drum Motor Thermal cut-off Alarm	Disables motor for a while, waiting for possible thermal restoration. If after 30 minutes (more or less) the situation does not return normal sets 0x51 alarm	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)
		0x53	X	X	X	X	X		Drum Motor Sensing Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	Drum Motor Triac Sensing Circuit Failure (Main Board Failure)

FAMILY		ALARM CODE	A	B	C	D	E	F	Full Name	Action	Notes and Possible Causes
		0x54	X	X	X	X	X		Motor Jammed Alarm	When the motor is not able to start rotation within 5 seconds from activation command, a retrial procedure starts. The motor is stopped for 10 seconds then is activated again. If it does not start rotation again, this procedure continue (180 times). After these retrials, alarm is set and visualized. The cycle is paused. To clear the alarm and the cycle in enough pressing START.	<ol style="list-style-type: none"> 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
		0x57						X	FCV Current Trip Failure	Disables motor moving and shutdown FCV board for 2 mintues, then FCV is switched on and drum moving enbaled. If this problem conitues after 5 retrials the cycle is stopped and FCV boards switched off definitively (until next machine reset)	<ol style="list-style-type: none"> 1. FCV Board - Motor Wiring 2. Motor Connector 3. FCV Board
		0x58						X	FCV over current Failure	Disables motor moving and shutdown FCV board for 20 seconds, then FCV is switched on and drum moving enbaled. If this problem conitues after 5 retrials the cycle is stopped and FCV boards switched off definitively (until next machine reset)	<ol style="list-style-type: none"> 1. FCV Board - Motor Wiring 2. Motor Connector 3. FCV Board
		0x59						X	FCV not folowing Failure	Disables motor moving and shutdown FCV board for 20 seconds, then FCV is switched on and drum moving enbaled. If this problem conitues after 5 retrials the cycle is stopped and FCV boards switched off definitively (until next machine reset)	<ol style="list-style-type: none"> 1. FCV Board - Motor Wiring 2. Motor Connector 3. FCV Board
		0x5B						X	FCV unser voltage Failure	Disables motor moving and shutdown FCV board for 20 seconds, then FCV is switched on and drum moving enbaled. If this problem conitues after 5 retrials the cycle is stopped and FCV boards switched off definitively (until next machine reset)	<ol style="list-style-type: none"> 1. Main Board - FCV power supply wiring 2. FCV Board Failure
		0x5C						X	FCV over voltage Failure	Disables motor moving and shutdown FCV board for 2 mintues, then FCV is switched on and drum moving enbaled. If this problem conitues after 5 retrials the cycle is stopped and FCV boards switched off definitively (until next machine reset)	<ol style="list-style-type: none"> 1. FCV BOARD Failure
		0x5D						X	FCV unknown message Failure	No action	
		0x5E						X	Wrong FCV - Main Board communication	Disables motor moving and shutdown FCV board for 20 seconds, then FCV is switched on and drum moving enbaled. If this problem conitues after 47 retrials of 20 seconds + last 20 minutes retrial, the cycle is stopped and FCV boards switched off definitively (until next machine reset)	<ol style="list-style-type: none"> 1. Main Board - FCV communication wiring 2. Main Board - FCV power supply wiring 3. Motor Thermal Cutoff 4. Main Board or FCV Board Failure

FAMILY		ALARM CODE	A	B	C	D	E	F	Full Name	Action	Notes and Possible Causes
		0x5F						X	FCV Failure	Disables motor moving and shutdown FCV board for 20 seconds, then FCV is switched on and drum moving enabled. If this problem continues after 5 retries the cycle is stopped and FCV boards switched off definitively (until next machine reset)	1. FCV BOARD Failure
0x60	HEATING ELEMENTS	0x61									Not implemented
		0x62	X	X	X	X	X	X	Heaters Alarm (or Compressor Alarm for Heat Pump)	Stops cycle execution. If is an Heater Alarm (no Heat Pump) starts automatically a safety "Cooling Alarm - 10 minutes". If detected on setup, does not allow cycle start.	1. Heaters Disconnected (Wiring or Connector Failure, Manual Thermostat Cut-off) 2. Heaters Failure 3. Heaters Relay Failure (Main Board Failure)
		0x63	X	X	X	X	X	X	Heaters Thermal cut-off Alarm (or Compressor Thermal Alarm for Heat Pump)	Disables heater/compressor for a while, waiting for possible thermal restoration. If after 30 minutes (more or less) the situation does not return normal sets 0x62 alarm	
		0x64	X	X	X	X	X	X	Heaters Sensing Alarm (or Compressor Sensing Alarm for Heat Pump)	Stops cycle execution. If detected on setup, does not allow cycle start.	Heaters Sensing Circuit Failure (Main Board Failure)
		0x65			X	X	X	X	Main Fan Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	1. Main Fan Motor Disconnected (Wiring or Connector Failure) 2. Main Fan Motor Failure 3. Main Fan Motor Triac Failure (Short Circuit, Diode Mode, Open Circuit) (Satellite Board Failure)
		0x66			X	X	X	X	Main Fan Thermal cut-off Alarm	Disables main fan and heater/compressor for a while, waiting for possible thermal restoration. If after 30 minutes (more or less) the situation does not return normal sets 0x66 alarm	
		0x67			X	X	X	X	Main Fan sensing alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	Main Fan Triac Sensing Circuit Failure (Satellite Board Failure)
		0x68									Not implemented
0x70	NTC	0x71	X	X	X	X	X	X	Drying NTC Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	NTC1 reading out of Range 1. Wiring Failure 2. NTC Failure 3. NTC reading circuit Failure (Main Board Failure)
		0x72				X	X	X	Steamer NTC Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	NTC2 reading out of Range 1. Wiring Failure 2. NTC Failure 3. Wrong NTC configuration 4. NTC reading circuit Failure (Main Board Failure)

FAMILY		ALARM CODE	A	B	C	D	E	F	Full Name	Action	Notes and Possible Causes
0x80	UI	0x82	X	X	X	X	X	X	Wrong Reset Position on Selector	Stops cycle execution. If detected on setup, does not allow cycle start.	The Main Board is powered also in RESET Position 1. Wiring Failure 2. Selector Failure (Main Board Failure)
		0x83	X	X	X	X	X	X	Wrong Selector code	No Action	The position code of the selector is not recognized. 1. Wrong Selector Configuration (Main Board Failure) 2. Selector Failure (Main Board Failure)
0x90	CFG	0x91							User Interface Communication Alarm	Disables cycle execution until the communication is not restored. If detected on setup, does not allow cycle start.	1. Wiring Failure 2. User Interface Board Failure 3. Main Board Failure
		0x92							User Interface Protocol Incongruence Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	The User Interface mounted is not compatible with the Main Board connected
		0x93	X	X	X	X	X	X	MCF Checksum Alarm	The machine could not work until a right configuration file is programmed	wrong Machine Configuration File
		0x94	X	X	X	X	X	X	CCF Checksum Alarm	The machine could not work until a right configuration file is programmed	wrong Cycle Configuration File
		0x97	X	X	X	X	X	X	Missing Program on CTF Alarm	Detected only on setup. Does not allow cycle start.	wrong selector configuration (MCF) or missing cycle on cycle table (CCF)
		0x9b						X	User Interface External Flash Communication Alarm	No Action	User Interface Board Failure
		0x9C						X	User Interface configuration checksum alarm	No Action	1. Main Board - wrong MCF 2. Main Board - User Interface Communication problems
		0x9d						X	Real Time Clock alarm	No Action	User Interface Board Failure
0xA0	BUS COMMUNICATION	0xA1				X	X		CRM Satellite Board Communication Alarm	Disables cycle execution until the communication is not restored.	1. Wiring Failure 2. Satellite Board Failure 3. Main Board Failure
		0xA2				X	X		CRM Satellite Board Protocol Incongruence Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	Software of Main Board and Satellite Board are not compatible (Main Board or Satellite Failure)

FAMILY		ALARM CODE	A	B	C	D	E	F	Full Name	Action	Notes and Possible Causes
		0xA5		Only on INPUT					Input Board Communication Alarm	No Action	<ul style="list-style-type: none"> 1. Wiring Failure 2. Input Board Failure 3. Main Board Failure
0xB0 (0xH0)	POWER SUPPLY	0xB1 (0xh1)	X	X	X	X	X	X	Power Supply Frequency out of Range	<p>If detected in setup, it would not be possible cycle starting. If happens during cycle execution, it suspend working. It is automatically cleared when power supply return within right limits, it would be possible to start. If a cycle was temporary suspended due to this alarm it automatically restarts.</p>	<ul style="list-style-type: none"> 1. Power Supply Problems 2. wrong MCF 3. Main Board failure
		0xB2 (0xh2)	X	X	X	X	X	X	Power Supply Amplitude out of Range (too HIGH)		<ul style="list-style-type: none"> 1. Power Supply Problems - Too HIGH VOLTAGE 2. wrong MCF 3. Main Board failure
		0xB3 (0xh3)	X	X	X	X	X	X	Power Supply Amplitude out of Range (too LOW)		<ul style="list-style-type: none"> 1. Power Supply Problems - TOO LOW VOLTAGE 2. wrong MCF 3. Main Board failure
0xC0	CLOTHES REFRESHMENT	0xC1				X	X		Power Supply Amplitude out of Range	No Action. It is automatically cleared when power supply return within right limits	<ul style="list-style-type: none"> 1. Wiring Failure 2. Satellite Board Failure
		0xC2				X	X		Power Supply Frequency out of Range		<ul style="list-style-type: none"> 1. Wiring Failure 2. Satellite Board Failure
		0xC3				X	X		Steamer Heating-up Timeout Alarm	No Action	<p>Active only on diagnostic cycle. The NTC2 temperature grows too slowly</p> <ul style="list-style-type: none"> 1. NTC2 not well fixed. 2. Steamer Failure
		0xC4				X	X		Steamer Heater Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	<ul style="list-style-type: none"> 1. Steamer Heater Disconnected (Wiring or Connector Failure, Heater Thermal Cut-off) 2. Steamer Heater Failure 3. Steamer Heater Relay Failure (Satellite Board Failure)
		0xC5				X	X		Steamer Heater Thermal Cut-off Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	
		0xC6				X	X		Steamer Heater Sensing Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	Steamer Heater Sensing Circuit Failure (Satellite Board Failure)
		0xC7				X	X		Steam Pump Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	<ul style="list-style-type: none"> 1. Steam Pump Disconnected (Wiring or Connector Failure, Diode broken) 2. Steam Pump Failure 3. Steam Pump Triac Failure (Short Circuit, Diode Mode, Open Circuit) (Satellite Board Failure)
		0xC8				X	X		Steam Pump Diode Alarm	Disables steamer activation.	Steam Pump Diode Shortcuted or missing

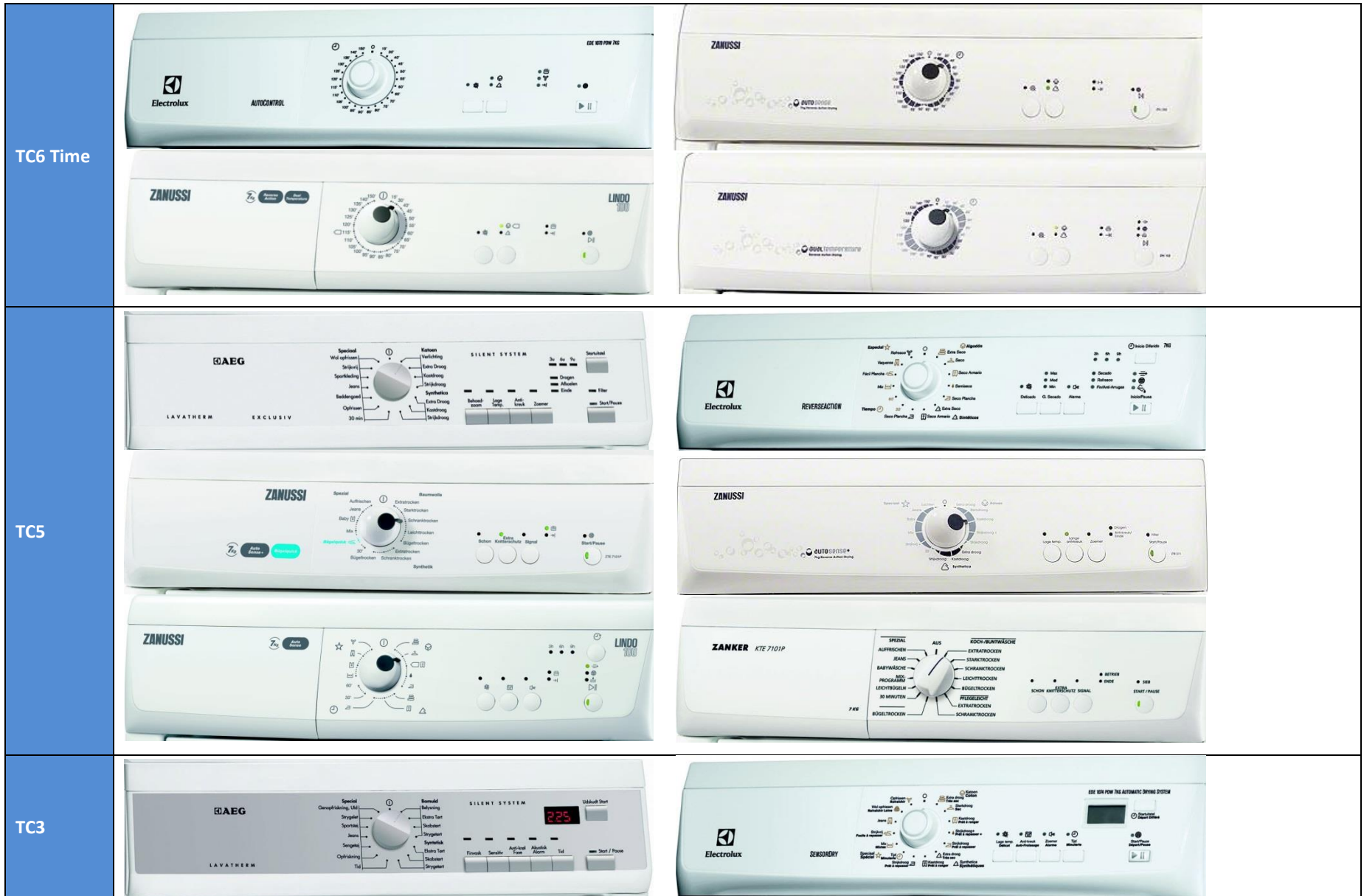
FAMILY		ALARM CODE	A	B	C	D	E	F	Full Name	Action	Notes and Possible Causes
		0xC9				X	X		Steam Pump Sensing Alarm	Stops cycle execution. If detected on setup, does not allow cycle start.	Steam Pump Triac Sensing Circuit Failure (Satellite Board Failure)
		0xCA				X	X		Missing Steamer Water Alarm	Disables steamer activation until cycle end. At end cycle signals missing steam water.	<ol style="list-style-type: none"> 1. No water into steam tank (level sensor disconnected or broken) 2. Water pipes clogged or broken 3. Steam pipes clogged or broken
0xF0	WARNING	0xF6	X	X	X	X	X	X	Safety Reset Alarm	No Action	This warning is set when the machine fails a certification protection check. Can be set also if the machine is driven externally by a PC and the "Remote control mode" isn't activated. In this case reset itself to avoid wrong load activations.

3.3 ENV06 KEY COMBINATION

Platform	UI Level	Service	Child Lock	Buzzer	Water conductivity set	Tank Warning Permanently Disabled	Demo Mode	Show Working Hours
ENVDRCRM	ELUX / TC2	Key 6 (Start) + Key 5 (Time)	Key 5 (Time) + Key 4 (Buzzer)	Key 3 (Delicate) + Key 2 (Dryness)	Key 6 (Start) + Key 3 (Buzzer)	Disabled	Service Combi + Selector on 3rd Clockwise position at machine startup	Service Combi + Selector on 5th Clockwise position at machine startup
ENVDRCRM	Quelle / TC2	Key 6 (Start) + Key 5 (Time)	Key 1 (Load) + Key 2 (Long AC)	Key 3 (Options) + Key 2 (Long AC)	Key 6 (Start) + Key 3 (Buzzer)	Disabled	Service Combi + Selector on 3rd Clockwise position at machine startup	Service Combi + Selector on 5th Clockwise position at machine startup
ENVDRHIG	ELUX / TC2	Key 6 (Start) + Key 5 (Time)	Key 5 (Time) + Key 4 (Buzzer)	Key 3 (Long AC) + Key 2 (Dryness)	Key 6 (Start) + Key 3 (Long AC)	Disabled	Service Combi + Selector on 3rd Clockwise position at machine startup	Service Combi + Selector on 5th Clockwise position at machine startup
ENVDRHIG	ELUX / TC3	Key 6 (Start) + Key 4 (Long AC?)	Key 4 (Long AC?) + Key 3 (Dryness)	Key 3 (Dryness) + Key 2 (Buzzer?)	Key 6 (Start) + Key 3 (Dryness)	Disabled	Service Combi + Selector on 3rd Clockwise position at machine startup	Service Combi + Selector on 5th Clockwise position at machine startup
ENVDRHIG	ELUX / TC5	Key 6 (Start) + Key 4 (Buzzer)	Not Set (Child Lock as no sense on TC5 UI: no possibility to visualize LOCK status)	Key 3 (Dryness) + Key 2 (Delicate)	Key 6 (Start) + Key 3 (Dryness)	Disabled	Service Combi + Selector on 3rd Clockwise position at machine startup	Not possible to show working hours without a display
ENVDRHIG	QUELLE / TC2 Input	Key 6 (Start) + Key 5 (Time)	Key 1 (Final Humidity) + Key 2 (Long Anticrease)	Key 3 (Options) + Key 2 (Long Anticrease)	Key 6 (Start) + Key 3 (Options)	Disabled	Service Combi + Right INPUT program selection key at machine startup	Service Combi + Left INPUT program selection key at machine startup
ENVDRHIG	QUELLE / TC3	Key 6 (Start) + Key 5 (Time)	Key 1 (Final Humidity) + Key 2 (Long Anticrease)	Key 3 (Options) + Key 2 (Long Anticrease)	Key 6 (Start) + Key 3 (Options)	Disabled	Service Combi + Selector on 3rd Clockwise position at machine startup	Service Combi + Selector on 5th Clockwise position at machine startup

Platform	UI Level	Service	Child Lock	Buzzer	Water conductivity set	Tank Warning Permanently Disabled	Demo Mode	Show Working Hours
ENVDRHIG	QUELLE / TC5	Key 6 (Start) + Key 4 (Buzzer)	Not Set (Child Lock as no sense on TC5 UI: no possibility to visualize LOCK status)	Key 3 (Dryness) + Key 2 (Delicate)	Key 6 (Start) + Key 3 (Dryness)	Disabled	Service Combi + Selector on 3rd Clockwise position at machine startup	Not possible to show working hours without a display
ENVDRLOW	ELUX / TC6	Key 4 (Start) + Key 2 (Laundry Type)	Not Set (Child Lock as no sense on TC6 UI: no possibility to visualize LOCK status)	Key 2 (Laundry Type) + Key 1 (Delicate)	Not Set: combination useless	Disabled	Service Combi + Selector on 3rd Clockwise position at machine startup	Not possible to show working hours without a display
ENVDRLOW	QUELLE / TC6	Key 4 (Start) + Key 3 (Laundry Type)	Not Set (Child Lock as no sense on TC6 UI: no possibility to visualize LOCK status)	Key 3 (Laundry Type) + Key 2 (Delicate)	Not Set: combination useless	Disabled	Service Combi + Selector on 3rd Clockwise position at machine startup	Not possible to show working hours without a display

3.4 UI STYLINGS



3.5 DIAGNOSTIC MODE

The procedure used to enter diagnostic mode is the following:

MACHINES PROVIDED WITH MECHANICAL SELECTOR KNOB:

- Switch on the machine rotating the main selector in the 1st position CW
- Press the defined combination key (**KEY START + THE NEAREST KEY ON THE LEFT**) and keeping them pressed.

WITHIN 5 SECOND PHASES LED BLINKS AND BUZZER SOUNDS TO GIVE ACKNOWLEDGE OF THE OPERATION.

On machines provided with mechanical selector knob, a particular test is selected turning the knob to a specific position.

The UI test causes all programme LEDs to be switched on in sequence concurrently with the option LEDs, whereas every other test is signalled by a programme LED being steadily lighted. Following pictures explain the connection between programme LEDs and test indexes:

TO EXIT FROM DIAGNOSTIC MODE IT'S SUFFICIENT TO SWITCH OFF THE MACHINE.

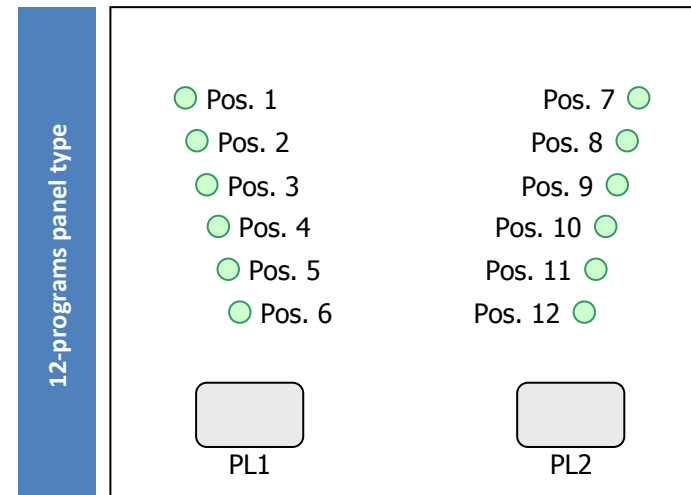
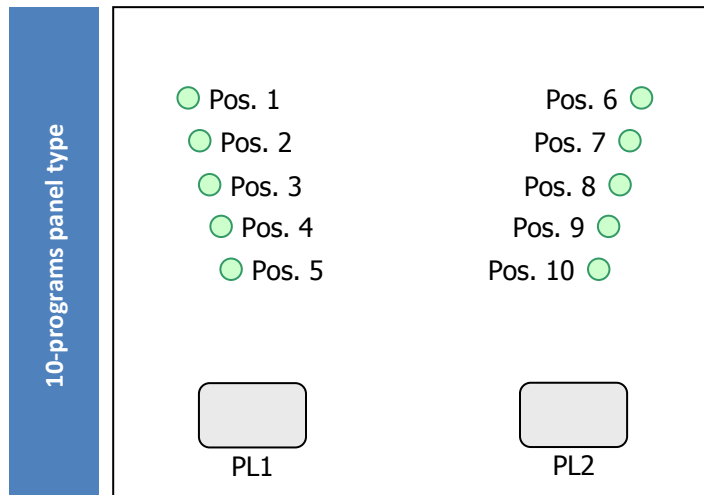
Please note that the electric test cycle may be activated at next switching on according to the machine configuration. To stop it, switch off then on again the machine.

MACHINES PROVIDED WITH "INPUT" EXTERNAL BOARD (WITHOUT MECHANICAL SELECTOR KNOB):

- Switch on the machine and keep the defined combination key (**KEY START + THE NEAREST KEY ON THE LEFT**) pressed.

WITHIN 5 SECOND PHASES LED BLINKS AND BUZZER SOUNDS TO GIVE ACKNOWLEDGE OF THE OPERATION.

On machines provided with "INPUT" external board the choice is made pressing the opposite pushbuttons below the programme LED columns: the leftmost key increases the test index while the rightmost decreases it.



3.5.1 LIST OF AVAILABLE TEST VS PLATFORM

Following sections describe the tests that can be performed when diagnostic mode is entered.

ENV HIGH

Position 1	User Interface Test
Position 2	Condense Tank Switch + Condense Tank Pump
Position 3	Counter Clockwise drum rotation
Position 4	Reduced Clockwise drum rotation (for visual check of the drum)
Position 5	Heater ½ power + Clockwise drum rotation
Position 6	Heater full power + Clockwise drum rotation
Position 7	Conductimetric sensor: drum short circuit
Position 8	Conductimetric sensor: drum open circuit
Position 9	Condense Tank Switch
Position 10	Last alarm display and possible reset

ENV LOW

Position 1	User Interface Test
Position 2	Condense Tank Switch + Condense Tank Pump
Position 3	Counter Clockwise drum rotation
Position 4	Reduced Clockwise drum rotation (for visual check of the drum)
Position 5	Heater ½ power + Clockwise drum rotation
Position 6	Heater full power + Clockwise drum rotation
Position 7	Condense Tank Switch
Position 8	Last alarm display and possible reset

If a LCD is present, the clock digits show the HW selector code as a proof of correct reading (on machines provided with "INPUT" external board, the code related to the main switch sensing is written instead). After few seconds the code disappears or changes according to test needs.

The test cycles are working only if:

- The machine is configured with a valid configuration (no configuration alarm).

Pressing together the key combination during one of the diagnostic cycles the machine will set in electric test mode at the next power on.

Pressing together the key combination in the last alarm display position, the memorised alarm code will be reset.

3.5.2 DESCRIPTION OF DIAGNOSTIC TESTS

Following are described for every test cycle:

- Selector position
- Purpose of test
- Activated components
- UI behaviour
- Working conditions

USER INTERFACE TEST

Purpose of test:	To test the functionality of all leds and switches.
Activated components:	All LEDs and LCD (if present)
UI behaviour:	All led in sequence, pushing a button correspondent led is lighted on, the key number is showed on LCD and the buzzer sound. All LCD icons blink together.
Working conditions:	There is any control to run test (always active).

CONDENSE TANK SWITCH AND PUMP

Purpose of test:	To test the condense tank pump and switch.
Activated components:	If the pump is full of water and the tank switch recognises the condition, the pump is switched on.
UI behaviour:	Until the condense switch is on full position, phase LEDs blink and (only ENV HIGH) the TTE digits are filled with 0 (BLINKING); When the switch goes on void position the LEDs are switched ON and (only ENV HIGH) the TTE digits are filled with 1 (STEADY).
Working conditions:	Door closed (Time out 10 min.)

COUNTER CLOCKWISE DRUM ROTATION

Purpose of test:	To test drum motor in counter-clockwise direction.
Activated components:	Motor triac and relay of direction (for assembly line request, in this position will be switched on tank pump also).
UI behaviour:	Phase LEDs are switched ON.
Working conditions:	Door closed (Time out 10 min.).

SLOW CLOCKWISE DRUM ROTATION

Purpose of test:	To test drum motor in clockwise direction.
Activated components:	Drum Motor triac. The motor performs a low-speed movement (for assembly line request). Main Fan motor is activated on inverse direction (to test direction relay)
UI behaviour:	Phase LEDs are switched ON.
Working conditions:	Door closed (Time out 10 min.).

HEATER ½ POWER + CLOCKWISE DRUM ROTATION

Purpose of test:	To test the ½ heating power element.
Activated components:	High heating element, Drum Motor on direct direction to give ventilation (full speed).
UI behaviour:	The digits on LCD show NTC1 drying temperature. Phase LEDs are switched ON.
Working conditions:	Door closed (Time out 10 min.).

HEATER FULL POWER + CLOCKWISE DRUM ROTATION

Purpose of test:	To test the ½ & full power-heating element.
Activated components:	Both heating elements, Drum Motor on direct direction to give ventilation (full speed).
UI behaviour:	The digits on LCD show NTC1 drying temperature. Phase LEDs are switched ON.
Working conditions:	Door closed (Time out 10 min.)

CONDUCTIMETRIC SENSOR: DRUM SHORT CIRCUIT (NOT FOR ENV LOW)

Purpose of test:	To verify conductimetric sensor in short circuit condition.
Activated components:	Conductimetric sensor reading.
UI behaviour:	The step lasts 4 seconds (software configured). During this time all phase LEDs blinks and (only ENV HIGH) the TTE digits are filled with 0 (BLINKING), to give information of acquisition phase. At the end of step phase LEDs are switched OFF and (only ENV HIGH) the TTE digits are filled with 1 (STEADY) to give ok, otherwise a sensor alarm is generated (if sensor alarms are enabled, otherwise phase LEDs blinks forever).
Working conditions:	Door closed.

CONDUCTIMETRIC SENSOR: DRUM OPEN CIRCUIT (NOT FOR ENV LOW)

Purpose of test:	To verify conductimetric sensor in open circuit condition.
Activated components:	Conductimetric sensor reading.
UI behaviour:	The step lasts 4 seconds (software configured). During this time all phase LEDs blinks and (only ENV HIGH) the TTE digits are filled with 0 (BLINKING) to give information of acquisition phase. At the end of step phase LEDs are switched OFF and (only ENV HIGH) the TTE digits are filled with 1 (STEADY) to give ok, otherwise they blink forever (no sensor alarm are managed in this step).
Working conditions:	Door closed.

CONDENSER TANK SWITCH

Purpose of test:	To test the tank switch (for assembly line only).
Activated components:	If the pump is full of water and the tank switch recognises the condition, the pump is switched on.
UI behaviour:	Until the condense switch is on full position, phase LEDs blink and (only ENV HIGH) the TTE digits are filled with 0 (BLINKING); When the switch goes on void position the LEDs are switched OFF and (only ENV HIGH) the TTE digits are filled with 1 (STEADY).
Working conditions:	Door closed.

CLOCKWISE DRUM ROTATION

Purpose of test:	To test the ½ heating power element.
Activated components:	Drum Motor.
UI behaviour:	The digits on LCD show NTC1 drying temperature. Phase LEDs are switched ON.
Working conditions:	Door closed (Time out 10 min.)

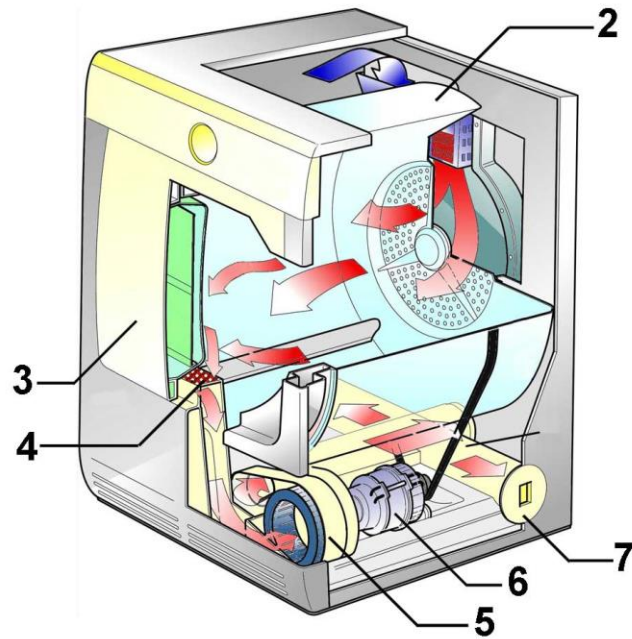
3.6 ELECTRIC TEST MODE

After the diagnostic cycles the machine is configured to wake up next time on ELECTRIC TEST MODE.
Usually on this mode all electrical loads are activated.

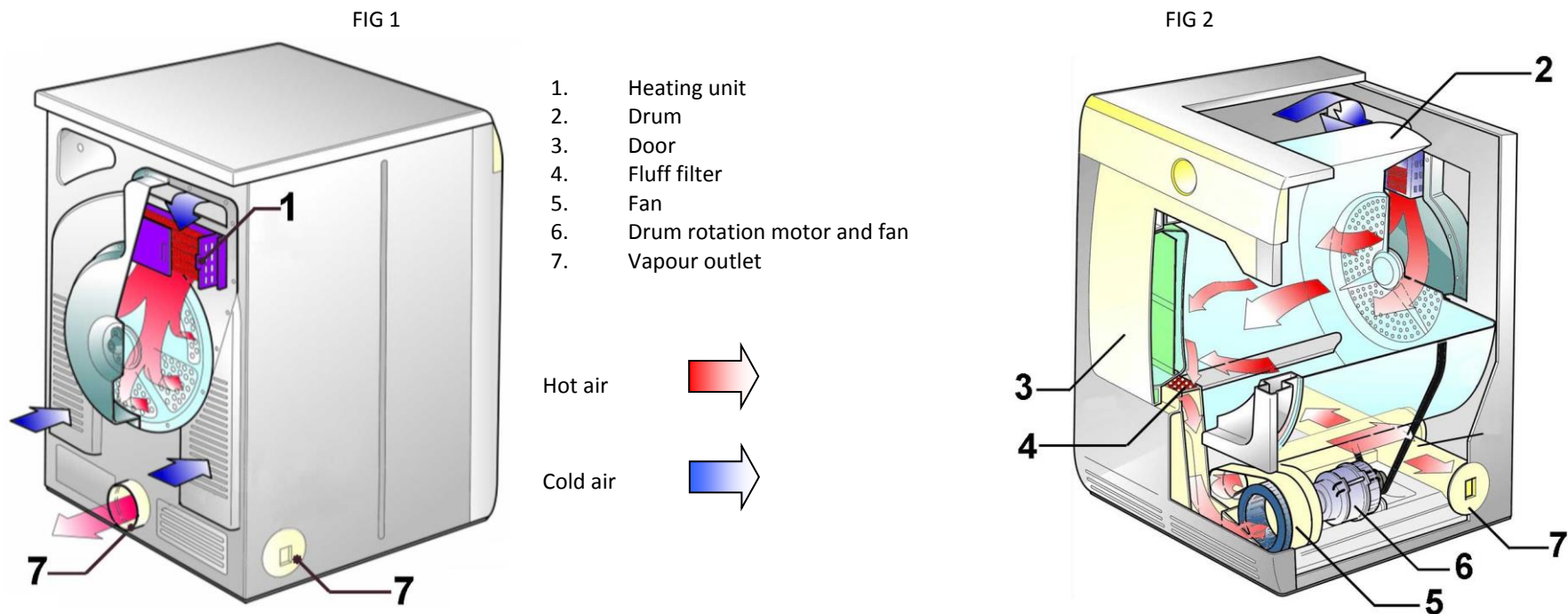
Note for machines provided with “INPUT” external board:

On these machines, the LED related to the default programme is switched on during the electric test. The keys are disabled.

4 OPERATING PRINCIPLE & COMPONENTS



4.1 OPERATING PRINCIPLE



This type of appliance expels damp air into the environment.

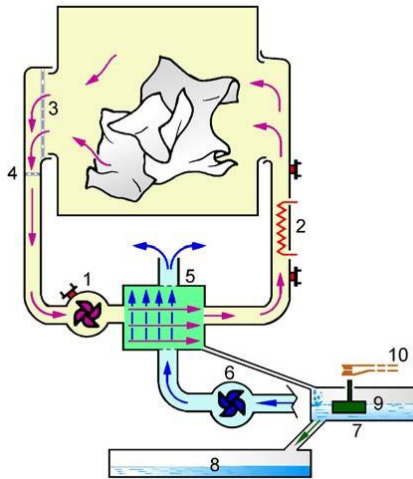
The air from the room enters the appliance through the slots at the rear of the unit fig. 1, (blue arrows). The air enters the heating unit (1) through an opening located at the top of the back panel, it heats up (red arrows), it is carried from the back panel cover into the drum (2) fig. 2. It passes through the damp washing, reducing humidity; it leaves through the front part of the drum (here the air is hot and humid) through a fluff filter (4) located under the door surround.

The hot, humid air passes through the conduit and enters the fan turbine (5) driven by the drum rotation motor (6), before being expelled to the outside through the relevant exhaust outlets (7), located at the sides and back.

Use a pipe with a maximum horizontal and vertical length of 2 m as a drainage extension.

4.1.1 DRYING CIRCUIT

Version with canister in lower section



There are two air circuits inside the dryer:

- the first is a warm-air circuit, which is sealed within the appliance
- the second is an open cold-air circuit, which circulates air from the ambient through certain sections of the appliance.

In the **sealed warm-air circuit**, the air circulates inside the appliance:

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

The air coming from the heat exchanger is now dry and the cycle continues as described above.

The **cold-air circuit** (the air circulates in one side of the appliance) is not sealed.

The fan (6) draws in air through an air intake on the rear of the appliance, and ducts the air to the heat exchanger (5), cooling it, after which the air is expelled on the opposite side of the heat exchanger dissipating inside the appliance and exiting from the venting grille in the plinth.

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

The condensation water, which forms in the heat exchanger, is collected in a sump (7) which contains a float (9):

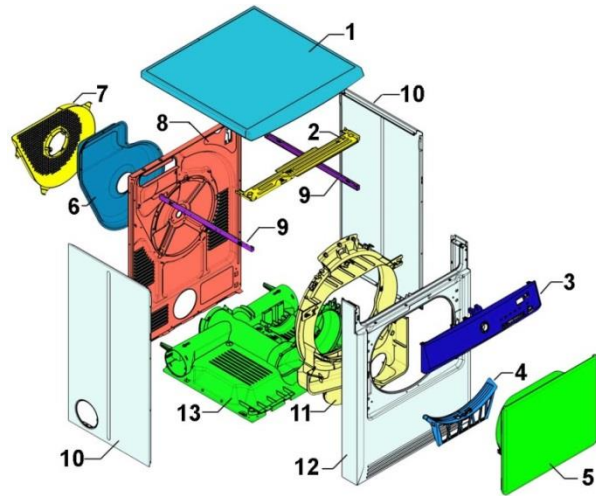
- In versions with the canister in the lower section, the water flows by gravity from the sump (7) into the canister (8); when the canister is full, the water level in the sump (7) rises. This causes the float (9) to rise, thus actioning the microswitch (10).

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

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

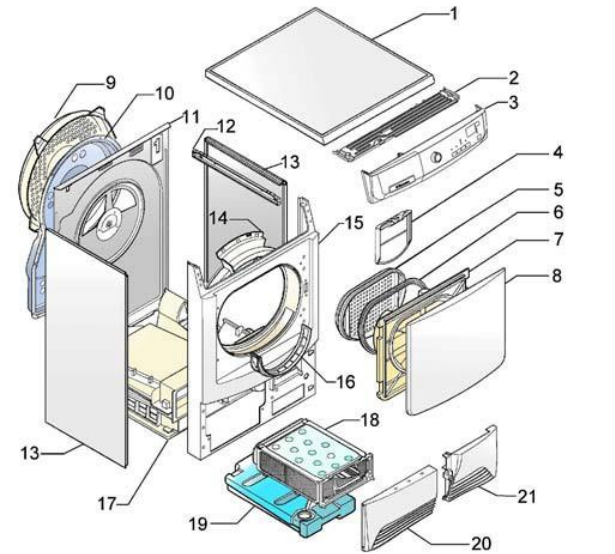
4.2 HOUSING

4.2.1 CONSTRUCTION



- | | |
|-------------------------|---------------------------|
| 1. Worktop | 7. Back panel cover guard |
| 2. Support for controls | 8. Back panel |
| 3. Control panel | 9. Crossbar |
| 4. Fluff filter | 10. Sides |
| 5. Door | 11. Conduit |
| 6. Back panel cover | 12. Front |
| | 13. Base |

Version with canister in lower section



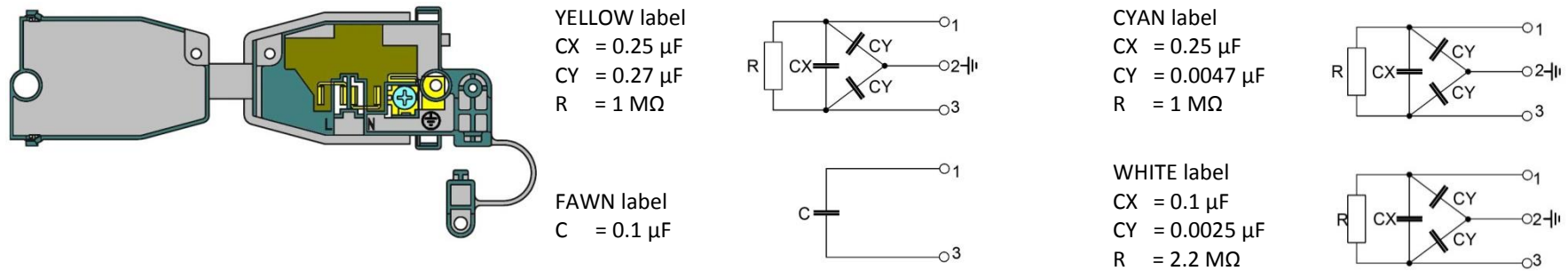
- | | |
|--------------------------------|------------------------|
| 1. Work top | 11. Rear panel |
| 2. Control panel support | 12. Cross-member |
| 3. Control panel | 13. Side panel |
| 4. Fluff filter | 14. Duct |
| 5. Fluff filter support | 15. Front panel |
| 6. Door seal | 16. Lower fluff filter |
| 7. Door internal frame | 17. Base |
| 8. Door external frame | 18. Heat exchanger |
| 9. Rear panel cover protection | 19. Lower canister |
| 10. Rear panel cover | 20. Panel |
| | 21. Plinth |

The front and sides are made of painted sheet metal, whereas the back is in zinc-coated sheet metal. They are fastened using self-tapping screws and are connected to the base.

The shaped base, in carboran, supports all the main elements.

4.3 ELECTRICAL EQUIPMENT

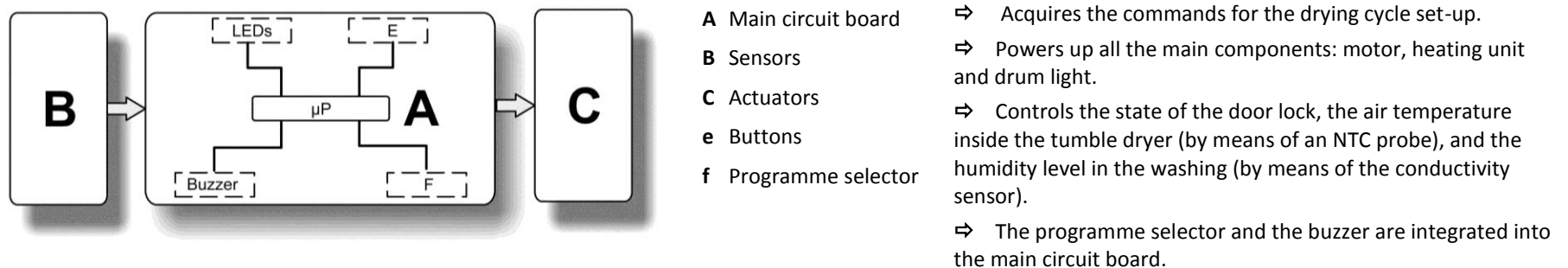
4.3.1 JUNCTION BOX WITH INTEGRATED ANTI-INTERFERENCE FILTER



The anti-interference filter (inserted into the junction box) has the job of preventing any radio disturbance generated inside the tumble dryer from entering the power supply line.

This device only works correctly if connected to a proper earthing system.

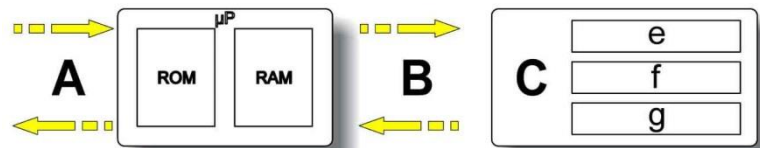
4.3.2 MAIN CIRCUIT BOARD FUNCTIONS



⇒ This board also contains the various buttons used to select the drying cycle options, the indicator LEDs for the buttons and phases/warnings.

⇒ Some models are equipped with an LCD display showing the remaining cycle time or any delayed start, all the drying phases, alarms and the various settings.

4.3.3 ELECTRONIC CONTROL MEMORIES: GENERAL STRUCTURE



- A** Asynchronous external serial port
- B** Synchronous internal serial port
- C** EPROM external to the μ P
- e** Power fail and machine status
- f** Board configuration
- g** Description of cycle

ROM

This area of the memory contains the "firmware" code comprising the appliance functions:

- ⇒ management of electrical loads (motor, heating unit);
- ⇒ management of sensors (NTC, conductivity sensor, door switch status);
- ⇒ management of the user interface;
- ⇒ management of the serial port;
- ⇒ management of power failures and alarms;
- ⇒ carrying out the drying programme.

In normal appliances this area is of the **Read Only Memory** type, and therefore cannot be modified. Lorem ipsum dolor sit amet, consectetur adipiscing elit.

EEPROM

This memory contains various types of data:

- ⇒ **Power fail and machine status**, that is to say the information required to start the appliance up again in the event of a power failure;
- ⇒ **Drying cycle configuration**: this file describes the various steps in the drying cycle for each family of appliances (ventilated, condensation, conductivity...);
- ⇒ **Machine configuration**: data contained in this section of the memory are those that define the configuration of each individual appliance and they are interpreted by the operating software. The following are defined in this file:
 - Programmes
 - Number and functions of buttons
 - LED functions
 - Buzzer operation
 - Working limits (voltage/frequency)
 - Machine identification (PNC + ELC + Serial number)
 - Heating unit power
 - Preferential direction of rotation of the motor

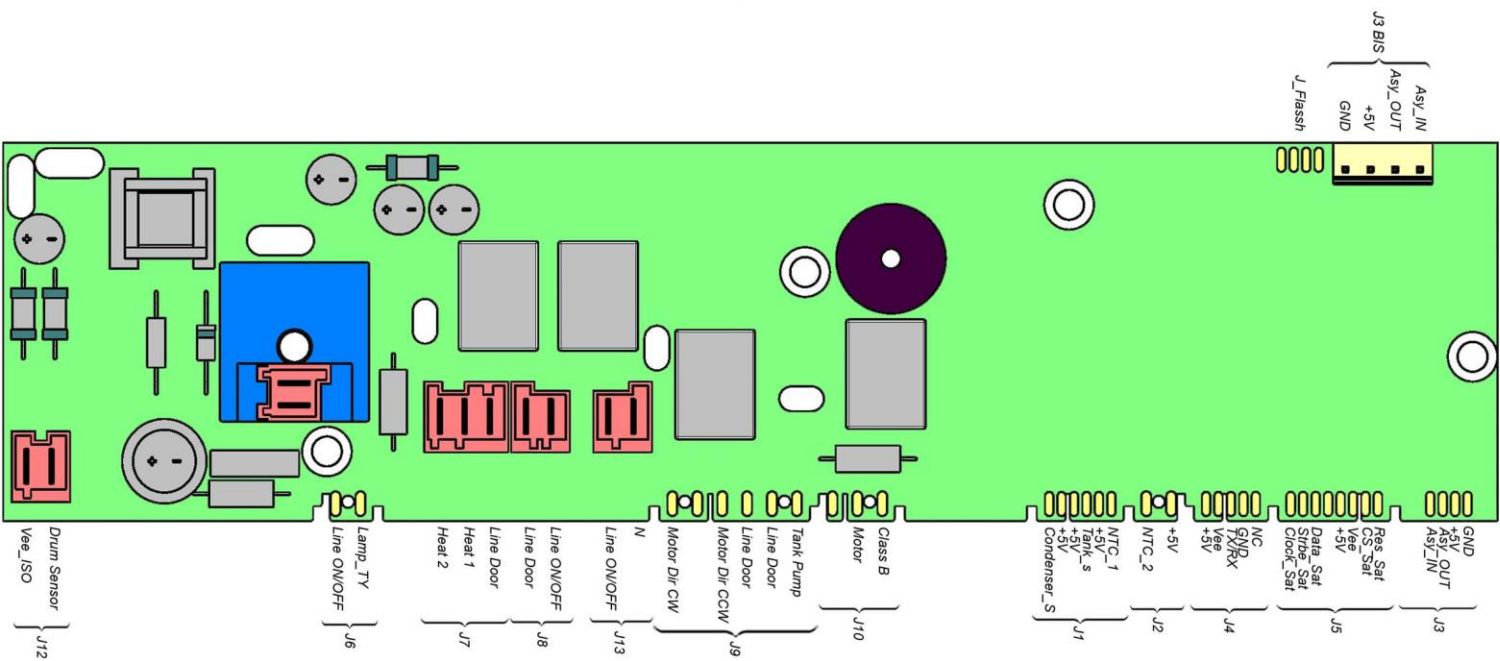
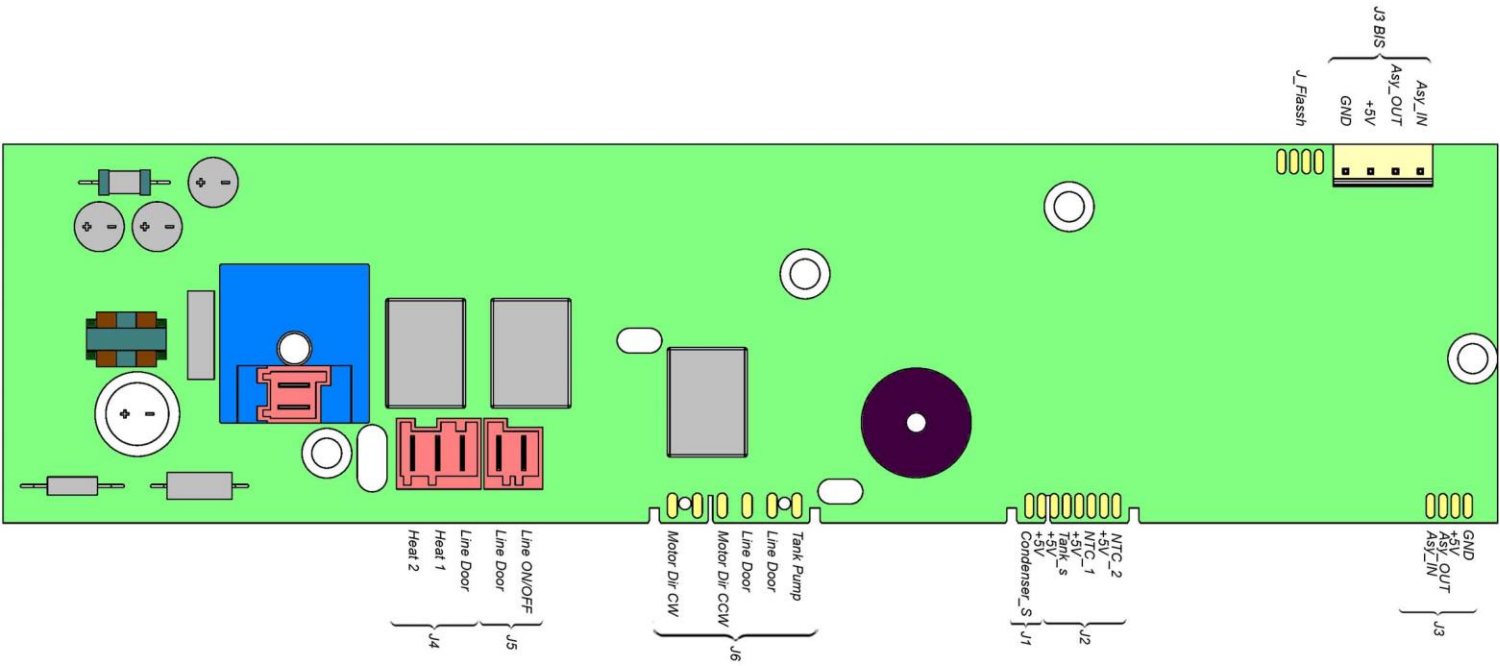
RAM

This memory contains the variables, that is to say all the dynamic information used during running of the programme:

- ⇒ Machine status
- ⇒ Cycle selected
- ⇒ Alarms

The memory is deleted every time the power supply stops (in the event of a power failure or when the appliance is turned off).

The contents of the memory can be read using a computer connected via a DAAS interface.

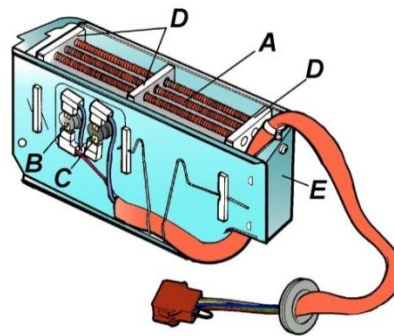


4.3.4 HEATING UNIT

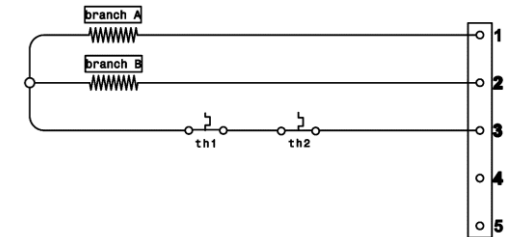
The heating unit is made up of two heating elements with different powers, inserted in ceramic supports and the whole surrounded by a sheet metal casing. Two normally closed safety thermostats are fixed to one side of the container:

- TH1 with automatic reset (2) which triggers at a temperature of $92^{\circ}\pm 3^{\circ}\text{C}$ and cuts the power supply to the two heating elements,
- thermostat TH2 (3) triggers at 125°C and, after opening the contact, it remains in this state and cuts the power supply to the heating unit permanently.

Volt (V)	Rated power (W)		Resistance 20°C (Ω)	
	Branch A (1-3)	Branch B (2-3)	Branch A (1-3)	Branch B (2-3)
230	1400	700	33,89	67,78
230	1400	800	33,89	59,75
230	1400	900	33,89	53,11
240	1400	700	36,90	73,80
240	1400	800	36,90	86,75
240	1400	900	36,97	57,83



- A. Heating element filament
- B. Safety thermostat with automatic reset TH1
- C. Safety thermostat TH2
- D. Ceramic supports
- E. Sheet metal casing



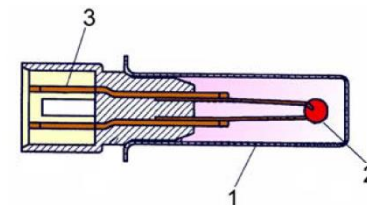
Warning: if one of the thermostats is faulty, the entire heating unit must be replaced!

4.3.5 NTC PROBE

This sensor is fixed to the hot air fan screw. It comprises a resistor, inserted in a metal capsule, with a value that decreases as the temperature increases. The electronic circuit reads the value of the resistor (which depends on the temperature inside the tumble dryer) and when it drops below a certain value, cuts the power supply to the heating unit.

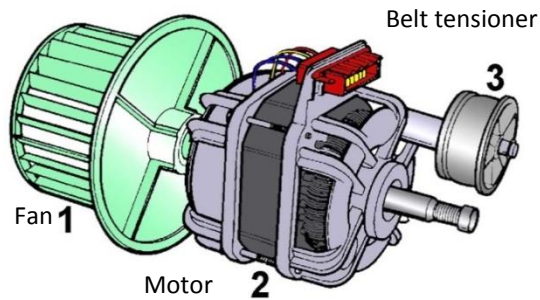
As the air cools, the value of the resistor increases, and when it reaches a certain value the electronic circuit restores the power supply to the heating unit. This occurs every time the temperature inside the appliance exceeds a given value, which varies according to the drying cycle that has been selected.

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



- 1. Metal capsule
- 2. NTC
- 3. Terminals

4.3.6 Motor unit

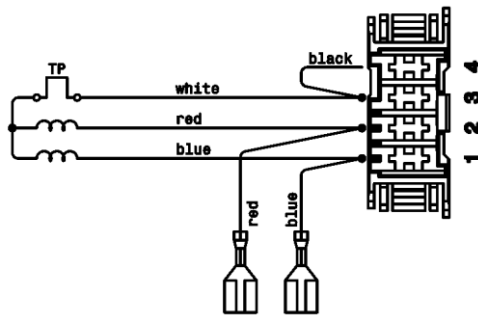
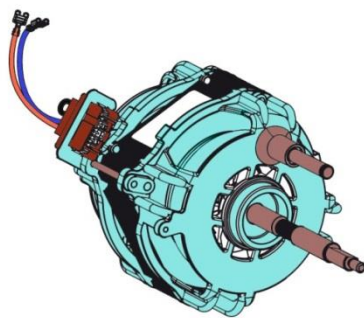


General characteristics:

The motor unit is made up of a belt tensioner (3), a fan (1 which sucks the air from the inside of the appliance and forces it towards the outlets) and the single-phase induction motor with thermal cutout.

Single-phase induction motors are characterised by a lack of torque on initial start-up, and this is obtained by adding a coil crossed by a current that is 90° out of phase with respect to the main one. This phase offset is obtained by means of a capacitor serial connected to the coil.

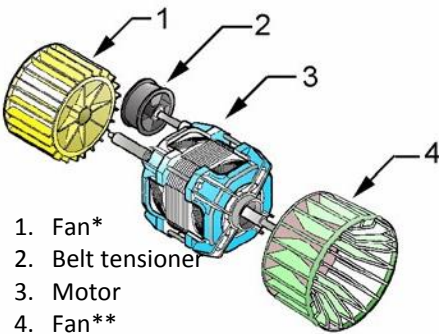
The motor used in tumble dryers has the stator made up of two identical coils, the 90° current offset is determined by the condenser (C) which is connected in series first to one coil and then to the other (to determine rotation in one direction or in the opposite direction). This change in connections is determined by the circuit board.



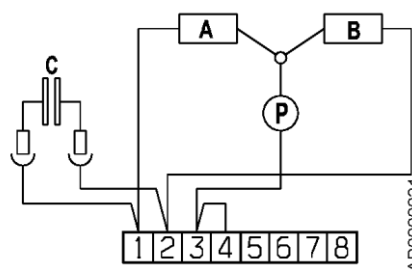
Motor	370524117	12512890 12512891
Voltage	220/240v	220/240v
Hz	50 Hz	50 Hz
Ampere	1.1 A	0,6A
Capacitor	8 µF	6 µF
Resistance	PIN 1-3 22 Ω PIN 2-3 20.8 Ω ± 7%	PIN 1-3 26,2 Ω PIN 2-3 26,2 Ω ±7%

It is possible to get an idea of the efficiency of the motor by measuring the resistance of the coils:

	PIN 1-3	PIN 2-3
Resistance	22 Ω / 26.2 Ω ± 7%	20.8 Ω / 26.2 Ω ± 7%



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



The motor group consists of a belt tensioner (2), two fan blades (1 and 4) for circulating cold and warm air respectively, fitted to the motor shaft using bolts, and a single-phase asynchronous motor (3) featuring an overheating safety cut-out.

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

Winding A ohm 29 ~ (contacts 1-3)

Winding B ohm 29 ~ (contacts 2-3)

The motor is powered by the electronic board via a relay (which determines the direction of rotation) and a triac.

*Fan (inclined blades for cold air circulation) **Fan (straight blades for warm air circulation)

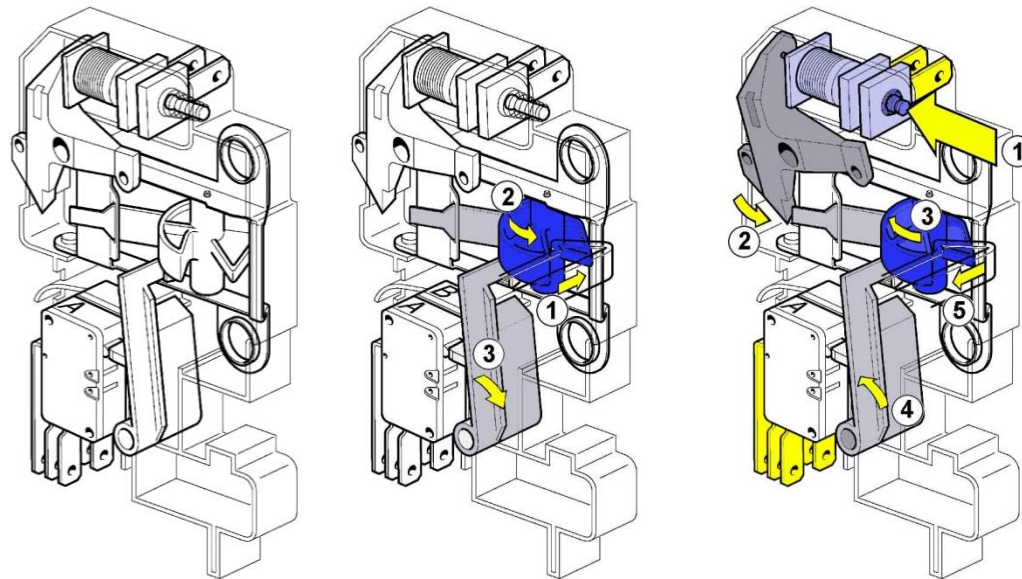


Important: when assembling the fan blades to the motor, do not reverse their positions, as this would cause incorrect air circulation inside the dryer.

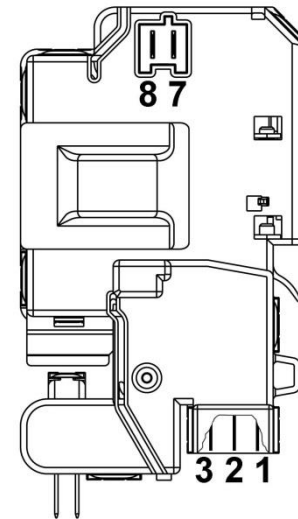
4.3.7 DOOR LOCK WITH DOOR MICROSWITCH INCORPORATED

The door lock is an electromechanical device that powers electrical loads after the door has been closed and the programme selector has been turned (ON/OFF closed).

It is fitted with a child safety device which, in case of need, allows the door to be opened by pushing from the inside.



Position of connectors

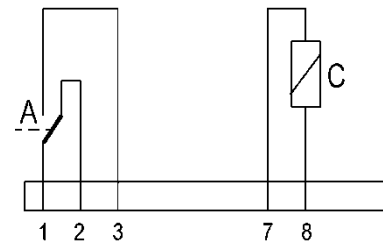


Door open:
the lever presses the button on the switching device "A"; in this position contacts 1-2 are closed. In certain models, these feed the drum lamp when the main switch is closed.

When the door is closed:
the latch (1) turns the cam (2): this movement releases the lever (3) and the deviator button "A" changes position, closing contacts 1-3 and thus powering up all components in the appliance (cutting the power supply to the drum lamp, if there is one).

When the open door button is pressed:
the main circuit board powers the coil; the core (1), as it moves, acts on the anchor (2), unlocking the cam (3). The latter rotates and moves the lever (4) which closes the deviator contacts "A" in position 1-2, and releases the door latch (5).

Wiring diagram



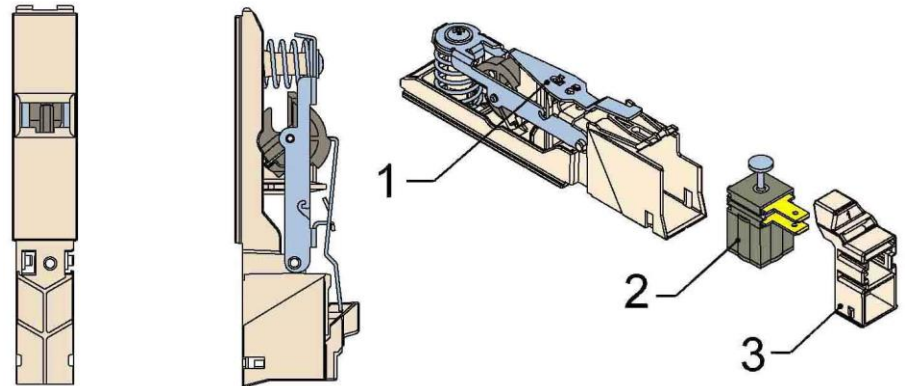
- A** Deviator in door open position
- Contacts 1-2: 0Ω
- Contacts 1-3: $\infty \Omega$
- C** Door opening coil
- Contacts 7-8: $\sim 90 \Omega$

4.3.8 DOOR LOCK WITHOUT DOOR MICROSWITCH INCORPORATED

Dependent on the version, the door lock may be mechanical with manual door opening or electronic with the door opening when a button is pressed. In the second case the door is opened by an electromagnetic coil which releases the fastening latch by means of a lever.

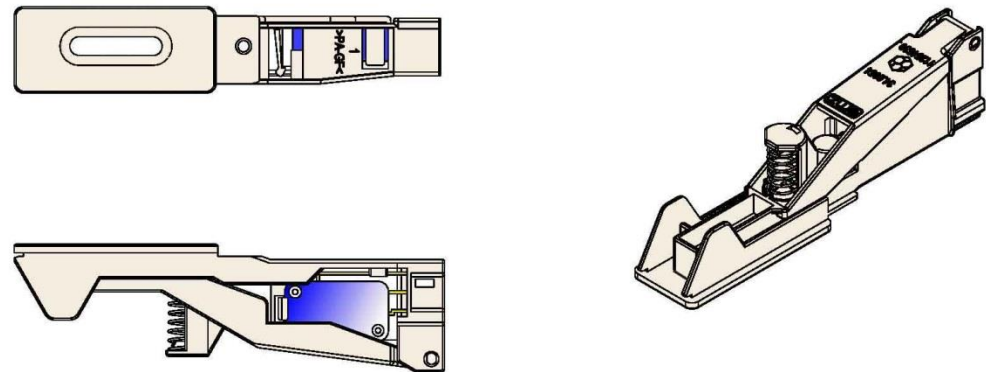
The door lock is fitted with a child safety device which, in case of need, allows the door to be opened by pushing from the inside.

1. Latch lever
2. Coil (present on models with automatic opening)
3. Coil guard

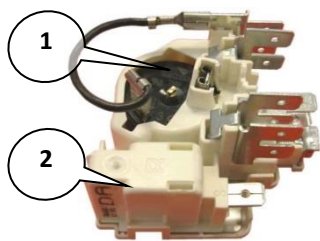


4.3.9 DOOR MICROSWITCH

The door switch powers the electrical components after the door has been closed and after the selector has been turned (ON/OFF closed). The switch is located above the door opening and it is closed, when the door itself is closed, by means of a pin located on the door itself.



4.3.10 PTC MOTOR PROTECTION



1. PTC (positive temperature coefficient) necessary to determine the direction of rotation during the start-up phase
2. protective casing comprising a bimetal element which trips when the motor absorbs too much current due to overloading.

4.4 FUNCTIONAL PARTS

4.4.1 DRUM

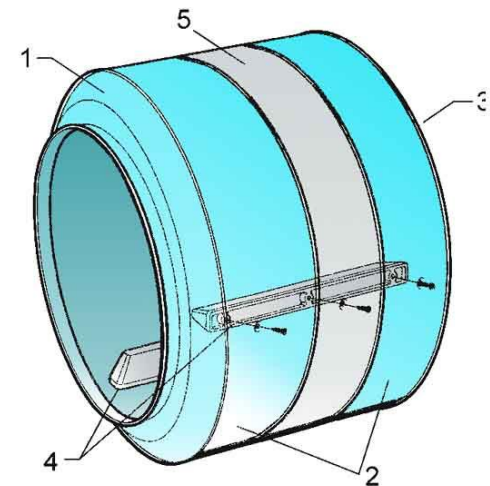
1. Front flange
2. Drum casing
3. Rear flange
4. Blades
5. Plastic strip

The drum is made up of two half-casings, one at the front and one at the back, joined by a plastic strip (5).

The fact that the two half-casings are separated allows the conductivity meter to measure the conductivity of the washing inside the drum.

Parts 1-2-3 are joined together by crimping. The plastic blades are fixed to the drum casing using screws. Drum components are made of steel plate.

The drum rear pin is fastened onto the rear flange by means of riveted eyelets.



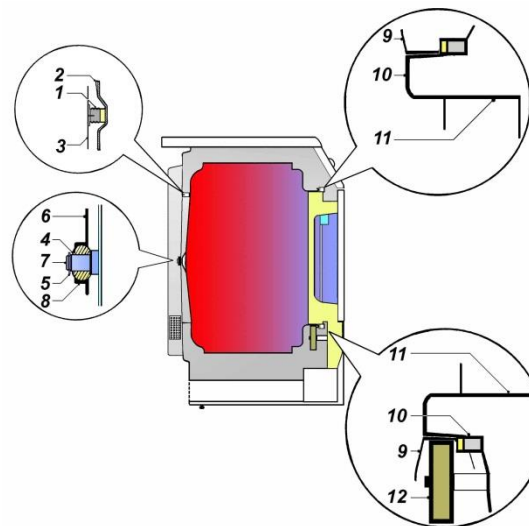
4.4.2 AIR SEALS AND DRUM PIN SUPPORT

Rear air seal

1. Rear gasket (fixed to the back panel)
2. Drum
3. Back panel

Rear drum support

4. Antifriction washer
5. Fixing ring (Benzing)
6. Back panel
7. Drum pin
8. Support with bushing (fixed to the back panel)



Front drum support and air seal

9. Drum
10. Felt washer with tubular support
11. Conduit

Bottom drum support

9. Drum
10. Felt washer with tubular support
11. Conduit
12. Support roller for drum movement

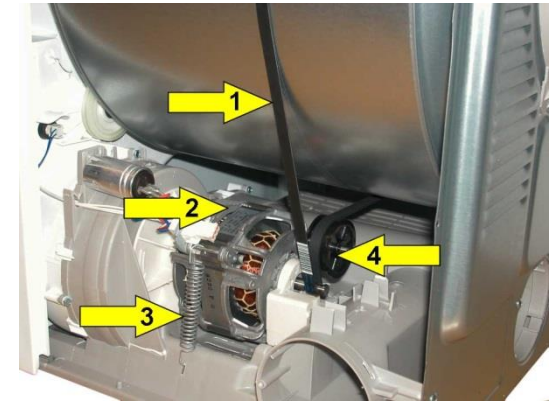
4.4.3 DRUM ROTATION MECHANISM

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

The drum is turned by means of a belt (1) which is driven by a motor pulley (2) fixed to the base and kept under tension by the spring (3).

There is a belt tensioner (4) on the motor casing, and thanks to the tension in the spring (3) this increases the angle at which the belt winds onto the drum.

Two-way rotation of the drum is determined by the circuit board, which reverses the direction of the motor, resulting in brief periods in which the drum rotates in the opposite direction, allowing the washing to unwind. During these times the heater unit is cut out due to the reduced level of ventilation inside the appliance.



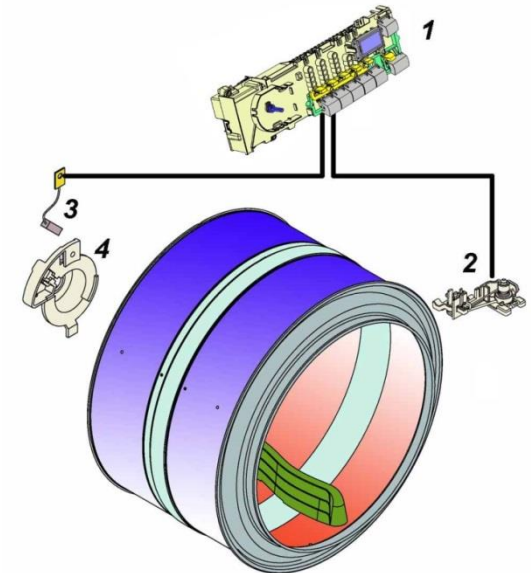
4.4.4 CONDUCTIVITY SENSOR

These electronics use a conductivity sensor, comprising an electronic circuit (located inside the main circuit board) and a part outside the board comprising wiring cables, two brushes (contact sensors for the drum half-casings) and the two half-casings themselves.

The brush in contact with the front half-casing (2) is fixed in a swinging support to the conduit, and is wired to the circuit board; the other brush is in contact with the drum pin (3) inserted in the drum pin guard (4); connection of this sensor to the circuit board (1) takes place via the unit which acts as the earthing system for the appliance's electronic circuit.

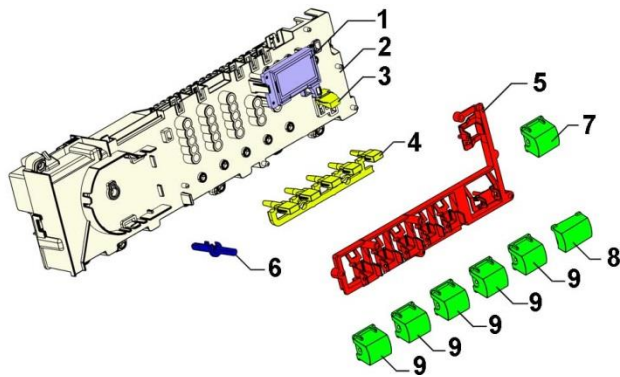
As the drum is divided into two parts by an insulating strip, there is an infinite impedance between the front and rear half-casings (to which the sensors are connected) when it is empty; whereas its value is influenced by the load of washing, the type of fabric and the level of humidity in the drum.

The impedance value is approximately $1M\Omega \div 25M\Omega$. This value is transformed into an oscillation of $\sim 260Hz \div 0Hz$, which when read and processed by the electronic circuit (fuzzy logic) determines the duration and final humidity level for the chosen cycle.



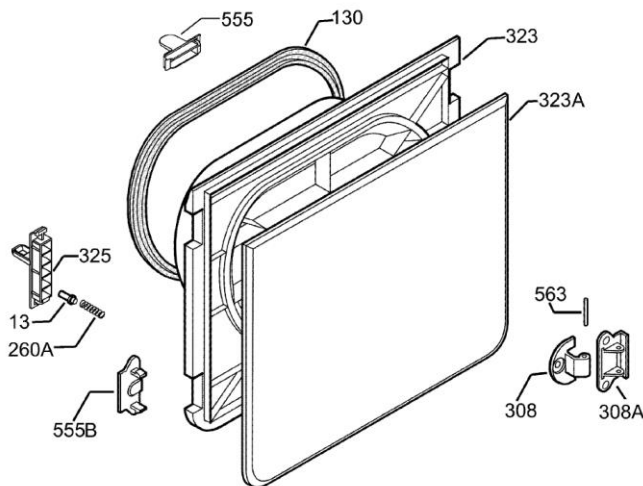
4.5 COMMAND PANEL

4.5.1 ELECTRONIC CONTROL



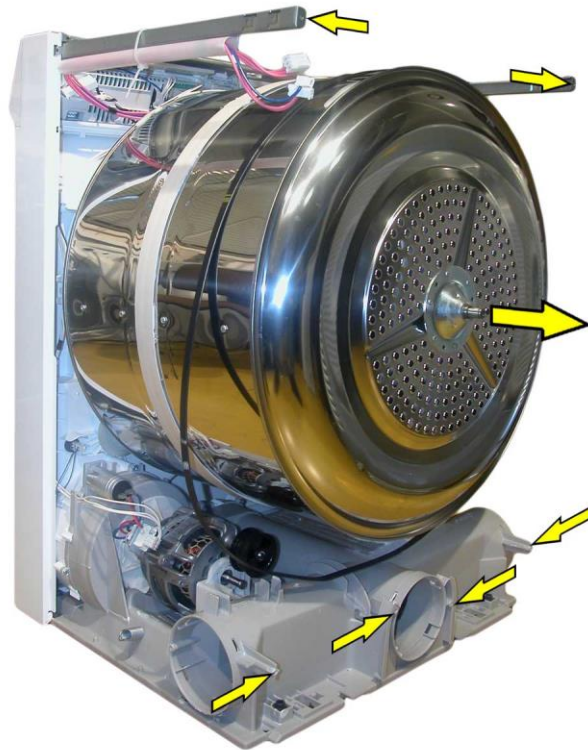
1. LCD
2. Board support with board inside.
3. START/PAUSE button light diffuser.
4. Function light diffuser.
5. Button springs / support.
6. Selector pin.
7. Delay start button.
8. START/PAUSE button.
9. Function buttons.

4.6 DOOR



- 13 Pin, door opening button, NEX4
- 130 Gasket, door, NEX4
- 260A Spring, ejector, Door catch, NEX4
- 308 Door hinge
- 308A Stiffening, Door hinge, plastic, NX4
- 323 Inner door, ENV06 AEG VENT.
- 323A Decor frame, outer door, NX4
- 325 Door catch
- 555 Tapet, door
- 555B Decor plate, re-enforcement, Door hinge, NEX4
- 563 Pivot, Door hinge, NEX4

5 ACCESSIBILITY

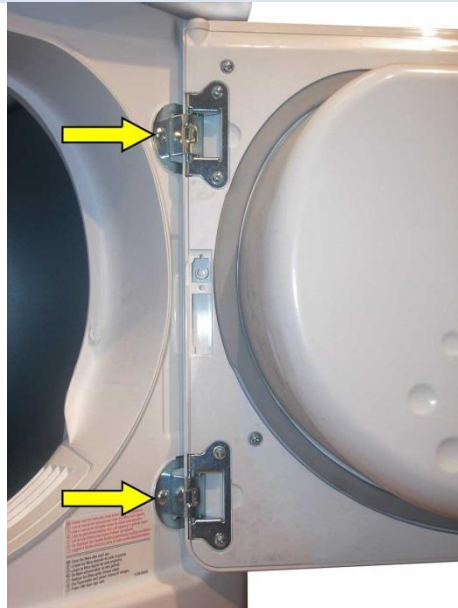




Individual components must only be accessed after the power cable has been disconnected from the socket.



DOOR



Unfasten the 2 screws fixing the door to the front.

DOOR FASTENING LATCH

There are two types of latches, depending on the type of door lock fitted on the machine:

- latch for AEG door lock,
- latch for EMZ door lock with fitted microswitch.

In both models the reassembly procedure is as follows:

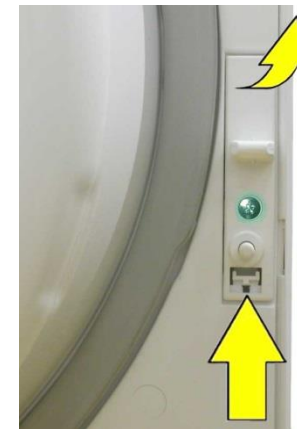
1. unfasten the screw fixing the door lock.
2. Use a screwdriver to lift up the fastening hook, being careful not to damage it.
3. Turn the whole block upwards and remove it.



When reassembling the door fastening latch make sure that the spring is correctly positioned.



AEG latch

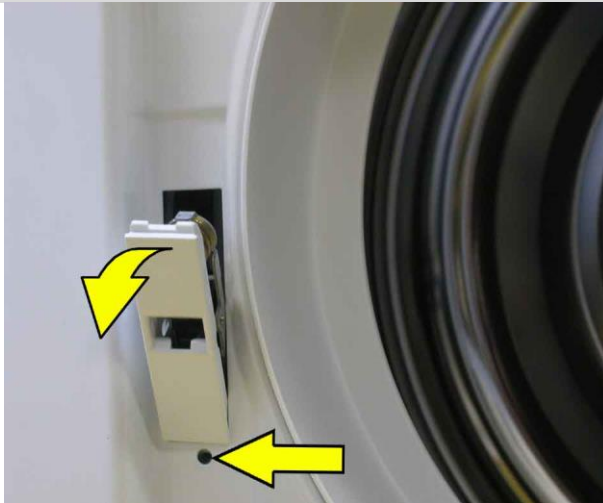


EMZ latch



DOOR LOCK

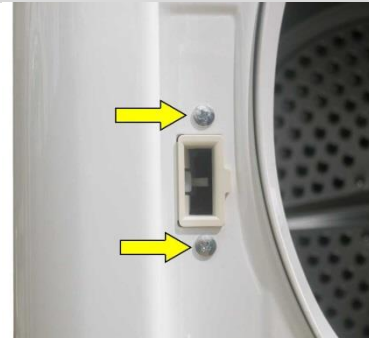
AEG MODEL DOOR LOCK



Unfasten the screw that fixes it in place.

Lower it slightly and extract it, turning it forwards.

EMZ model door lock with fitted microswitch



Remove the left hand side panel (see paragraph).
Unfasten the 2 screws fixing the door lock to the front.
Remove the door lock, turning it slightly and moving it upwards.

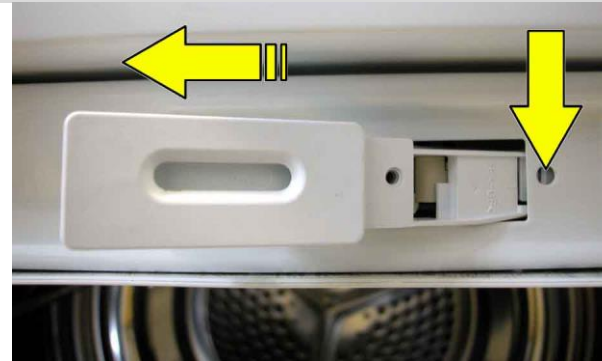


Door microswitch latch (certain models only)



With a screwdriver, press on the locking hook and turn it in the direction indicated by the arrow.

Door microswitch (certain models only)

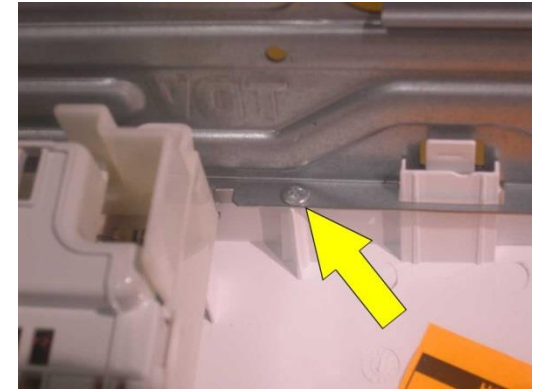


Unfasten the fixing screw.
Extract it slightly and move it to the left until it reaches the connector.
Disconnect the connector and fasten it to the front with a piece of sticking tape to prevent it from going back into the machine.

CONTROL PANEL



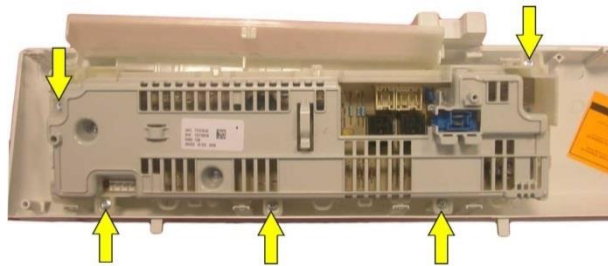
Unfasten the 4 screws fixing the control panel and crossbar to the frame.
Lift the whole unit slightly and turn it forwards.



Unfasten the screw fixing the crossbar to the control panel, and remove the crossbar.
Disconnect all the wires, taking care to note down their positions for when you reconnect them.

MAIN CIRCUIT BOARD

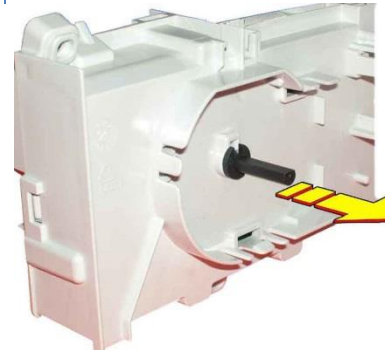
REMOVING THE BOARD



Unfasten the 5 screws fixing the board assembly to the control panel.

Use a screwdriver to lever off the fixing clips without straining them too much, and remove the entire board assembly

REMOVING THE SELECTOR PIN

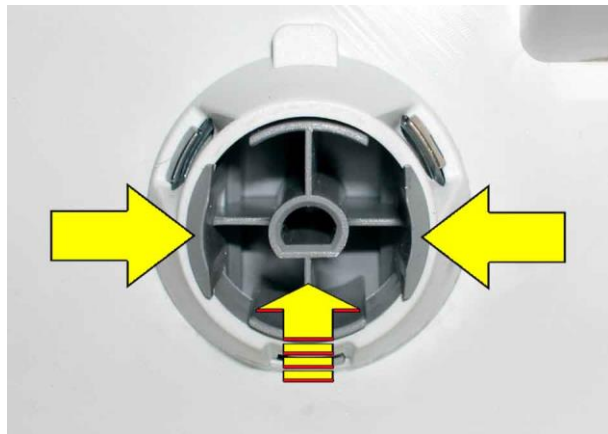


The selector pin can be removed after removing the main circuit board.
Turn the selector pin to the OFF position.
Pull it outwards.

WARNING

If the pin does not come out, check carefully to ensure that it is in the proper OFF position.

REMOVING THE SELECTOR DIAL

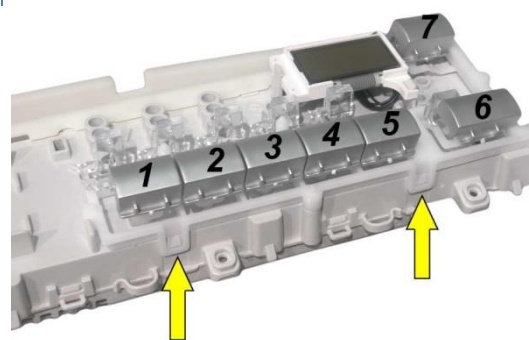


The selector pin can be removed after removing the main circuit board.

Press the two fixing clips towards the centre.

Push the dial outwards.

BUTTONS AND BUTTON SPRINGS



Buttons, together with the button springs and light diffuser remain attached to the main circuit board support by means of side clips.

To remove them, lever them off gently with a screwdriver without forcing them.

If the individual buttons are removed, before replacing them check the number on the inside of each one and make sure they are positioned as shown in the figure.

BACK PANEL COVER



Remove the worktop (see paragraph).

Unfasten the three screws (1) fixing the back panel guard (made of plastic) at the centre.

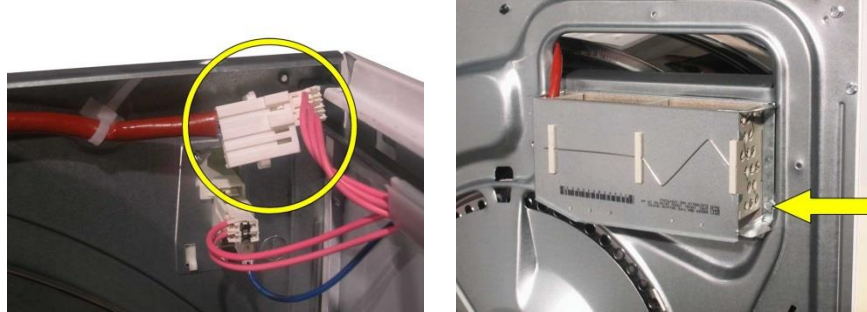
Use a screwdriver to release the hooks that fasten it on the outside. (2)



Unfasten all perimeter screws fixing the back panel cover.

The figures show a conductivity sensor tumble dryer with rear brush; in machines that are not fitted with a rear brush the procedure is exactly the same.

HEATING UNIT

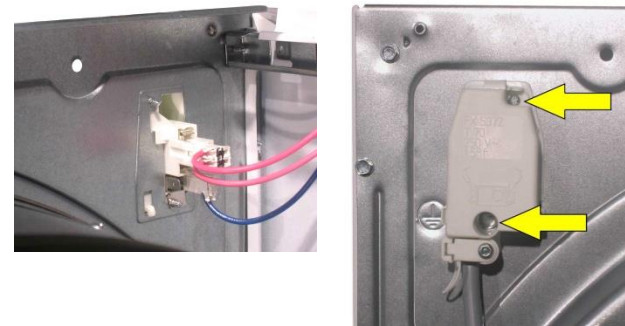


Remove the worktop (see paragraph).
Remove the plastic back panel guard and the back panel (see paragraph).

Disconnect wires from cable clamps. Disconnect the connector.

Unfasten the screw fixing the heating unit to the back panel, and remove it.

ANTI-DISTURBANCE FILTER

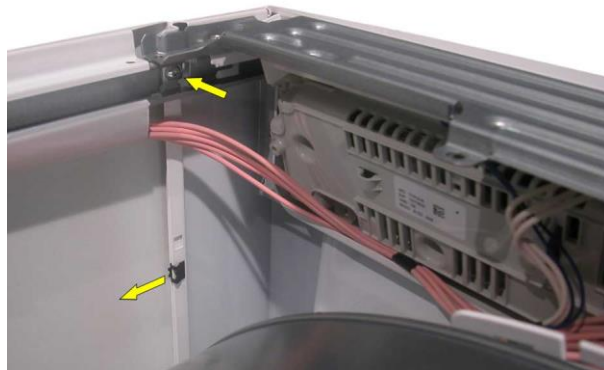


Remove the worktop (see paragraph).

Disconnect the anti-disturbance filter.

Remove the 2 fixing screws.

SIDES



Remove the worktop (see paragraph).

Use a screwdriver to remove the fastening clips.

Remove the internal screws.

Remove the air outlet plugs and unfasten the fixing screw.

Unfasten the rear fixing screws.

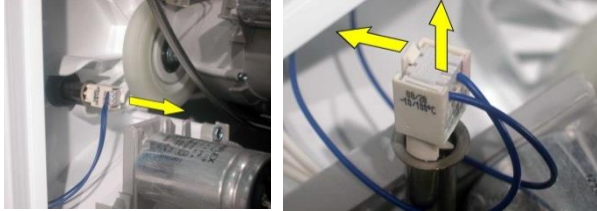
After removing all the screws, lift the panels slightly upwards and remove them.

When reassembling, make sure that the holes drilled in the base of the panels coincide with the positioning points in the base.



The figures show a conductivity sensor tumble dryer with rear brush,;in machines that are not fitted with a rear brush the procedure is exactly the same.

NTC PROBE

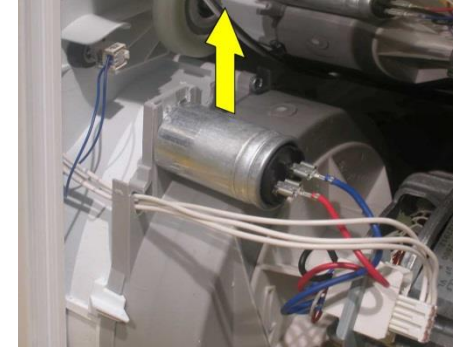


Remove the probe towards the inside of the machine.
Move the connector fastening clip slightly, and remove the connector.

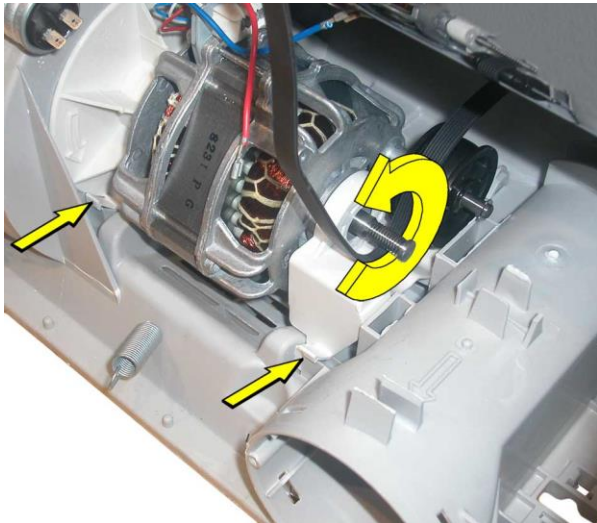
RUNNING CAPACITOR

Disconnect the connectors.

Move the fastening hook and remove it by pulling upwards.



MOTOR/FAN ASSEMBLY



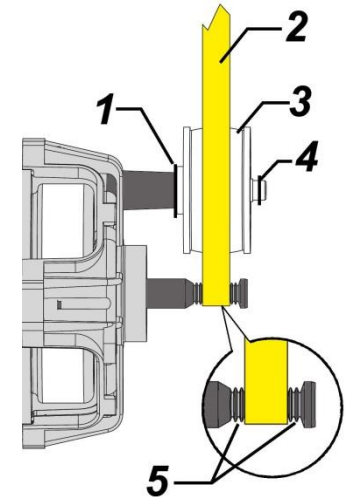
Remove the worktop (see paragraph).
Remove the right hand side panel (see paragraph).
Unhook the suspension spring.
Remove the belt from the pulley.
Disconnect the wiring connector from the junction box and from the capacitor.
Disconnect the teeth fastening the motor supports to the base.

Turn them towards the inside of the machine until they are completely out of the guides.

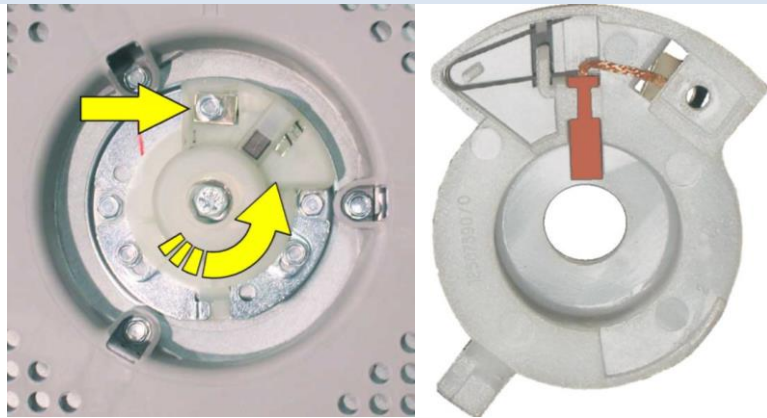
Lift up the motor and remove it.

NOTES FOR REASSEMBLY OF THE BELT TENSIONING ROLLER / BELT.

1. Spacer.
2. Belt tensioning roller with integrated spacer.
3. Snap ring.
4. Belt.
5. Leave two grooves free on both sides of the pulley.

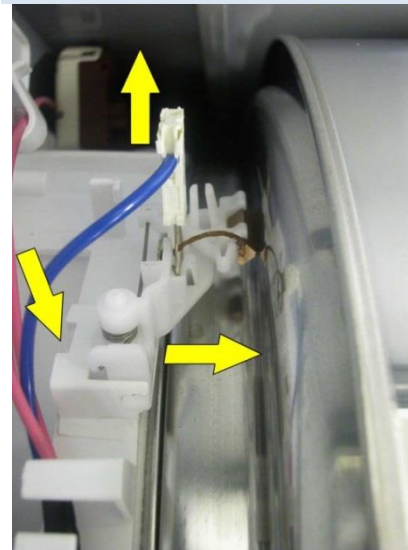


REAR BRUSH (ONLY ON MODELS WITH CONDUCTIVITY SENSOR)



Unfasten the screw fixing the drum pin guard.
Turn the guard anticlockwise until the lower fixing clip is free.
The brush is housed inside the drum pin guard.

FRONT BRUSH (ONLY ON MODELS WITH CONDUCTIVITY SENSOR)



Remove the worktop (see paragraph).

Disconnect the wires.
With the aid of a screwdriver, press on the locking clip and at the same time remove the entire brush unit.

BELT

Remove the worktop.

Remove the sides (*Please refer to paragraph*).

Remove the belt tensioning spring.

Remove the back panel (*Please refer to paragraph*).

Take out the belt.

DRUM

Remove the worktop.

Remove the sides (*Please refer to paragraph*).

Remove the belt tensioning spring.

Remove the back panel (*Please refer to paragraph*).

Take out the drum

BACK PANEL

Remove the worktop (see paragraph).

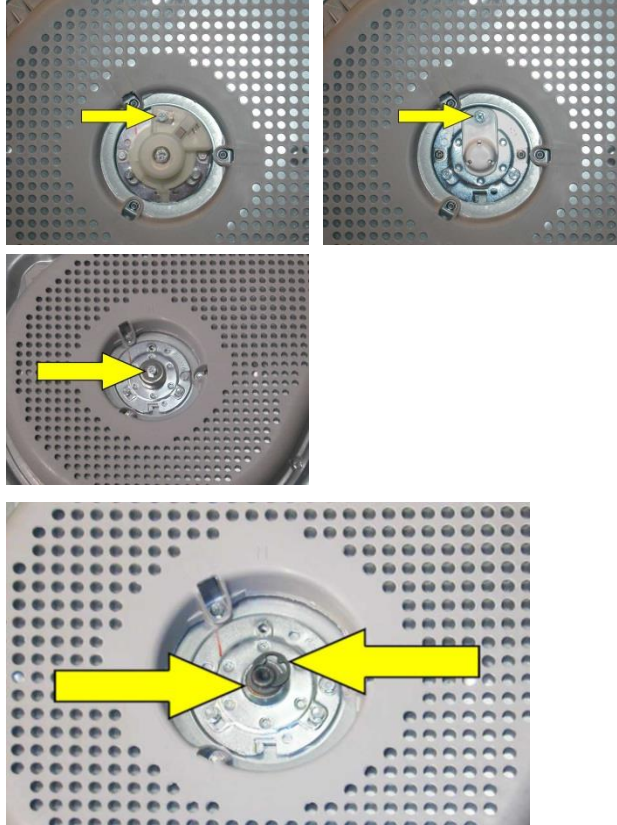
Remove the sides (see paragraph).

Unhook the tensioning spring.

In models with conductivity sensor, unfasten the screw fixing the rear brush unit.

In models with temperature probes, unfasten the screw fixing the pin guard.

Unfasten the screw fixing the bush to the drum pin (models with conductivity sensor only).



Disconnect the heating unit junction box (see paragraph).

Disconnect the anti-disturbance filter connectors (see paragraph).

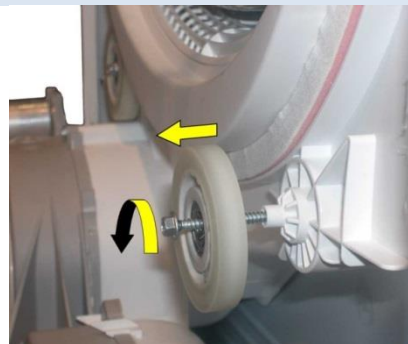
Unfasten the 4 screws fixing the back panel to the base, and the 2 screws fixing it to the crossbars.

Remove the back panel, taking care that the drum does not fall.



On all models, use a screwdriver to remove the snap ring and the spacing washer.

CONDUIT ROLLERS



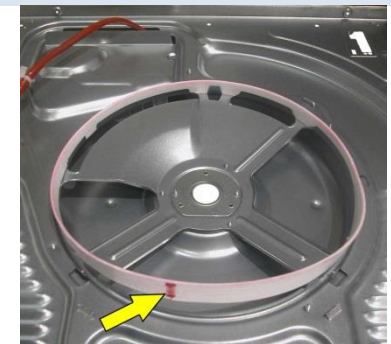
Remove the worktop (see paragraph).
Remove the back panel (see paragraph).
Take out the drum (see paragraph).
Unfasten the screws fixing the rollers to the air conduit.

Never take out the rollers without removing the drum!
This operation may severely damage the roller fixing bush mounted in the air conduit.

REAR AIR SEAL

Remove the worktop (see paragraph).
Remove the sides (see paragraph).
Remove the belt tensioning spring.
Remove the back panel (see paragraph).

Open the air seal fixing hooks slightly and take the seal out.
When fitting the new seal, take care to ensure that the seam is located in the lower part of the ring.



FRONT AIR SEAL



Remove the worktop.

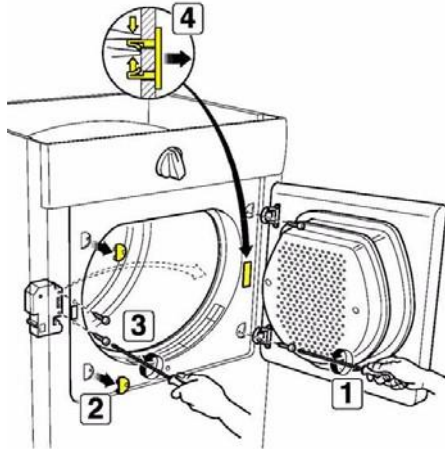
Remove the back panel (see paragraph).

Remove the drum.

Take out the front air seal.

When fitting the new air seal, take care to ensure that the seam is located in the lower part of the conduit.

REVERSING THE DOOR



Unfasten the screws fixing the hinges to the unit (1), remove the door.

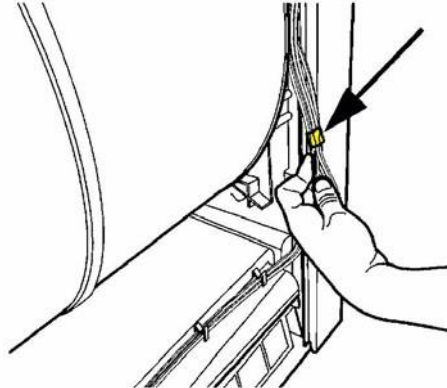
Unfasten the screws fixing the hinge covers (2) and fix them where the door hinges used to be (1).

Remove the worktop.

Remove the left and right sides.

Remove the front opening plug (4) bearing in mind that to extract it you have to press the hooks fastening it to the unit towards each other.

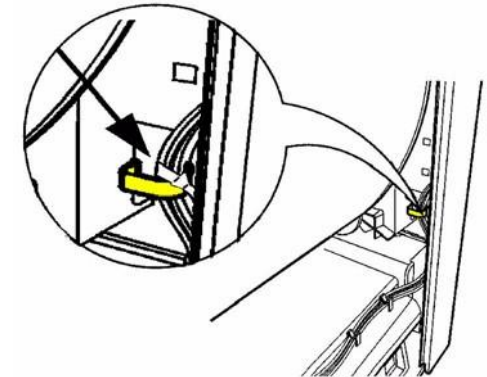
Unfasten the screws fixing the door lock (3) to the unit and extract the door lock.



Disconnect the connector from the door lock.

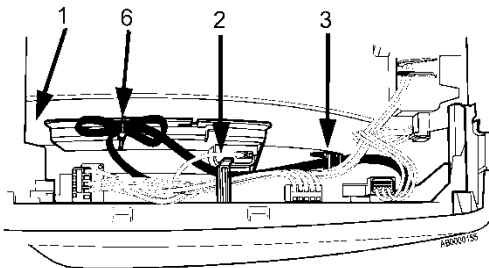
Remove the tape (if there is any) holding the wires and separate the door lock wires from the other wires.

Replace the tape as you found it (on the other wires).



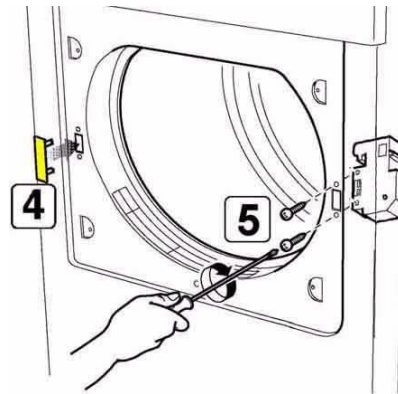
Insert the general wires into the hooks located in the air conduit, and arrange them so that they are parallel to the front and are unable to come into contact with the drum.

Lock the wires to the hook using a cable clamp.

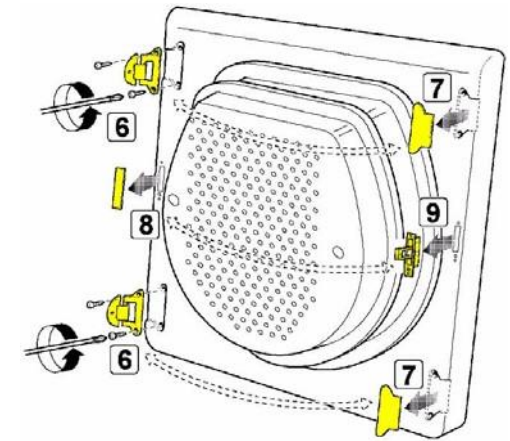


Remove the door lock wires from their original position (1) and insert them under the front brush (2), fixing them in the hooks in the conduit (3) and pulling the wires out at the opposite side of the unit.

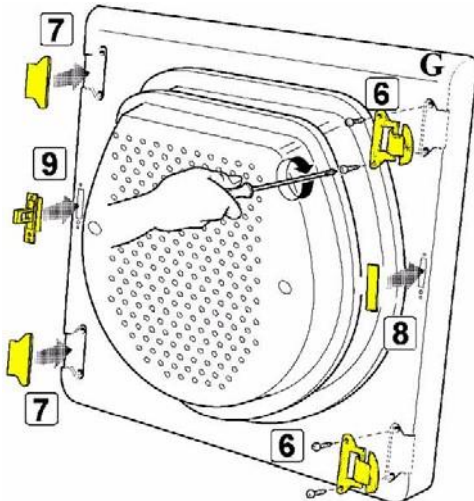
Fasten any excess door lock cable to the cable guard (6), using a cable clamp.



Insert the door lock connector and fasten it to the front with the screws (5), making sure that the wires are not crushed between the door lock and the front. Check that the wires are properly inside all the hooks from which the door lock wires have been extracted. Insert the front opening plug at the point in which the door lock (4) was previously located.



Remove the hinges after first removing the screws (6).
Remove door hinge covers (7).
Take out the door latch cover (8).
Take out the door latch (9) (see paragraph).

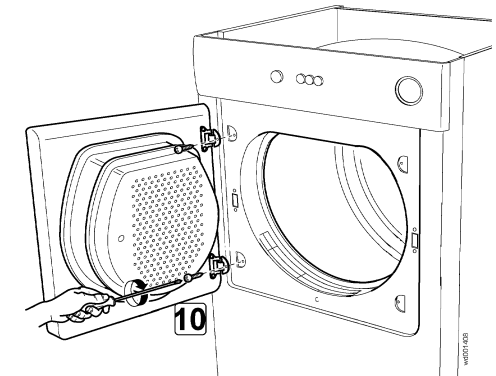


Insert the snap-on hinge covers (7).
Insert the door latch cover (8).
Insert the door latch (9).
Fix the hinges with screws (6).

Position the door on the opposite side of the tumble dryer and fix the hinges with screws (10).

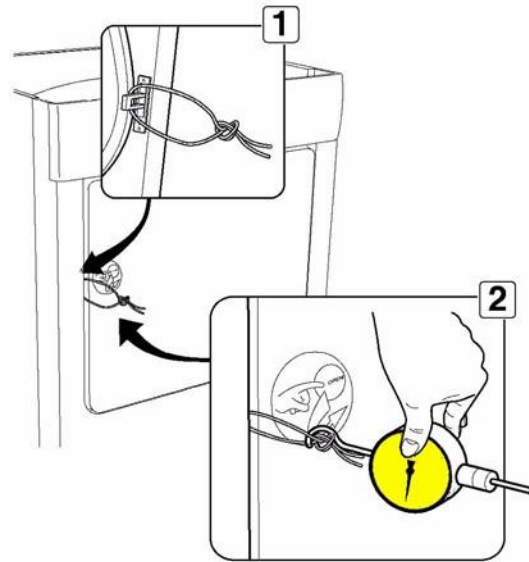
Replace the left and right sides (replace the fixing screws in their original positions, otherwise the earthing connection will be broken).

Replace the worktop.
Replace the "Push-Push" sticker.



FINAL TESTING OF DOOR FASTENING

To check whether the door fastening complies with safety regulations after the door has been reversed, proceed as follows:



prepare a loop (1) (of string, thread, etc.),

position it around the latch, close the door.

Check the door opening safety load as follows:

fasten a dynamometer to the loop (2),
then pull the instrument perpendicular to the surface of the door. The scale should indicate:

MAX.	51	NEWTON (kg 5.1)
min.	38,2	NEWTON (kg 3.8).

N.B.: This locking system has been designed to allow a child who has accidentally been shut inside the tumble dryer to open the door simply by pushing it.

The appliance complies with current regulations.

6 REVISION

Revision	Date	Description	Written by	Approved by:
00	02/2015	Document creation	MP	