5407535 Issue 2 May 2010

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Hotpoint ARISTON

Aqualtis 8 Kg "A Energy" CONDENSER ELECTRONIC TUMBLE DRYER

with Refrigerant Condenser System

Models Covered	Comm Code
AAQCF81U IT	70078
AAQCF81U WE	71832
AAQCF81U UK	71846

Service Information

Indesit Company UK Ltd

SAFETY NOTES & GENERAL SERVICING ADVICE

1. This manual is NOT intended as a comprehensive repair/maintenance guide to the appliance.
2. It should ONLY be used by suitably qualified persons having technical competence applicable product knowledge and suitable tools and test equipment.
3. Servicing of electrical appliances must be undertaken with the appliance disconnected (unplugged) from the electrical supply.
4. Servicing must be preceded by Earth Continuity and Insulation Resistance checks.
5. Personal safety precautions must be taken to protect against accidents caused by sharp edges on metal and plastic parts.
6. After Servicing the appliance must be rechecked for Electrical Safety. In the case of appliances which are connected to a water supply (i.e.: Washing Machines, Dishwashers & Food Centres etc.) checks must be made for leaks from seals gaskets and pipe work and rectification carried out where necessary.
7. It can be dangerous to attempt 'DIY' repairs / maintenance on complex equipment and the Company recommends that any problem with the appliance is referred to its own Service Organisation.
8. Whilst the Company has endeavoured to ensure the accuracy of the data within this publication they cannot hold themselves responsible for any inconvenience or loss occasioned by any error within.

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Serial Number Location

The Serial Number is located on the front panel behind the door - open the door to see it.

TECHNICAL SPECIFICATIONS

First Production	June 2010		
General	**Model**	**Colour**	**Commercial Code**
	AAQCF81U IT	White / Silver Door	70078
	AAQCF81U WE	White / Silver Door	71832
	AAQCF81U UK	White / Silver Door	71846
Features	Electronically controlled tumble dryer comprising of an interface module fitted into the door and a control module mounted on the plinth, connected by a serial link cable. The Condensing Drying System uses an integrated self contained refrigerant module instead of traditional high wattage heaters.		
Country of Origin	Great Britain		
Dimensions	Height 850 mm Width 595 mm Depth 584 mm Weight 48 Kg (Unpacked), 51 Kg (Packed)		
Energy Class	A		
Noise Level	68 dBA approximately		
Drum Volume	112 litres		
Drying Load	Dry weight maximum 8 Kg		
Programmes	16 position selector		
Drying Sensing Levels	Up to 5 depending on programme selected.		
Door Operation	Lever operated door catch		
Electronic Platform	EVO2		
Drying Controls	Variable using electronic control and thermistors		
System Thermistor)	25°C = 10 KΩ +/– 10% 50°C = 4.16 KΩ +/– 10%		
Front Air Duct Thermistor	25°C = 470 KΩ +/– 15% 100°C = 16.15 KΩ +/– 5%		
Motor - Type 360 **Motor Capacitor**	Single phase capacitor run 2 pole induction motor - 2800 rpm 8.5 uF		
Compressor **Compressor Capacitor**	Highly BSD 122DV - H3BD1, 200-240V - 50/60Hz 17 uF		
Cooling Fan	220-240V AC, 50/60Hz, 0.14 Amp		
Refrigerant Type	R134a		
Refrigerant Charge	340 grams		
Water Container Capacity	5 Litres		
Absorbed Power	1.04 - 1.15 kW (220 - 240 V AC)		

DRYER FUNCTION

Overview

This is a freestanding tumble dryer with a full width metal door.

The drum is capable of accepting a maximum 8 kg load. The drum is supported at the front by 2 wheels mounted on the front air duct and a single bearing at the rear located in the rear panel. A shaft fixed to the rear of the drum runs in the rear bearing. The drum is driven by a belt which passes around its periphery and onto the shaft of a motor secured to the base of the dryer.

The belt is tensioned by a pulley mounted to the motor.

The motor also drives a fan fixed to the end of the rear shaft to recirculate air through the drum.

The drum normally rotates clockwise with the occasional reverse action anticlockwise. This occurs during the cycles cool down period and for 5 minutes every hour of the cycle duration.

The moisture removed from the recirculating air, by means of a refrigerant module, is pumped to a removable container mounted in the left hand side of the console. The user can easily withdraw the container to dispose of the collected condensed water. There is no requirement for venting to atmosphere on this dryer.

Drying Process

The circulating air flows over the condenser unit causing it to be heated, the air then passes into the drum via the fan chamber collecting moisture from the clothes enabling them to dry. The moisture laden air passes through two filters to remove any lint and then passes through the evaporator unit where the moisture condenses and falls into a channel in the base and flows into the pump reservoir where it is pumped into the water container. The resulting cooled air aids the cooling of the refrigerant in the condenser before starting the process again.

Heat Exchange Cycle

The Cycle begins with refrigerant being pumped by the compressor through the condenser unit. A capillary tube is used to create a restriction to increase the pressure and temperature of the refrigerant in the condenser, the heat (used to heat the airflow into the dryer) is removed from the refrigerant converting it from a gas to a liquid.

The liquid refrigerant is then forced through the capillary under pressure into the evaporator unit where the pressure is removed causing the refrigerant to evaporate into a gas again cooling the evaporator the refrigerant then returns to the compressor to complete the cycle.

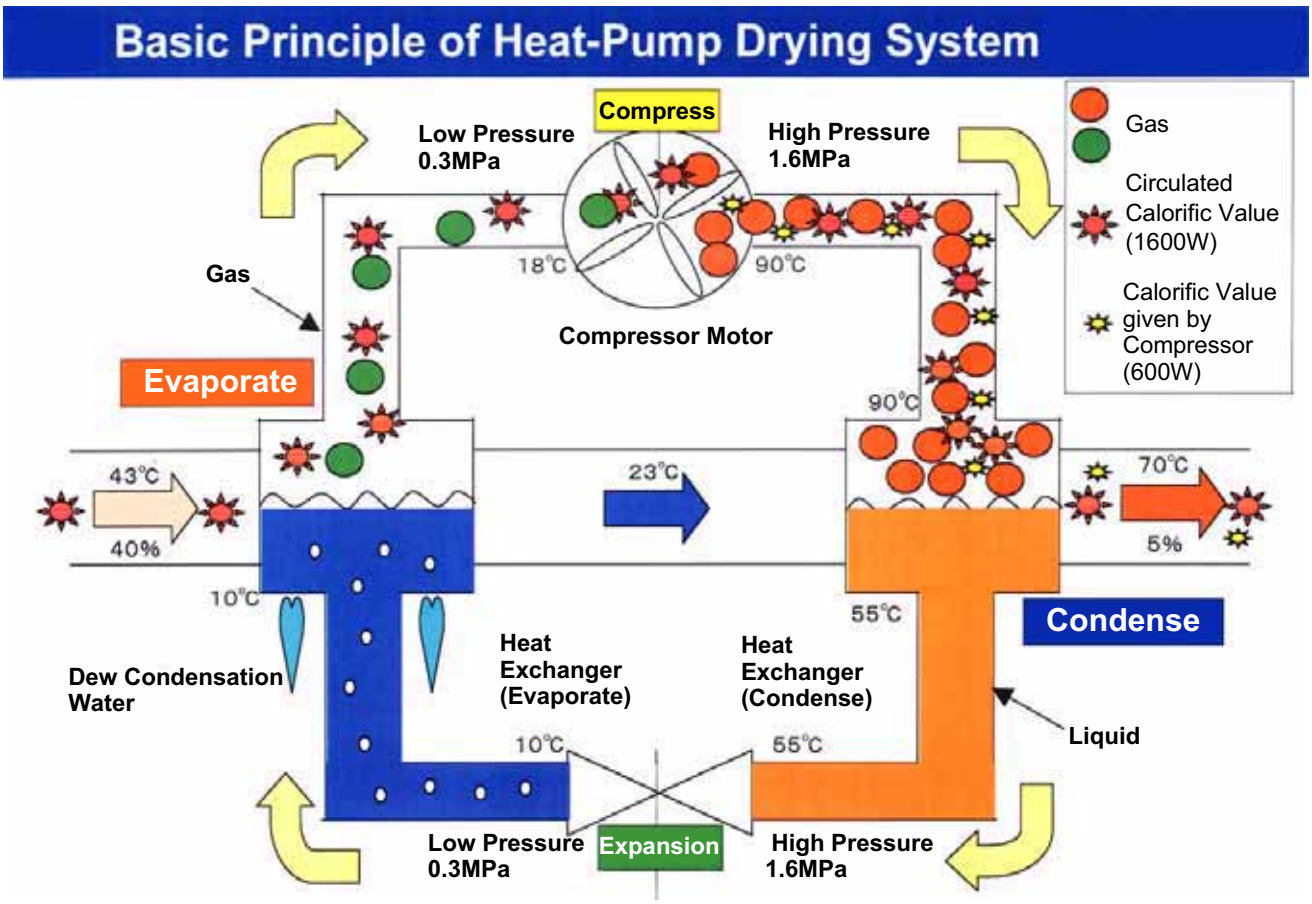
Controls Overview

The user interface controls consist of a Programme selection knob, a Digit display, option buttons; Start/Pause button and an On/Off button.

The control system consists of a control module, two thermistors and a conductivity sensor. The conductivity sensor is mounted in the front air duct. A single wire connects the sensor to the control module. The front thermistor is located in the air duct, and the second thermistor is attached to the heat exchanger system pipe work.

The control module determines the programme duration and dryness of the load. This is achieved by the thermistors located in the front air duct and on system pipe work measuring the difference in temperature / resistance between the two points, the control module then calculates and compares the values to that of the chosen programme.

As the programme progresses a small DC current is passed from the sensor in the front air through damp clothes to earth. The resistance of this current is compared to the resistance value of the chosen programme and when these become equal the load will have reached the required level of dryness and will then progress through the dry programme and on to the cool down period.



The control module is located behind the right hand side panel and there is a service port behind the plinth cover that allows attachment of a computer, Smart Card Reader or Handheld Device to programme the Control Module.

The control module can be programmed with the relevant settings file if the module is replaced, the settings file becomes corrupted or if an updated file becomes available.

Each of the sensing programmes has a maximum time of approximately 270 minutes. (Actual time will vary slightly due to programme selected).

Auto Sensing

After the Automatic cycle has started, the machine's thermistor and conductivity sensor continually monitor the dampness of the drying clothes. Once a final dry time has been determined, the display will update, and the cycle will continue finishing with a 3 minute cool down period. The time taken to update will vary depending on the Programme set, load and the ambient temperature.

If the display counts down to 3 minutes and the clothes are not at the required dryness level, the display will hold at 3 minutes, depending on the programme in progress and the material being dried, the dryer will either wait until the correct dryness level is reached and move to the cool down period, or wait until the machines sensors are able to recalculate the dryness time and the display will update accordingly.

If, after the maximum programme time of approximately 270 minutes, the clothes are still not dry, the programme advances to cool tumble and completes the programme.

Note 1: No fault is indicated if this occurs.

Note 2: The actual time out period will vary slightly depending on the programme and dryness level set. Under normal drying conditions providing at the start of the cycle the water container is empty,

both filters are clean and the clothes have been spun in a washing machine, the clothes should dry before the time out period occurs.

The module also controls the compressor. The compressor will start running at the start of the programme and is on continually during the drying cycle.

If the user turns off the power or disconnects the mains cable or there is a power cut, the dryer will remember its last settings and resume the programme when the start button is pressed, the compressor will restart after a 5 minute delay period to allow the system to equalise.

Note: If the compressor is switched off, *i.e:* Programme paused or the door is opened, the compressor will have an '**OFF**' time of approximately 5 minutes to allow the pressure in the system to equalise.

The start of a programme can be delayed up to a maximum of 24 hours programmed in 1 hour steps.

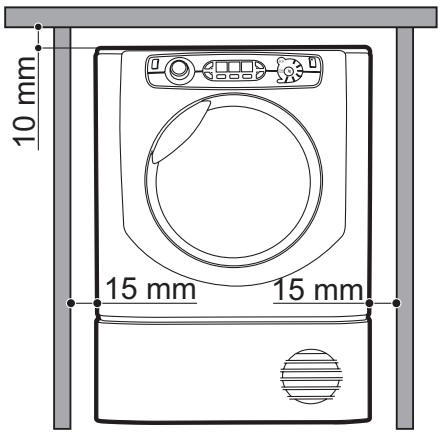
Pre-crease care (see page 11) can only be selected if a timed delay has been selected; this option tumbles the clothes for 3 seconds every 30 minutes for the duration of the time delay.

If selected, the Post crease care option (see page 11) tumbles the clothes after the programme has finished for 3 seconds every 4 minutes up to a maximum duration of 10 hours.

Installation

If the machine has been transported or laid over, the machine must NOT be started for 2 hours to allow any displaced oil in the system to resettle.

Ventilation



The machine must be installed so it has a minimum air gap of 15mm along each side and 10mm at the top. The machine's rear air vents must not be blocked.

The machine should be installed on a level surface away from any appliance which produces flames. *i.e:* a Gas Hob or Gas Fire.

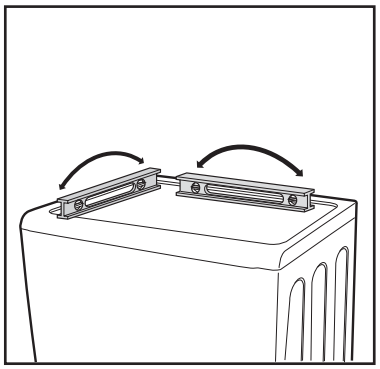
Levelling the Tumble Dryer

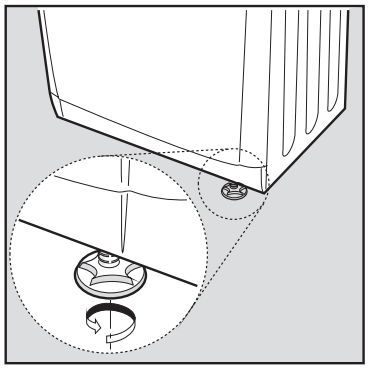
This dryer must be level for correct operation.

When the dryer is installed in its final location check that it is level first side-to-side, then front to back.

If the dryer is not level, adjust the feet up or down until the dryer is level.

Rotate the feet to adjust the height.





Environment

Installing in a cupboard is NOT recommended, but the dryer must not be installed behind a locked or sliding door, or where a door is hinged on the opposite side to the tumble door.

When in use the dryer must be in an environment that is not damp with proper air circulation. The dryer will not operate efficiently in an enclosed space or cupboard.

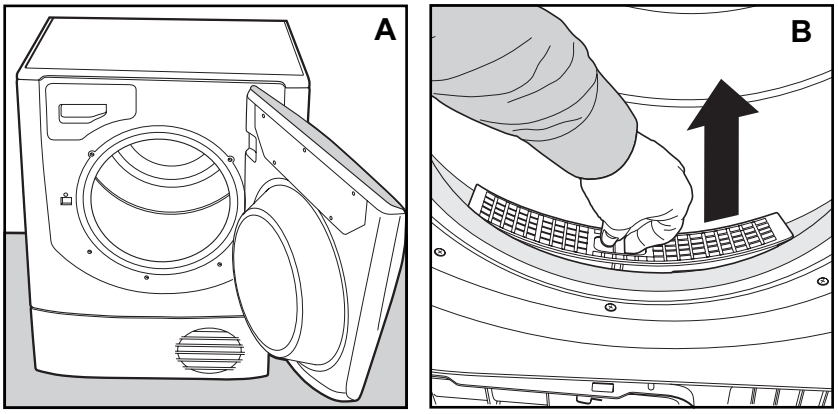
Door Reversal: The Tumble Dryer door cannot be reversed.

Filter Care

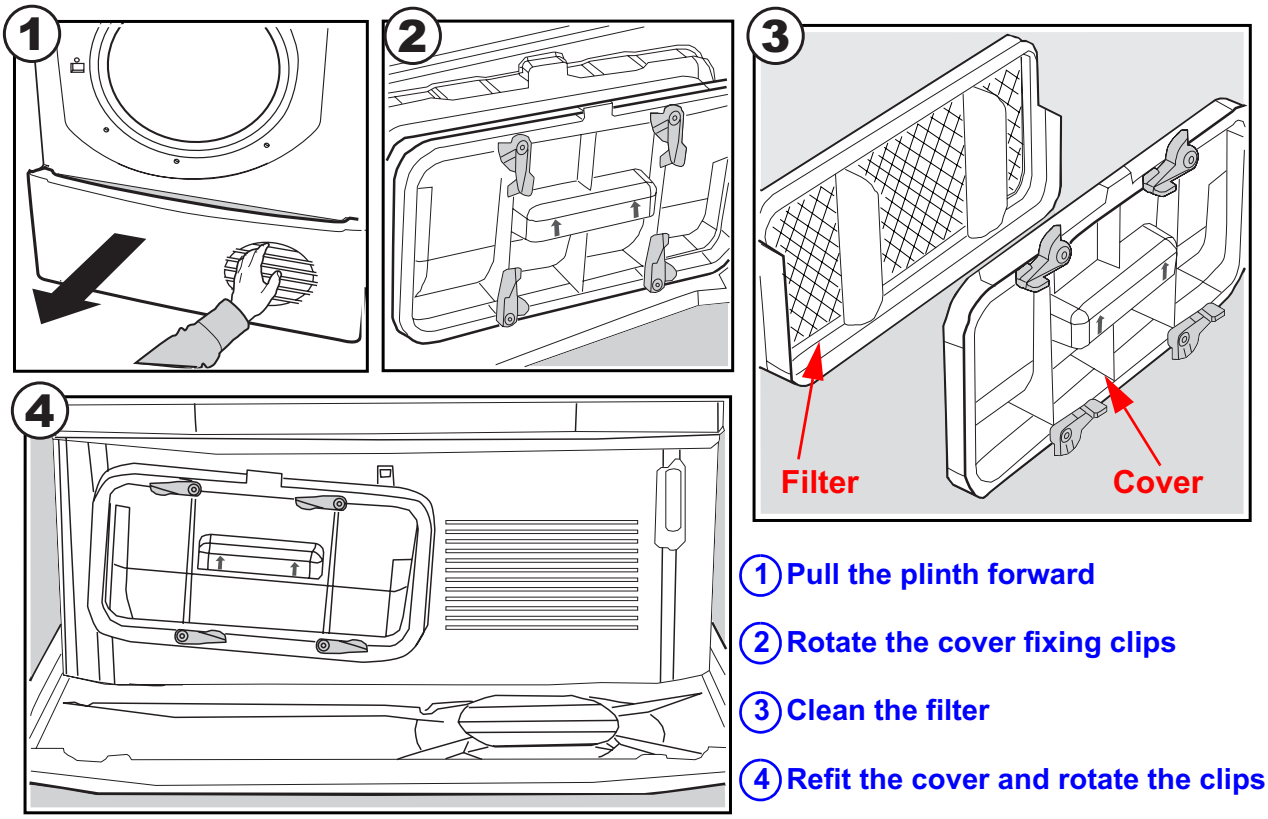
This A class Dryer has 2 filters which must be kept clean to ensure efficient and correct operation of the dryer.

1. Air Duct Filter

Open the machine door (A).
Remove the filter, located just inside the opened door. (B)
Unclip the filter, and open.
The filter can now be cleaned and the fluff removed.
Replace the filter after cleaning.

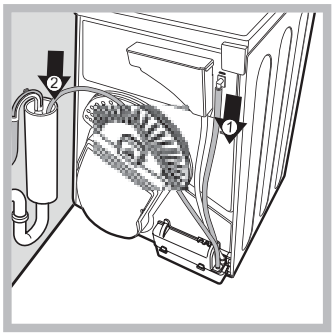


2. Heat Exchanger Filter



1. Pull the plinth forward
2. Rotate the cover fixing clips
3. Clean the filter
4. Refit the cover and rotate the clips

Water Drain - Plumbing Out



If the Dryer is positioned close to a drain or standpipe, it is possible to drain the condensed water directly without using the water bottle.

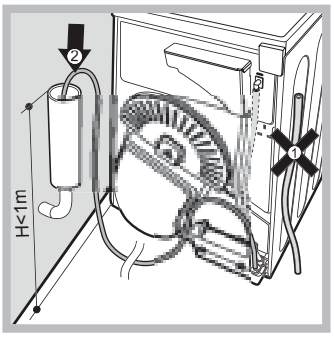
In this case it is no longer necessary to empty the water bottle at the end of each cycle.

If the Dryer is positioned above or close to a Washing Machine which uses a standpipe the same standpipe can be used.

Just disconnect the tube indicated in Figure A and connect it to the drain.

If the standpipe / drain is further away than the length of the tube it is possible to buy and connect a tube of the same diameter and the necessary length in order to reach the standpipe.

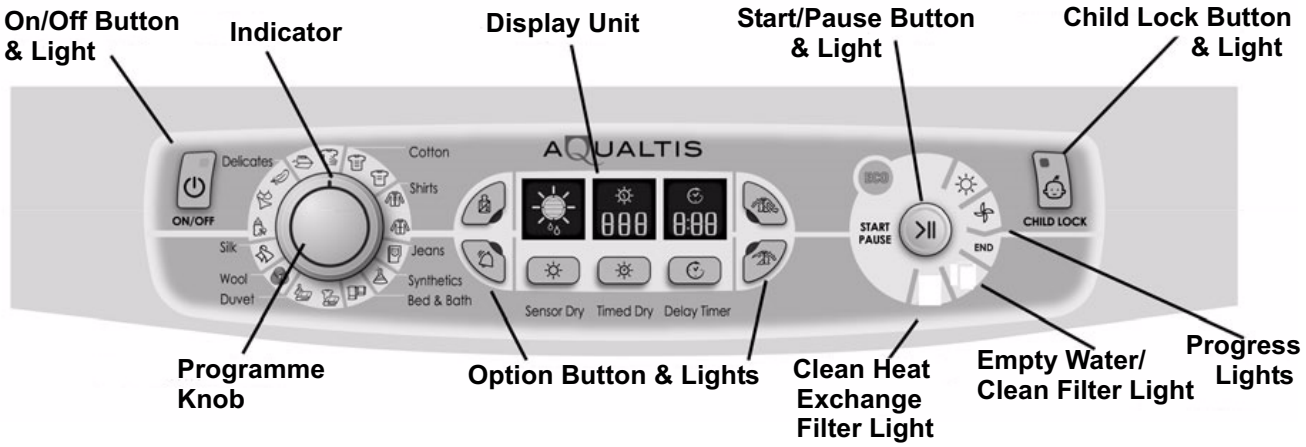
To install the new tube just substitute the existing one as indicated in Figure B inserting it in the same place.



Important Notes:

- The top of the standpipe must be below 1 metre from the bottom of the Dryer.
- Once the Dryer has been installed, ensure that the drain tube is not bent, squashed or contorted.

CONSOLE FUNCTIONS



Option Buttons

ON OFF BUTTON and LIGHT

Push to switch the dryer On and Off.

If the button glows the dryer is turned on and either running or waiting to be started.

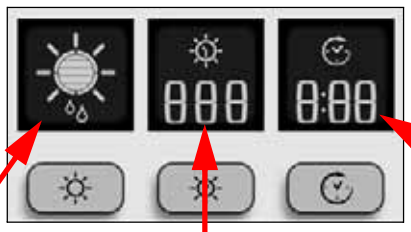
PROGRAMME KNOB AND INDICATOR

Used to select the required programme option.

16 timed auto and special programmes are available - see page 17.

Consult the programme chart on pages 18 and 19, to see Programme descriptions.

Display



Indicates Current Dryness Level
Sensor cycles only (See Sensing Levels)
Active. Auto Cycles only

Indicates Time Set
Active. Manual Time Cycles Only

Countdown Timer
Gives Estimated time to end of delay or cycle

Displays during delay start, auto, special and manual programmes.

Stand-by Mode

To comply with current energy saving requirements this product features a Stand-by mode. If the machine has not been switched off for a period of 30 minutes after the finish of the programme the controls will go into stand-by mode when the LED's and display will switch off.

To reactivate and remove the controls out of Stand-by mode briefly press the On/Off button, the LED's and display will illuminate and another programme can then be started or the machine switched off by pressing the On/Off button.

Display Information

Sensing Levels

After selecting a programme that has a Sensing Dry Option, press and release the button until the required dryness sensing level is displayed. If the sensing option is not available the display will flash and the buzzer beeps three times.
Note: 'Cottons - High Heat' and 'Jeans' programmes are the only programmes which have all five dryness level options - all other programmes have only 4 options.

Dryness levels available

Damp Dry: Dries your items ready to be ironed using a machine or rotary ironer.

Iron Dry: Dries you items ready to be ironed with a hand iron.

Hanger Dry: Dries you clothes ready to be hanged for final drying; Use this program if you do not need the items to be fully dry as it uses less Energy.

Cupboard Dry: Dries your items ready to be put away.

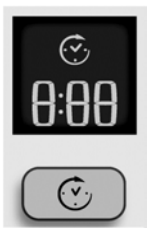
Ready to Wear / Extra Dry : Dries your clothes ready to be worn.

Timed Dry

After selecting a Programme that has a Timed Dry Option, press the Timed Button and the display will reduce the selected time each time you press and release this button (see Start and Programmes).
Each press decreases the set time 1:00, 0:50, 0:40, 0:30, 0:50, 0:10, 0:20, then [blank] and then repeats.
If the Timer Dry option is not available the display will flash and the buzzer beeps three times.
The selected time remains displayed after the programme starts and cannot be changed after the after the Start/Pause Button ▶II is Pressed.

Note: Timed Dry is only available on the following programmes:
Cottons - High Heat, Cottons - Low Heat, Shirts - High Heat, Shirts - Low Heat, Synthetics, Delicates.

Delay Timer



After selecting a Programme that has a Delay Timer Option a delay start time can be selected.
Each press of the Delay button ⏲ advances the delay setting in 1 hour Increments from 1h to 24h then OFF and then after five seconds cancels the delay.
For delays of 10 hours or more the display counts down the time in hours for first ten hours, then the display shows 9:59 and then counts down in minutes. For delays less then 9 hours or less the display shows hours and minutes and then count down in minutes for all of the delay.
After the Start/Pause Button ▶II is pressed the time cannot be changed.
When the delay period finished the ⏲ symbol is off and the **Time to End** is displayed

Time to End

If the delay icon ⏲ is off the time displayed is the **Time to End** of the programme running.
When timed programmes are selected the time displayed throughout the cycle is the actual time remaining.
When an Automatic programme is selected the time displayed is an estimate of the time remaining.
When the programme is selected the display shows the time required to dry a full load, after around 10 minutes the controller calculates a better estimate of the cycle time
The time to end is displayed in hours and minutes and counts down each minute.
The colons between the hours and minutes display flashes to show that the time is counting down.
The Display also shows if there is a problem with your dryer, if this occurs the display will show F followed by a fault code number, the four option lights and the pause light will also flash Orange.

Note:

During Sensor Cycles the Centre Timed display screen is blank
During Timed Cycles the left hand Sensor screen is blank

OPTION BUTTONS

1. Mini Load

Should be selected if between 1 & 2 kg of clothes are to be dried.
The Time to END display is adjusted to give a more accurate Cycle Time to end estimation time.

2. Alarm

If selected, the buzzer will sound at the end of the cycle. Beeps 3 times when the cycle finishes.

3. Pre-Crease Care

Option can be selected if the Delay Start Option has been selected; the clothes are tumbled occasionally during the Delay period to help prevent creases developing.

- 3 secs Clockwise
- 30 min Pause
- 3 secs Anti -Clockwise
- 30 Pause--- continuously until programme starts.

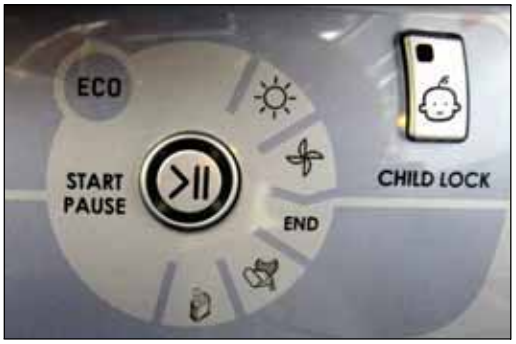
4. Post Crease Care

Can be selected, if the clothes will not be removed as soon as the cycle is finished.
This option occasionally tumbles the clothes to prevent creases developing, while the clothes are in the drum when the cycle is finished.

- 3 secs clockwise
- 237 secs Pause
- 3 secs anti clockwise
- 237secs pause …… continuously until the clothes are removed.

This option will run for a maximum of 10 hours.

Progress and Warning Lamps



ECO Led

The Eco LED will illuminate when the user adjusts the knob/ option settings, which involve an energy reduction, from the default settings.

Auto Cycles - If the sensing level is reduced.

Timed Cycles - If the time is a adjusted below the default programme time.

Child Lock (Button)

To enable the Child Lock function, press and hold the "Child Lock" button until the Button Led illuminates. All the controls on the dryer are now disabled.

If the selector is turned or an Option is pressed the Child Lock button will flash and the machine will bleep, to remind the customer that the Child Lock is active.

To remove the controls child lock, press and hold the child lock button and until the button lamp goes out.

Drying Led

Is illuminated when the machine is drying.

Cool Tumble

Is illuminated, when the dryer is on a cycle, and the compressor is Off, this would be the cool down period at the end of the cycle.

End

Is illuminated when the programme has finished its cycle.

Empty Water/ Clean Filter

Is illuminated (permanently "ON"), at the end of every cycle as a reminder to the customer to empty the water container and to clean the filter after every use.

If the Empty Water / Clean Filter Led illuminates during a cycle, (H2) would also be shown in the display. The machine has sensed the water container is full, after approximately 1 minute the compressor is turned Off and continues for a further 10 minutes with cool air only, before displaying the fault (H2) and LED. To continue the cycle, empty the container, push the Start/Pause button and the machine will continue.

Clean Front Heat Exchange Filter

Is illuminated regularly to remind the customer to clean the heat exchange filter. This lamp is a reminder and does not indicate the state of the filter.

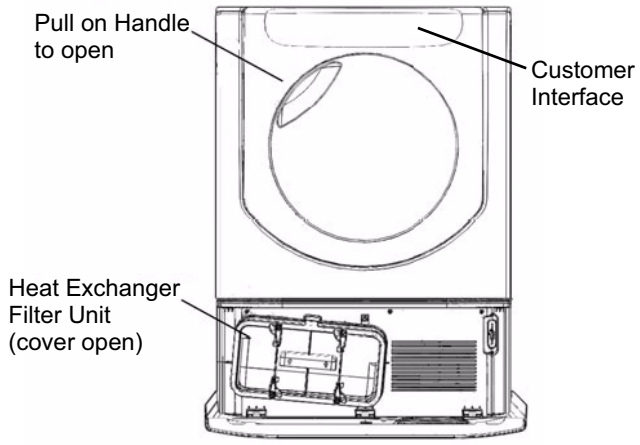
The Heat Exchange Filter must be cleaned after 5 dry cycles. But for Optimum Performance, it is recommended to clean the Heat Exchange Filter after every use.

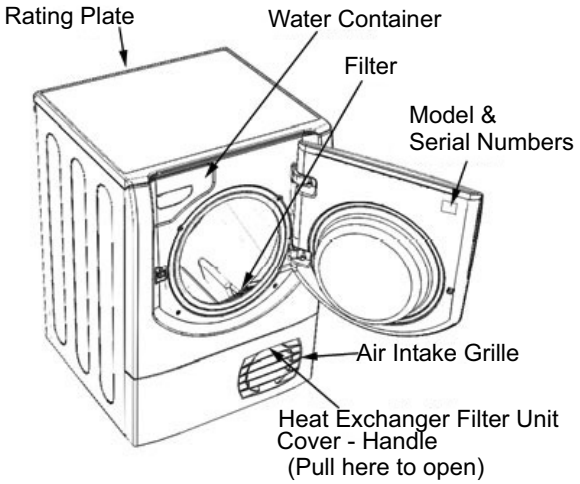
Failure to keep this filter clean, will affect the performance of the machine and if the filter become blocked the machine would not dry.

COMPONENT DESCRIPTION

Door

The Aqualtis Tumble Dryer door holds the customer interface controls and the water container handle is only visible when the door is opened.





Door Switch

A single unit comprising two single microswitches, fitted to the front panel of the dryer.

- One microswitch signals to the module whether the door is opened or closed.
- One microswitch disconnects supply to the motor whenever the door is open.

Filters

Two Plastic mesh filters are fitted,

1. Just inside the door, into the Front Air Duct
2. With the plinth open, the filter is located behind the cover.
   See also page 7.

Control Module

This is an electronic device that monitors and controls all devices within the appliance. It is located behind the right-hand Side Panel.

A production Control Module is pre-programmed at the factory.

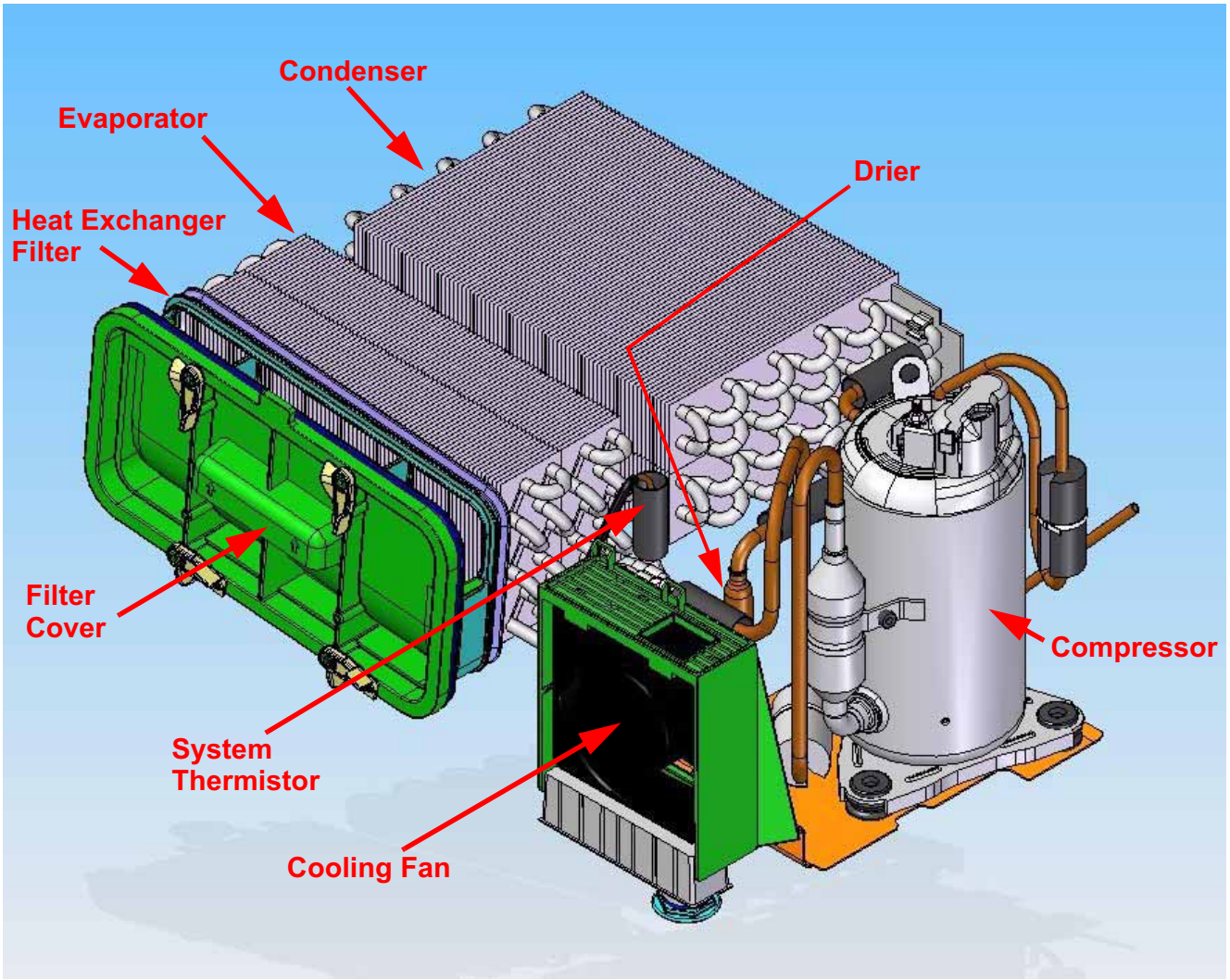
Drum

The drum comprises of a zinc coated front and rear body and two removable plastic lifters. The rear of the drum is perforated to allow the passage of air. Fixed to the rear pressing is a support shaft which runs in a bearing located in the rear panel of the dryer.

A drive pin and collar on the drum shaft prevents forward thrust during use. The front lock seam of the drum rotates on bearing pads.

Note: Galvanised and Stainless steel drums are used in production, depending on the model of the dryer.

Compressor Assembly



Pump & Float Switch

Mounted on the bottom right hand side of the rear panel, condensate water from the condenser chamber is pumped via an external hose to the water container situated behind the console.

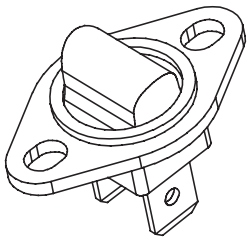
The pump runs continually throughout the programme, except for the cool down period at the end of the cycle.

Operation of the Float Switch:

The compressor will turn off after approximately 1 minute, and the machine will continue, with cool air only for a further 10 minutes, before the warning H20 is displayed, the Start/Pause button flashes orange and the empty water container icon flashes.

Air Duct (NTC)

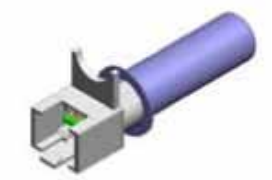
Located in the front air duct, this thermistor continually monitors the temperature of the circulating drying air.



TEMPERATURE °C	RESISTANCE READING
20°C	614 K ohms
25°C	470 K ohms
40°C	217 K ohms
60°C	84 K ohms
100°C	16 K ohms
130°C	5 K ohms

System Thermistor

The system thermistor sits in a pocket on the external system pipe work, and measures the system temperature. The System Thermistor is used to control the front cooling fan.



TEMPERATURE °C	RESISTANCE READING
25°C	10.00 K ohms
30°C	8.313 K ohms
50°C	4.160 K ohms
60°C	3.020 K ohms
85°C	1.450 K ohms

Compressor Cooling Fan

The cooling fan is located on the RH side at the front of the base moulding immediately behind the air inlet grill. The fan is controlled by the system pipe work NTC and operates when the NTC senses a temperature of approximately 53°C on Cotton and Synthetic programmes and 45°C on Delicate Programmes. The fan will start after about 20 minutes and will switch on intermittently during the early stages of the Drying cycle.

Compressor

The compressor starts running at the beginning of the programme selected and will run continually for the duration of the drying programme switching off during cool tumble.

If the power supply to the compressor is interrupted (i.e. if the door is opened) there will be a 5 minute delay before power is restored, this delay is to enable the refrigeration system to equalise.

This 5 minute delay is controlled by the module and the delay is triggered when the programme is interrupted for any reason, opening the door, pausing the cycle, power cut etc. This 5 minute delay only counts down when the machine has the power turned On.

The compressor also has a self setting cut out positioned under the plastic cover on its top, this is operated by excessive compressor temperature or excess current flow.

Motor

A two pole P.S.C. (permanent split capacitor) running at 2800 rpm with the impeller fitted to the rear end of the shaft and the drive belt running directly in grooves in the front end of the shaft.

It is protected from overload by a self-resetting internal cut-out that interrupts the electrical supply to the windings.

It is used together with a capacitor that is mounted on the base of the dryer.

Drum Rear Seal

This unit comprises of a ring of foam with a webbing bearing face. Lubrication is applied to the drum where the webbing surface runs, to reduce noise and wear. The seal reduces air losses at the rear of the drum. The joints in the foam are sealed with glue and the joints in the webbing are stitched to further reduce air leakage.

Compressor Cooling Fan

The cooling fan is located on the RH side at the front of the base moulding immediately behind the air inlet grill. The fan is controlled by the system pipe work NTC and operates when the NTC senses a temperature of approximately 45°C or 53°C - depending on the programme selected.

Compressor

The compressor starts running at the beginning of the programme selected and will run continually for the duration of the drying programme switching off during cool tumble.

If the power supply to the compressor is interrupted (i.e. if the door is opened) there will be a 5 minute delay before power is restored, this delay is to enable the refrigeration system to equalise.

SPECIAL PROGRAMMES

Note all timings are approximate and assume the clothes have been spun in a washing machine at a reasonable speed.
All garments should be ready to wear, the edges or seams may still be slightly damp on heavier garments.
All cycles may take longer than stated due to the density and dampness of the load.

Easy Iron	10 minute programme, 8 minutes of heat followed by 2 minutes of Cool Tumble. Used to fluff up clothes that have been laid in the same position for a long period. All cycles may take longer than stated due to the density and dampness of the load.
Wool	Safe for clothes marked with this symbol  . Max load 1 kg, 3 sweaters. Programme takes about 60 minutes.
Jeans	A maximum load of 3 kg (4 pairs), turn front packets inside out. Programme will take approximately 115 minutes
Shirts High Heat	Shirts made from cotton. Maximum load of 3 kg (14 shirts). Programme takes approximately 95 minutes.
Shirts Low Heat	Shirts made of synthetic cycles Maximum load of 3 kg (14 shirts) Programme takes approximately 75 minutes.
Silk	Delicate silk Garments. Maximum load 0.5 kg. Programme will take approximately 60 minutes
Duvet Cotton	Suitable for Single size Duvet that is suitable for tumble drying. Programme will take approximately 120 minutes.
Duvet Synthetic	Suitable for Single size Duvet that is suitable for tumble drying. Programme will take approximately 115 minutes.
Baby	Maximum load of 2 kg of delicate baby clothes and bedding. Programme will take approximately 120 minutes.
Lingerie	Maximum load of 1 kg, close any hooks, buttons etc. Programme will take approximately 90 minutes
Delicates	Maximum load of 2 kg of delicate fabrics. Programme will take approximately 120 minutes
Bed & Bath	Suitable for a maximum load of 8 kg of cotton towels and sheets. Programme will take approximately 150 minutes.
Refresh	This is not a drying cycle and should not be used for wet clothes. Can be used on any load up to 8 kg but is more efficient with smaller loads. A 20 minute programme that airs the clothes with cool heat or for cooling warm clothes.

PROGRAMME GUIDE

! If the On/Off light is not lit; Press the On/Off Button ⏻ and then select programme.

Programme	What it does	How to set it	Notes / Options available
Easy Iron	Brief programme (approximately 10 minutes) that softens fibres of clothing that is ready for ironing.	1. Position the PROGRAMME knob on . 2. Select Alarm Option if required. 3. Press the Start Button ⏯.	! This is not a drying programme (see previous page). Options available Alarm .
Refresh	20 min cool programme to air your clothes	1. Position the PROGRAMME knob on . 2. Select Alarm Option if required. 3. Press the Start Button ⏯.	Alarm .
Cottons			
Cotton - High Heat	Dries: your Cotton clothes on High heat.	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry or Timed Dry (see next page). 3. Select any Options if required. 4. Press the Start Button ⏯.	Alarm . Delay Start . Pre care . Post care . Mini Load . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry , Cupboard dry , Ready to Wear .
Cotton - Low Heat	Dries: your Cotton clothes on Low heat. N.B: Max. load 6 kg	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry or Timed Dry (see next page). 3. Select any Options if required. 4. Press the Start Button ⏯.	Alarm . Delay Start . Pre care . Post care . Mini Load . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry , Cupboard dry .
Shirts			
Shirts - High Heat	Dries your shirts on a high heat.	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry or Timed Dry (see next page). 3. Select any Options if required. 4. Press the Start Button ⏯.	Alarm . Delay Start . Pre care . Post care . Mini Load . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry , Cupboard dry .
Shirts - Low Heat	Dries your shirt on low heat.	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry or Timed Dry (see next page). 3. Select any Options if required. 4. Press the Start Button ⏯.	Alarm . Delay Start . Pre care . Post care . Mini Load . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry , Cupboard dry .
Jeans	Dries denim clothes on a high heat.	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry (see next page). 3. Select any Options if required. 4. Press the Start Button ⏯.	Alarm . Delay Start . Pre care . Post care . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry , Cupboard dry , Ready to Wear . (We suggest to use only Ready to Wear).
Synthetics	Dries: your synthetics clothes on High heat.	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry or Timed Dry (see next page). 3. Select any Options if required. 4. Press the Start Button ⏯.	Alarm . Delay Start . Pre care . Post care . Mini Load . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry , Cupboard dry .
Bed & Bath	Dries your Towels and bedding on High heat.	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry (see next page). 3. Select any Options if required. 4. Press the Start Button ⏯.	Alarm . Delay Start . Pre care . Post care . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry , Cupboard dry . (We suggest to use only Cupboard dry).
Duvet Cotton	Dries your Duvet on a Low heat.	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry (see next page). 3. Select any Options if required. 4. Press the Start Button ⏯.	Alarm . Delay Start . Pre care . Post care . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry , Cupboard dry . (We suggest to use only Cupboard dry).
Duvet Synthetic	Dries you Duvet bedding on Low Heat.	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry (see next page). 3. Select any Options if required. 4. Press the Start Button ⏯.	Alarm . Delay Start . Pre care . Post care . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry , Cupboard dry . (We suggest to use only Cupboard dry).

continued...

PROGRAMME GUIDE - continued

Programme	What it does	How to set it	Notes / Options available
Wool	Dries: your Woollen clothes .	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry (see next page). 3. Select any Options if required. 4. Press the Start Button .	Alarm . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry Cupboard dry (We suggest to use only Cupboard dry).
Silk	Dries your silk items on a low heat.	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry (see next page). 3. Select any Options if required. 4. Press the Start Button .	Alarm . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry , Cupboard dry (We suggest to use only Cupboard dry).
Baby	Dries your baby clothes on a low heat.	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry (see next page). 3. Select any Options if required. 4. Press the Start Button .	Alarm . Delay Start . Pre care . Post care . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry , Cupboard dry . (We suggest to use only Cupboard dry).
Lingerie	Dries your lingerie on a low heat.	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry (see next page). 3. Select any Options if required. 4. Press the Start Button .	Alarm . Delay Start . Pre care . Post care . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry , Cupboard dry . (We suggest to use only Cupboard dry).
Delicates (e.g. Acrylics)	Dries your delicate items on a low heat.	1. Position the PROGRAMME knob on . 2. Choose Sensor Dry or Timed Dry (see next page). 3. Select any Options if required. 4. Press the Start Button .	Alarm . Delay Start . Pre care . Post care . Sensor Dry option, automatic drying: Damp dry , Iron dry , Hanger dry , Cupboard dry . (We suggest to use only Cupboard dry).

Sensor Drying and Timed Drying
First select a programme (see programmes table).

Programme	What it does	How to set it	Notes / Options available
Sensor Drying	Always use Sensor Dry if possible for drying your clothes. It will guarantee you best drying results. The heat setting depends on the programme (material option) selected.	1. Press and release the sensor Dry button until the display shows the desired selection. Each press advances , , , , and then repeats. ! Some sensing programmes do not have all five dryness level options. 2. Select any Options if required. 3. Press the Start Button .	Options available Alarm . Delay Start . Pre care . Post care . Mini Load . Consult suggested drying times (see Laundry). The last 10 minutes of these programmes is the cool tumble phase .
Timed Drying (220, 180, 150, 120, 90, 60 or 40 minutes)	Always use timed drying option if you want to decide the drying time. The heat setting depends on the Programme (material option) selected.	1. Press and release the Timed Button until the display shows the required selection. Each decreases time 220, 180, 150, 120, 90, 60, 40 and then repeats. • Delicates have a maximum time of 150 . 2. Select any Options if required. 3. Press the Start Button .	Options available Alarm . Delay Start . Pre care . Post care . Consult suggested drying times (see Laundry). The last 10 minutes of these programmes is the cool tumble phase .

! For the best performance do not open the door before the cycle has finished.

CONTROLS BOARD PROGRAMMING for Modules with fixed EEProm

NOTE: This board does NOT have a physically replaceable EEProm.

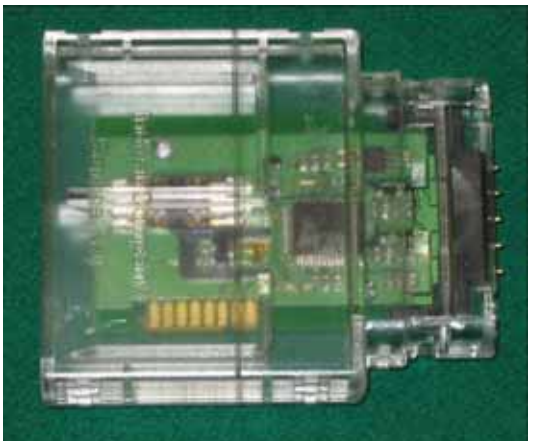
Programming a Main Board

There are a number of ways the board can be programmed - some of which are not applicable to certain markets.

Types of programming:

1. Handheld Terminal (Not UK)
2. Emit / Memwriter (UK Indesit Service Engineers)
3. Smart Reader & Smart Card (certain areas of UK market) see photo below and following page.

Smart Card Reader



Smart Card
this card hold the program file and can only be used ONCE.

PROGRAMMING (Using EMIT)

This machine can be programmed via the Emit, using a USB lead (Part No. C00222800), Hardware Key (Part No. C00115587) & the Memwriter software.

Black Hardware Key

USB - Serial Cable

A Hardware Key Pin Repair Kit is available which contains 5 replacement pins (order Part No. C00114723).

PROGRAMMING (Using Smartcard Reader / Card)

If the Main Module has been replaced during a repair the board will require programming using the following method.

1. **Do NOT connect the dryer to electrical supply at this point.**

2. Insert the pre-programmed card into the Card reader. Care must be taken at this point to ensure the card is inserted correctly with the Chip on the card facing the PCB of the Reader.

3. Insert the Reader & Card into module connection port located at the front of the dryer - see photo.

4. **Connect the dryer to the Electrical supply;**

   The LED's on the Smart Card Reader will light in the following sequence:

a) **Red OFF**: Good Communication between Smart Card Reader & Card.
b) **Red OFF**; Green Blinking: Download taking place.
c) At end of download from Smart Card to Module, **Green ON** ---> Download **OK**.

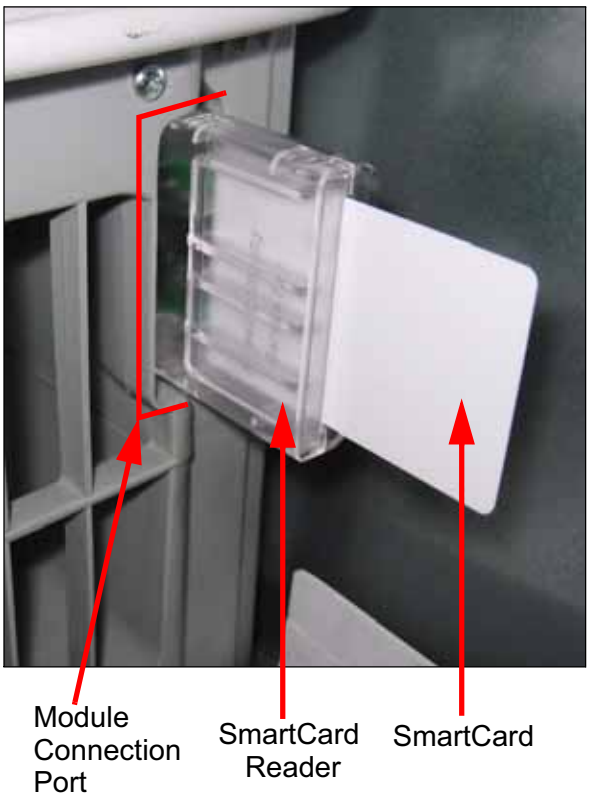
or

d) At end of download from Smart Card to Module, **Red ON** ---> Download **NOT OK**.

5. Programming Complete, disconnect the machine from Electrical supply.

6. Remove the Smart Card Reader.

Smart Card Reader and Smart Card in use



FAULT CODES

In the event of a fault being detected by the electronics, a code will appear in the LCD display.
These codes are listed in the following table.

Example of a Fault Code

All 4 options button lights and the Start/Pause light will flash when a Fault Code is displayed.

Please Note:

- Components with a low resistance to Earth may cause erroneous faults or loss of the display.
- Always check relevant wiring and connector blocks security **before** considering replacing the modules.

Code	Fault	Check for Corrective Action
F01	Motor runs continually	Check module connection J3 for sign of shorting. Replace Module.
F02	No Drum Motor Action	Check security of module connection J3. Check motor for open circuit.
F03	Front NTC open or short circuit	Check security of module connection J12. Check Resistance of NTC (see page 15 for reading).
F04	No pump	Check security of module connector J5. Check float operation & switch. Check pump / wiring for open circuit
F05	Pump continually running	Check security of wiring module J5. Module fault - Replace module.
F06	Not used	
F07	Not used	
F08	Compressor fault	Check security of module connection J11 & J4. Check wiring to compressor via capacitor. Check compressor for open circuit. Relay fault on module - replace module.
F09	Error with set up file	Check connection between interface and control module J9 Check programme file and re - load as required. EEPROM fault on module - Replace module.
F10	Not used	
F11	Same as **F04**	

continued...

F12	No connection between interface & control module	Check connection between interface and control module J9. Check wires to interface connections. Replace module, interface or wiring.
F13	System Pipework NTC	Check wiring to NTC. Check wiring connection at control module J12. Check resistance of NTC (see page 15 for resistance reading) Replace NTC.
F14	Fan running continually	Check System pipework NTC as in F13. If NTC OK replace control module.
F15	Fan not running	Check continuity of Fan. Check Fan is free to rotate. Check System pipework NTC as in F13. If NTC OK replace control module.

Operation of the Float Switch:
The compressor will turn off after approximately 1 minute, and the machine will continue, with cool air only for a further 10 minutes, before the warning H20 is displayed, the Start/Pause button flashes orange and the empty water container icon flashes.

Servicing Notes

1. No Motor Action

When diagnosing the cause of no motor action, it should be remembered that one of the door switches is in the motor supply and its operation and wiring should also be checked.

2. Suspect System Fault

If a system fault is suspected follow these Steps to confirm the System is the problem.

Set the machine to an Auto Cycle, these checks assume the machine has not been recently used and does not contain any clothes.

Remember - if the machine is stopped for any reason, the compressor will not re-start for 5 minutes.

1. Are both the air duct and the heat exchange filters clean?
2. With the heat exchanger filter removed, are the evaporator fins clogged or have signs of fluff. (If the machine is used with the heat exchange filter not in place, or the filter is not regularly cleaned, the evaporator air flow path will become blocked and the clothes will not dry).
   - Is the compressor running?
3. If the compressor is not running, check the following:
   - The Compressor capacitor and wiring.
   - Check the module connectors and wiring.
   - Check the compressor cut out.
4. With a thermometer sensor positioned under the rear fan/air duct cover (within the airflow), (care must be taken not to foul the sensor against the drum or the motor rear fan), operate the dryer to check there is a temperature rise within 10 minutes. *(Temperature values shown in these photographs indicate a few degrees rise after a few minutes testing.)*
5. Does the front fan turn on after about 20 minutes of operation?
   Note: The front fan only comes on intermittently during the early stages of the cycle.

3. To Check Continuity of Conductivity Sensor & Lead

1. Confirm that the dryer is disconnected from the electricity supply.
2. Remove the Right Hand Side Panel - see Dismantling Instructions.
3. Remove the Black (single) wire on module connection J11
4. Test between the removed Black wire and the metal conductivity sensor inside the drum.
   The sensor is part of the air duct moulding inside the drum cavity, beneath the filter - see photo.
5. The resistance should be less than 1.0 ohm.

'A' Energy Test Sequence

To Start the Test

Using Test Key C00145046 and a 270KΩ resistance, magnet and link wire with ring terminal, attach the magnetic link wire to the sensor strip inside the front air duct and the circular end to the air duct fixing screw on the outer front panel.

1 Select Cotton High Heat programme

Attach hardware test key (Part Code C00145046) and check for blue light & select TEST.

The drum will start to revolve with display showing:

The Start LED on - Extra Dry icon on - 3.30 in the time display.

Note: The display may show last fault detected - disconnect the dryer from the mains supply and start again).

Check that motor & drum revolves in a clockwise direction.

2 Press the Post Crease Care button

Display will show: Start LED on - Extra Dry icon on - 3.30 in display - Post Care option on.

The drum stops.

The drum will start and rotate clockwise.

Cooling fan switches on.

3 Press the Alarm Button

Alarm icon on - The compressor switches on and will run for 60 seconds with the drum rotating clockwise and allow to run until compressor stops.

4 Check operation of Conductivity Sensor

Press the Post Crease Care button

Display will show the **Start** Led on - **3.30** in display - **Post Crease Care** - **Alarm On**

Mini Load

Alarm

There are two possible outcomes:

A. If the Post Care icon goes out, the drum stops briefly and then starts rotating in a clockwise direction the Conductivity Senor circuit is working Correctly -go to instruction 5.

B. If the display flashes END and the Start LED (Green) flashes and the additional lights come on - Drying - Cool Tumble - Empty Water / Clean Filter and the drum does not rotate then there is a problem with the Conductivity Sensor circuit. Repair and complete the test.

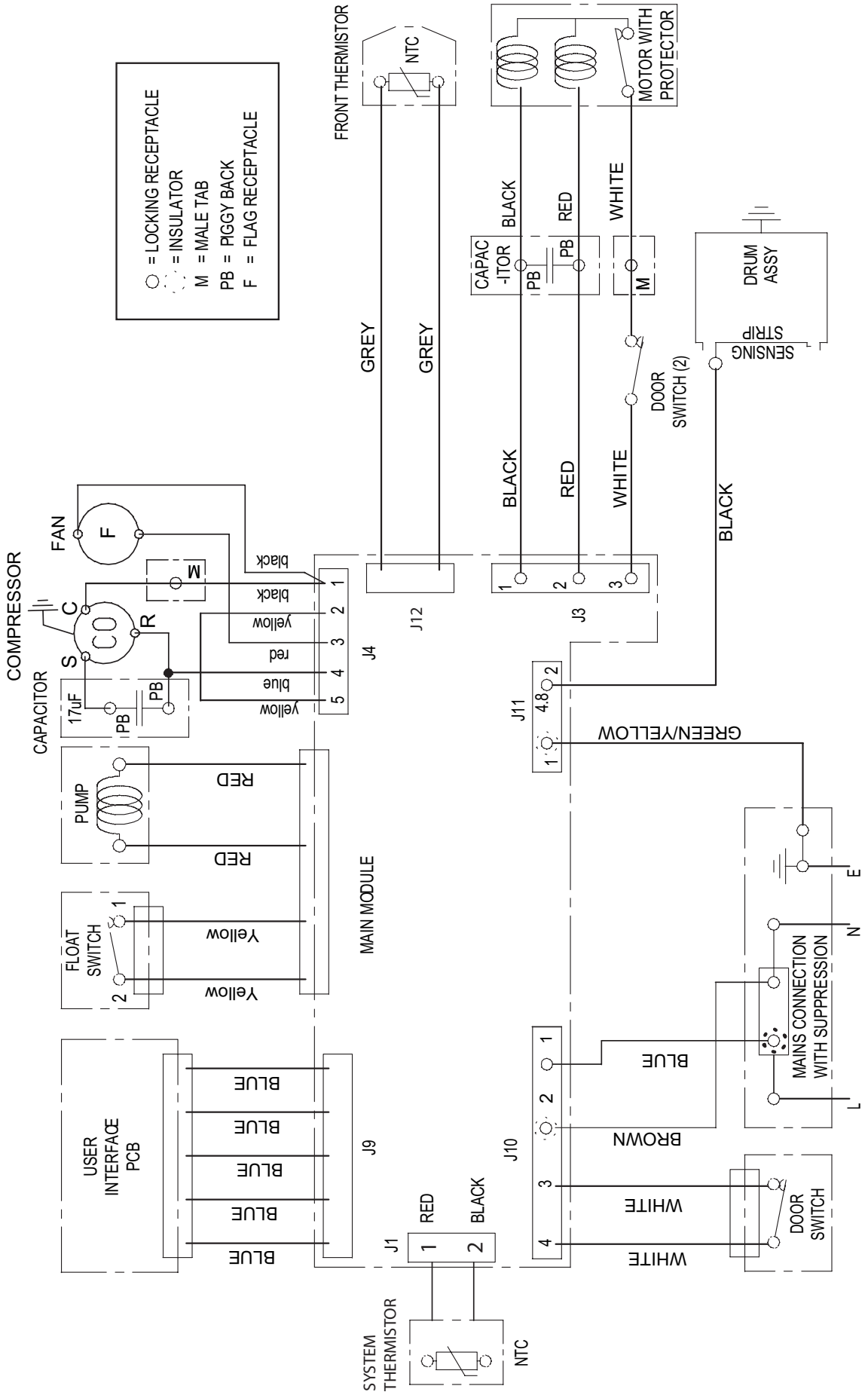
Pre-Crease Care

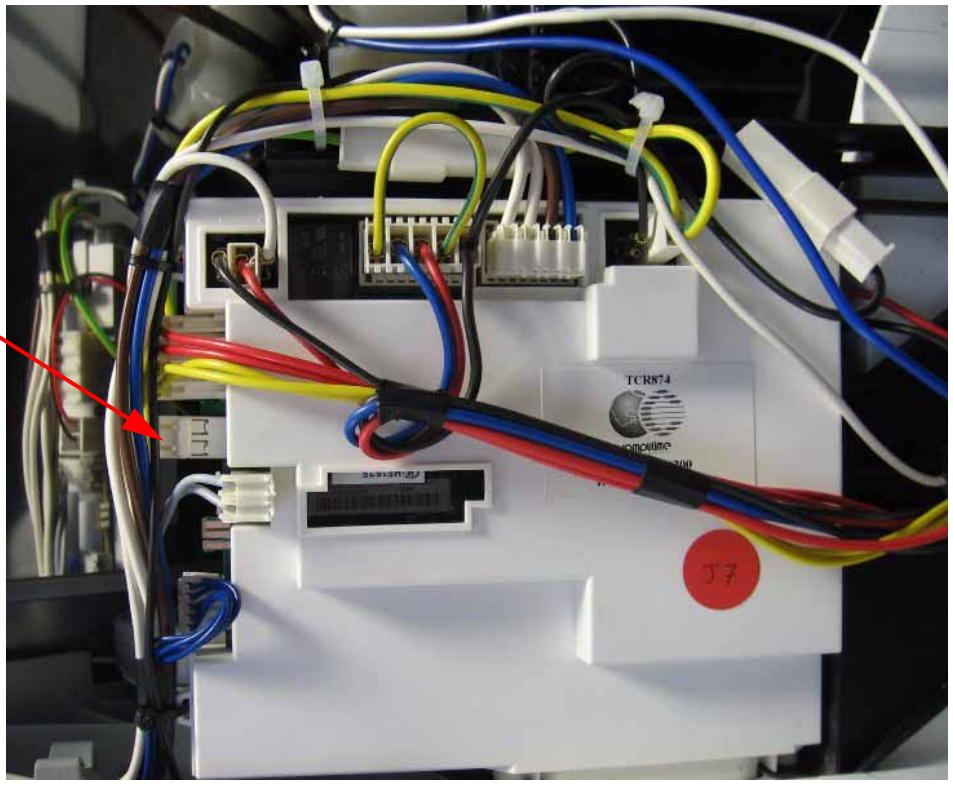
Post Crease Care

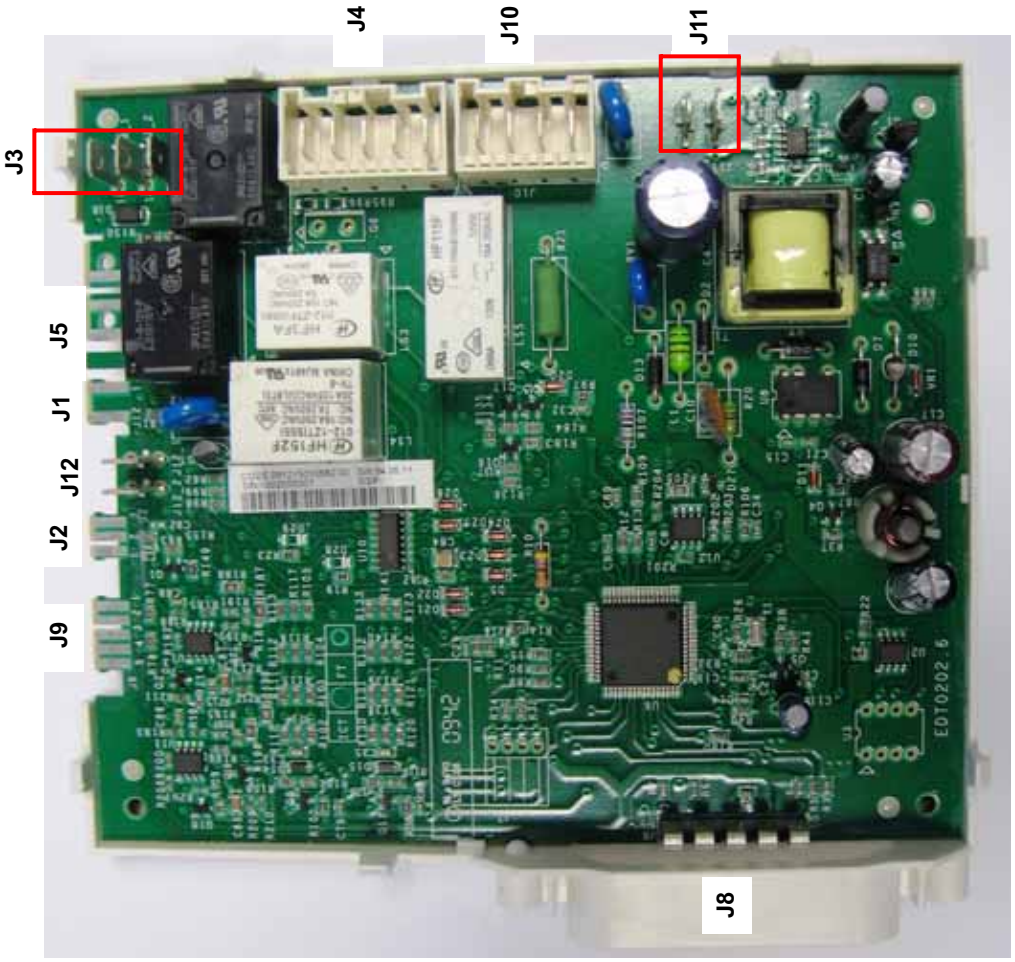
5 Door Switch Operation

With the drum running open the door and check that the drum stops revolving - switch machine off Remove Test Resistance Link wire and Test Key.

WIRING DIAGRAM







POWER MODULE Connections

DISMANTLING INSTRUCTIONS

SAFETY NOTES

1. **ENSURE THAT THE MACHINE IS UNPLUGGED BEFORE DISMANTLING.**
2. **BEWARE OF SHARP EDGES ON METAL PANELS AND PRESSED PARTS. SAFETY GLOVES MUST BE WORN WHEN WORKING ON THIS APPLIANCE.**

A. Top Cover

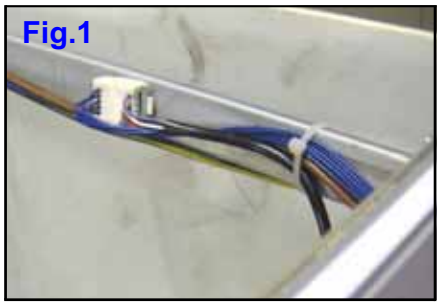
1. Remove the 2 screws securing the top cover to the back panel.
2. Slide the top cover back and lift clear of the retainers.

B. Side Panels

1. Remove the top cover.
2. Remove the 4 screws securing the side panel to the rear panel and 1 screw securing the side panel at the top front of the dryer.
3. Pull the side panel backward to disengage from the lugs on the base panel.
4. **NOTE: The longer screws are for fitting the Side Panels to the Base**

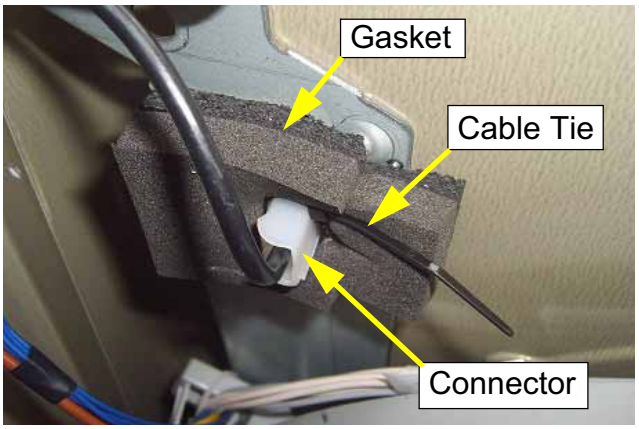
C. Door Assembly

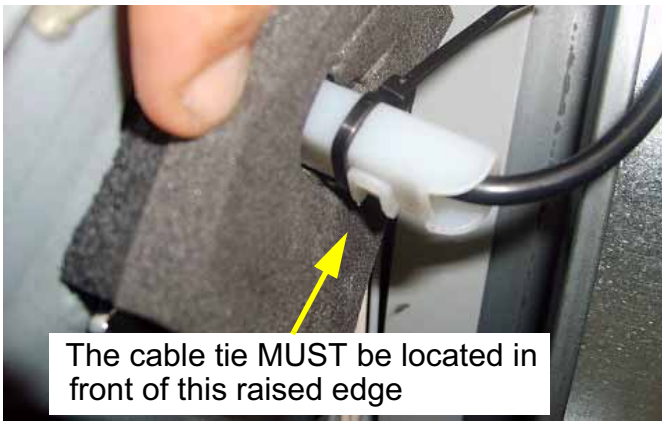
1. Remove the Top Cover (A)



2. Disconnect the lead to the Control Card. The connector is situated along the top front edge of the right hand side panel. (Fig.1)
3. While holding the Door, remove 4 Torx T20 screws (2 per hinge) securing the Door hinges to the cabinet. (Fig.2)
4. Carefully feed the loom from the Control Card through the Top Hinge access hole, while lifting the door clear. (Fig.3).
5. It is important the hinge gasket is correctly located and fitted.

The cable tie must be tight and located exactly as shown below. Do NOT cut off the tail.





D. Control / Display Module Assembly

1. Remove Door assembly (C)
2. Place the door assembly on a protected flat surface.
3. Remove the control module cover 5 Torx T8 screws.
4. Disconnect the edge connector.
5. Release the 4 retaining lugs and ease the control module away from the door.
   (The knobs, buttons etc. remain fitted to the module.

Note: When refitting the control module you are advised to fit the edge connector before clipping into position.

E. Programme Knob

1. Remove the Control/Display Module. (D)
2. To gain access to the Control Knob the Control Module PCB needs to be CAREFULLY unclipped from its housing
3. Pull the Knob from the shaft.

   Note. When refitting, clip the Control module into its housing and then line the Control Knob with the **D** shaft of the module Potentiometer and clip into place.

F. Water Container Support

1. Remove top cover as in (A)
2. Remove L/H side panel.
3. Remove water container.
4. Undo the 3 container support adaptor securing screws and remove.
5. Release inlet and overflow hoses.
6. Undo 2 screws securing container support to back panel.
7. Ease container support and rear panel backwards and remove.

G. Door Seal

1. Remove the front Panel as in (I)
2. The seal can now be removed from the front panel.

   Note: The seal is held in place by being compressed between the front air duct and front panel.

   When re-fitting, fit the door seal to the front panel first, and then carefully locate the front panel in position without disturbing the seal.

H. Belt

1. Remove side panels as in (B)
2. Remove the Drum Assembly (Q) (points 1 to 7)
3. Ease Rear panel back to clear the drum Shaft and slide the belt over the drum.
4. To fit the belt over the motor shaft, use the relevant belt fitting tool - Part No. C00279766)

I. Front Panel

1. Remove the top cover
2. Remove the Door Assembly. (C)

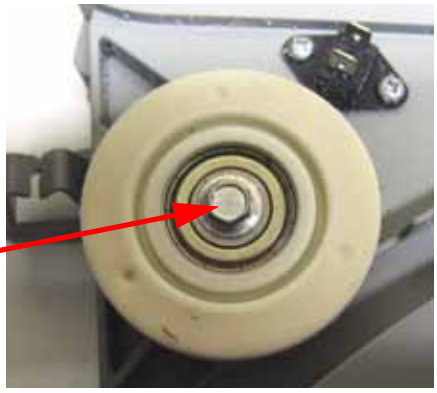
3. Slide out the water container and lay to one side, then remove the 3 screws from the water container front surround. Remove the surround
4. Remove the 5 screws around the door opening. **Note:** This step is only carried out when access to the air duct is required.
5. Remove the 3 screws along the bottom edge of the front panel.
   Note that the bottom edge of the front panel is positioned behind the base.
6. Remove the 2 screws securing the front panel to the side strut at the top of the dryer.
7. Remove the door switch fixing screw and remove the door switch, noting the positions of the connections.
   Note: When refitting, fit the door switch before finally locating the front panel in position and be careful not to trap any wiring between the front panel and air duct.

J.) Front Air Duct, Dryer Sensor and Front Thermistor

1. Remove the front panel (I)
2. Ease the air duct forward, to remove the wiring from the guide clips, disconnect the dryer sensor and front thermistor.
3. Lift the front air duct and ease past the front support wheels.
   Note: When refitting, be careful to ease the air duct past the wheels and locate correctly into the air duct.

K.) Front Drum Support Wheels

1. Remove the Drum (Q)
2. Unscrew the Bearing Support Wheel fixing bolt.



L. Door Switch

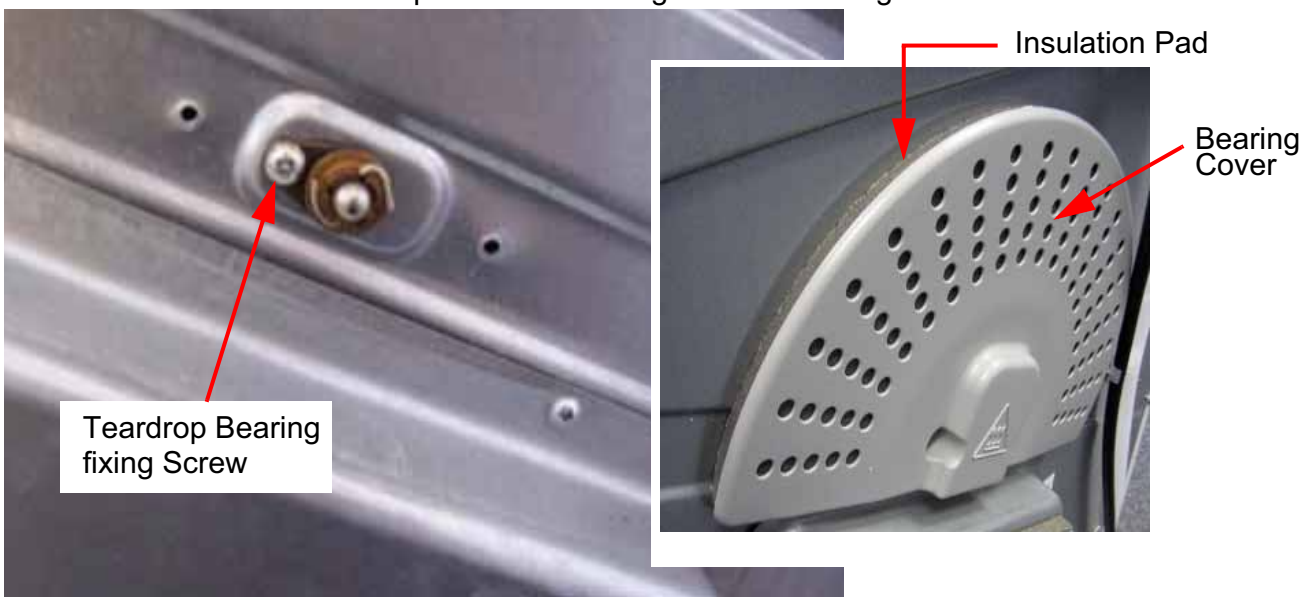
1. Remove the top cover as in (A).
2. Remove front panel as in (I). It is not necessary to completely remove the front panel. The front panel should just be leaned forward to access to the door switch.
3. Slide the switch to remove from the front panel.
4. Transfer wiring, noting connections.
   Note. Be careful not to trap any wiring between the front panel and air duct.

M. Rear Bearing (Tear Drop shaped)

1. Remove the rear bearing cover.
2. Remove the drive pin and collar.
3. Remove the tear drop bearing fixing screw.

- Continued on following page.

4. Slide the bearing off the drum shaft.
   Note: Place the insulation pad before refitting the rear bearing cover.



N. Pump & Float Switch

1. Release the two pump/float assembly cover clips. See Photos 1 and 2.

Photo 1

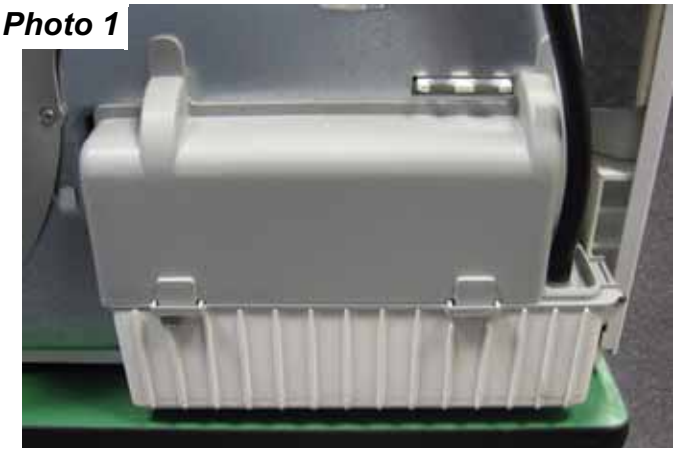
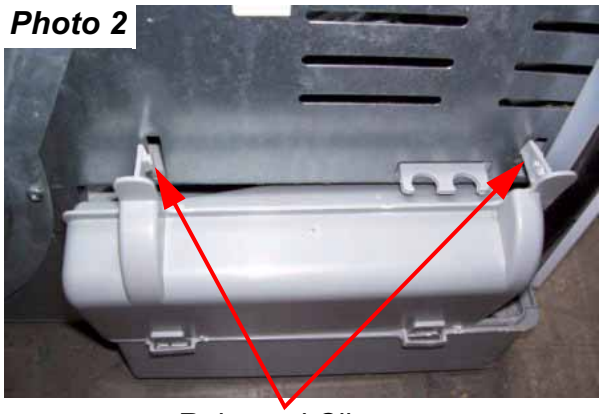
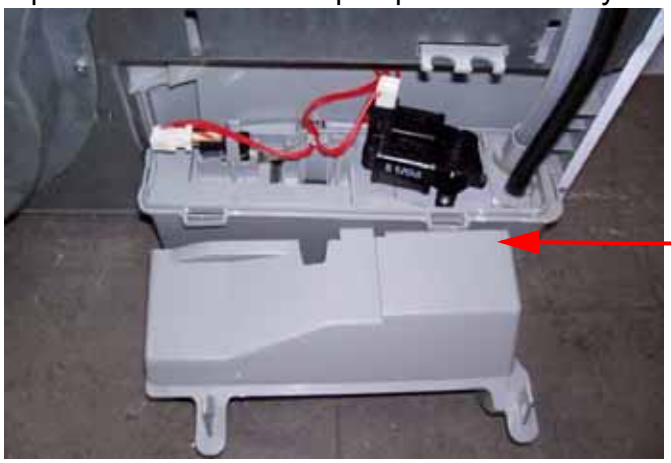


Photo 2

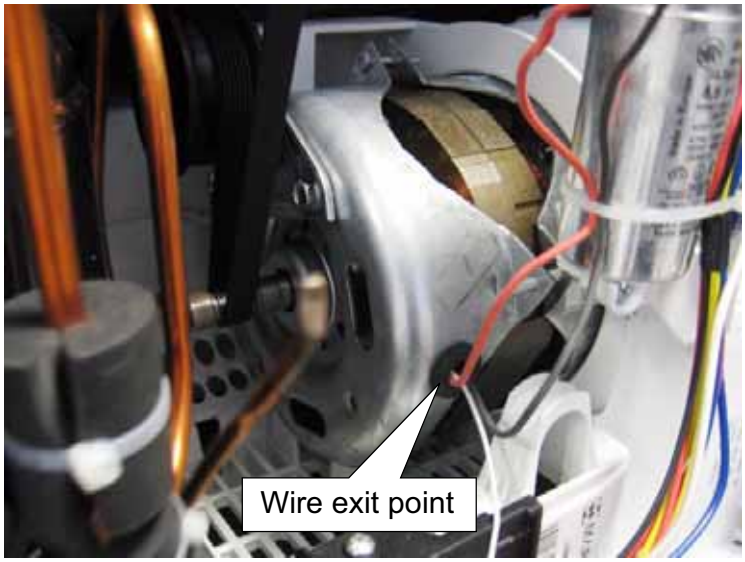


2. Release the two clips at either end of the pump/float assembly and lift the unit clear.

Photo 3



O. Motor



1. Remove drum assembly (Q)
2. Remove back panel (S)
3. Remove front panel and air duct assembly complete. (I)
4. Remove 4 screws securing motor to heat exchanger surround.
5. Release Capacitor securing screws and remove capacitors. (V)
6. Unplug thermistor wiring, and remove pump wiring from heat exchange cover.
7. Remove 10 screws securing the heat exchange cover and remove cover. **Please note:-** On reassembly ensure correct orientation of motor (note the wire exit point) and do not replace fixing screws until belt has been refitted as per belt refitting section.

   Ensure that heat exchange cover is located properly before replacing its securing screws.

Q. Drum Assembly

1. Remove top cover as in (A)
2. Remove side panel's as in (B)
3. Remove water container support as in (F). Ensure door is closed before moving to next stage.
4. Remove rear bearing as in (M)
5. Release belt from motor pulley.
6. Disconnect mains terminal and earth lead from back panel.
7. Remove 2 screws securing side strut to rear panel.
8. Ease rear panel away from drum shaft and withdraw drum from left hand side of cabinet.
9. Reassembly is reverse procedure it will be necessary to remove motor fixings to refit belt refer to belt removal.

R. Pipe Thermistor

1. Remove the Drum Assembly. (Q)
2. Disconnect the electrical plug to the thermistor.
3. Remove the thermistor from its housing, noting location and fitting.

S.) Rear Panel

1. Remove top panel as in (A)
2. Remove Air Flow fan (W)
3. Remove pump (N)
4. Remove both side panels. (B)
5. Remove rear bearing. (M)
6. Remove container support (F)

T.) Front Cooling Fan

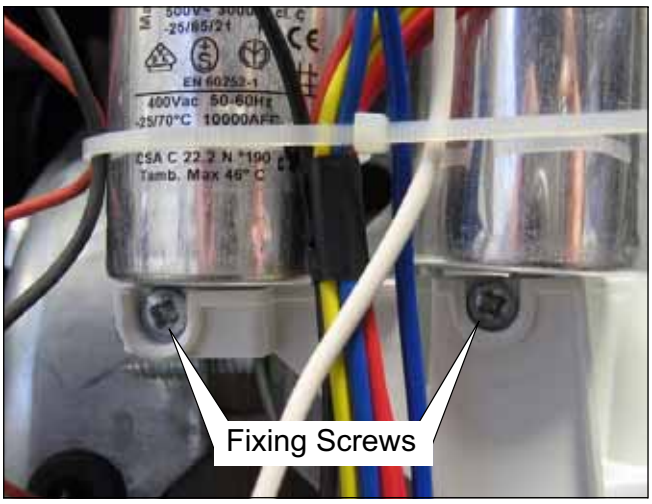
1. Remove the Drum Assembly (Q)
2. Remove the 2 screws securing Fan housing
3. Disconnect the Wiring and Slide the Fan from its housing.

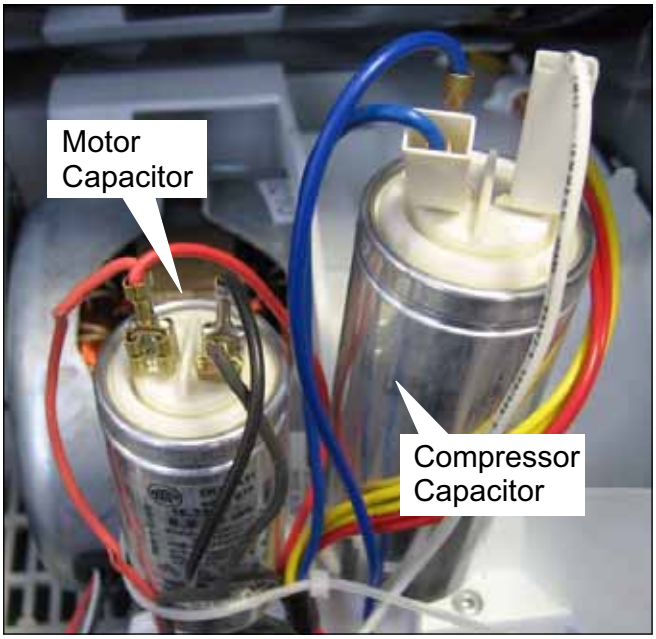
U) Jockey Wheel & Bracket Assembly

1. Remove the Drum Assembly (Q)
2. Remove the 2 bolts securing the assembly to the front of the motor.

V) Motor & Compressor Capacitors

1. Remove the Right Hand Side Panel (B)
2. Remove the fixing securing screw.
3. Lift Capacitor clear.





W) Rear Air Flow Fan

1. Remove plastic bearing cover complete with insulation.
2. Remove fan cover.
3. Using suitable protection (wearing safety gloves) hold the fan and remove 3 fixing bolts.
4. Remove fan.

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