

Electrolux

ELECTROLUX HOME PRODUCTS PTY LTD
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Induction cooktop service and fault code guide

NOTE – The electronics within induction cooktops are susceptible to static discharge, earth yourself by touching the chassis before commencing work on any electronics.

Alternatively use an anti static wrist strap (ESD) that complies with International Standard IEC6134-5-1

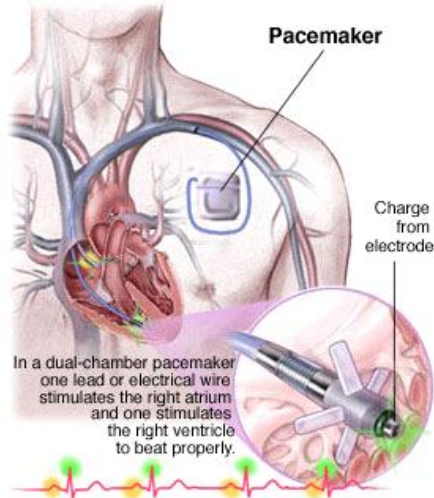
WARNING

IT IS ILLEGAL FOR PERSONS OTHER THAN LICENSED ELECTRICAL MECHANICS OR PERSONS AUTHORISED BY LEGISLATION TO WORK ON THE FIXED WIRING OF ANY ELECTRICAL INSTALLATION. PENALTIES FOR CONVICTION ARE SEVERE.

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Induction & Pace Makers

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Induction and Pace Makers

To understand the situation Electrolux asked a specialist in this field Prof. Dr. Irnich from the University of Giesen to measure our appliances, to assess the risk and to guide the group in providing the correct information for the marketing of induction hobs in relation to heart stimulators (pacemakers). The result is published in "*Medizintechnisches Gutachten zu der Frage der Störbeeinflussung von Herzschrittmachern durch Induktionsmulden der Firma Electrolux, Rothenburg ob der Tauber*" B2-99-10 from 10.08.1999

There are two elements of the risk; the strength and frequency of the electromagnetic field and the potential of built up in the pot. The later seems to be the more troublesome for pacemaker patients.

Tests and calculations made by Prof. Dr. Irnich show that it is not dangerous for pacemaker patient as long he/she observes the defined distance begin 30cm from the appliance.

In all cases we recommend the patients contact their physician. It is not dangerous to visit someone's house where an induction hob is installed if the above is respected.

Electrolux Induction Cooktops are approved to Australian Standard 60335.2.6

What is Induction Cooking

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What is Induction Cooking?

Induction cooking is the technology where cookware is heated using magnetic energy. It requires a ceramic cook top with induction energy coils directly beneath the surface. These coils produce high-frequency alternating current from the regular supply voltage. When cookware made of a magnetic-based material is placed on the ceramic, the molecules in the vessel begin to move so rapidly that the pan (not the cook top) becomes hot. Removing the pan from the cooking surface produces an immediate slowdown of the gyrating molecules, which means the pan begins to cool. This gives a cook immense control over what's being heated.

Cookware Suitability

Although most steel and cast-iron-based vessels work well, those made of aluminium, copper and some stainless steel can't be used on an induction cooktop because they aren't magnetic - **if a magnet sticks to its surface, the pan is suitable.**

Cookware Base

The Bottom of the pan should be as flat and thick as possible.

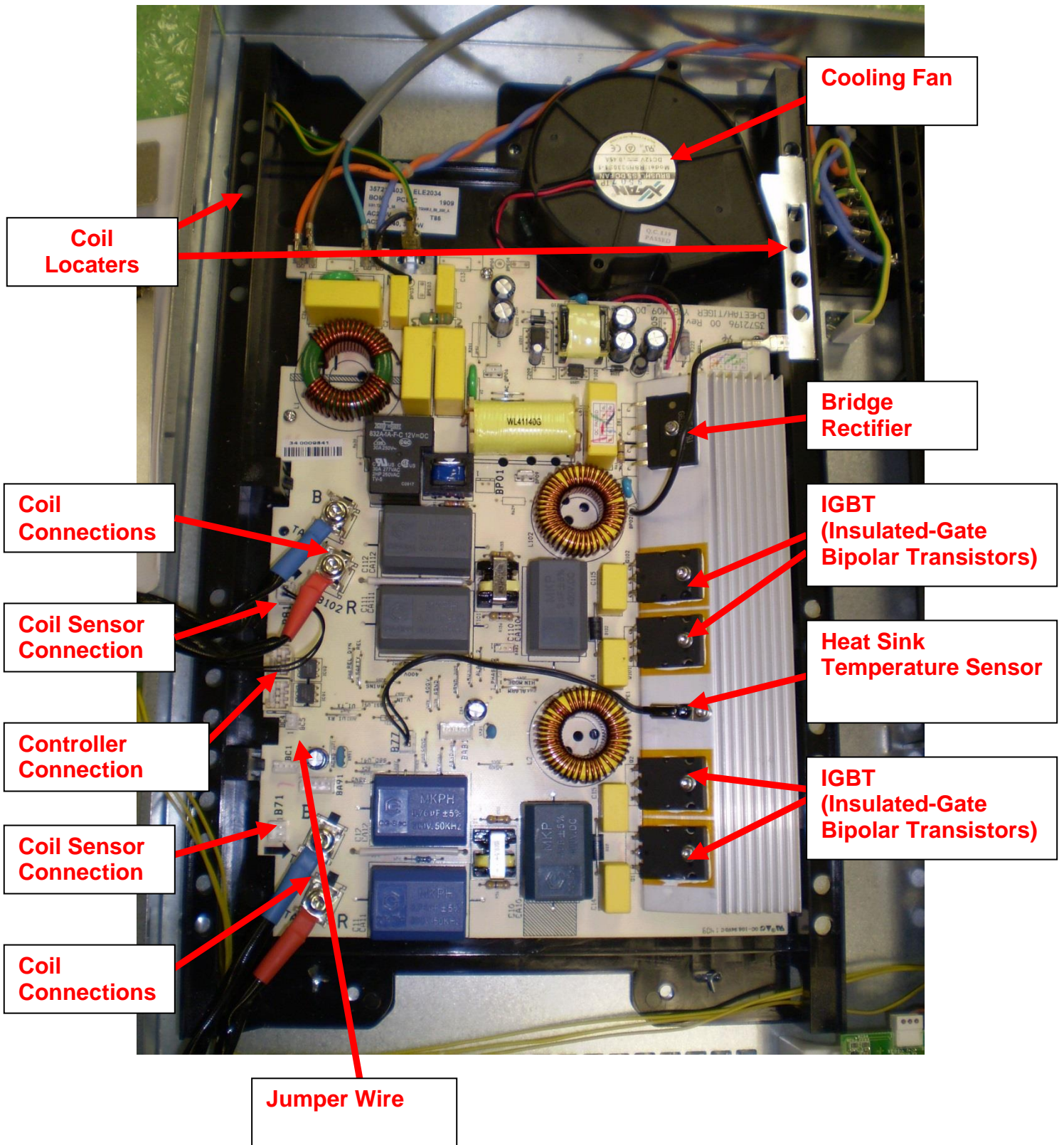
Cookware Size

Up to a certain limit, induction cooking zones adapt themselves to the size of the bottom of the cookware automatically. However, depending on the cooking zone size the magnetic part of the bottom of the cookware must have a minimum diameter.

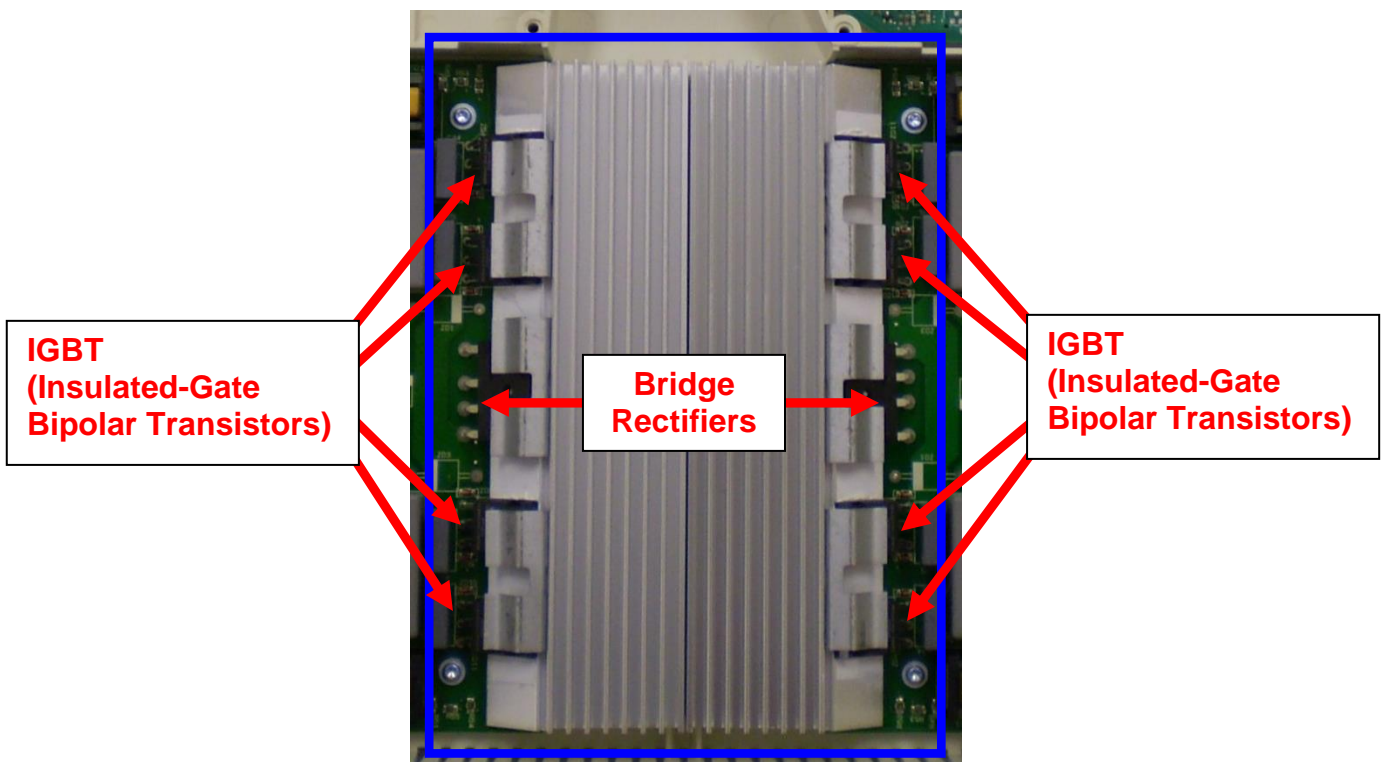
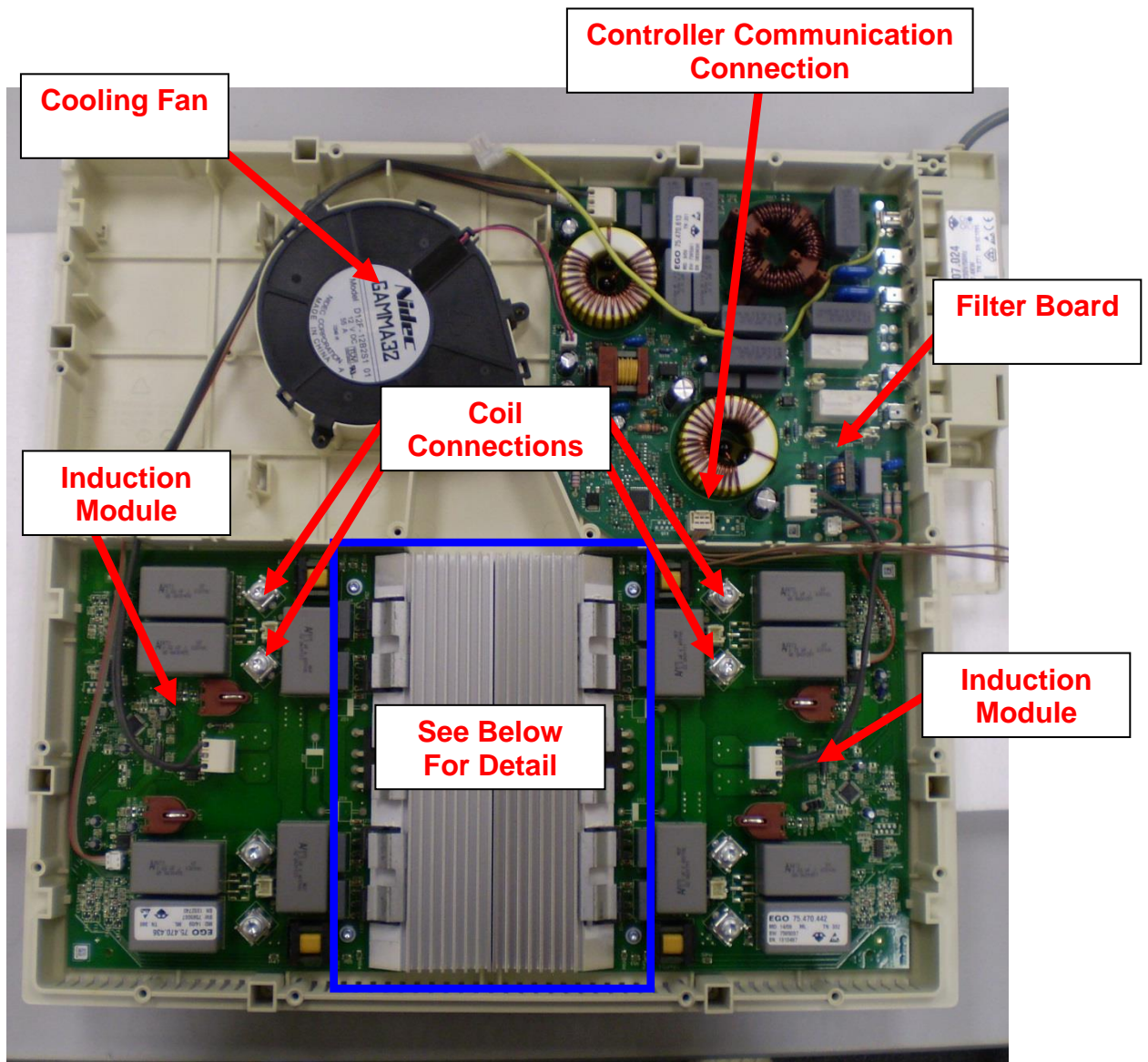
NOTE: The cookware must be placed centrally on the cooking zone.

Diameter of cooking zone [mm]	Minimum diameter of dish base [mm]
210	180
180	145
145	120

Integrated filter induction module layout.



Separate filter board model induction module layout



Fault Codes
Fault Codes


Fault Code	Description	Fix
E0	Configuration alarm	1. Disconnect hob from mains, wait 30 seconds. If the error is still displayed, replace the user interface.
E1	Software error	1. Disconnect hob from mains, wait 30 seconds. If the error is still displayed, replace the user interface. NOTE: Model EHD68210P before serial N° 944xxxxx both user interfaces will require changing.
E3	Mains voltage low or high	1. Check for correct voltage 240V ± 10% (216V – 264V) 2. Operate the appliance for 1 minute with a suitable pot of water. 3. Check IGBT and bridge rectifier if faulty change induction module or filter board.
E4	Induction coil sensor over temperature or not connected to induction board	1. Check pots are flat as this can cause over temperature of the sensor. 2. Check induction coil temperature sensor.
E5	1 Phase missing	1. Check connection as per wiring diagram on base of product.
E6	Faulty induction module	1. Disconnect the appliance from the mains for 30 seconds. If fault code still occurs after 1 minute of operation replace induction module. NOTE: Only change the module as indicated by the fault code.
E6	On Falcon controller models pre 2010 see E4	1. See E4
NOTE : E6 continues next page.		

Fault Code	Description	Fix
E6 Cont.	On models with a separate filter board - filter board, controller or induction module faulty.	<ol style="list-style-type: none"> 1. Ensure 5VDC is present by using control point 3 and the earth. If incorrect voltage found replace filter. If 5VDC is present replace the controller. 2. Check for burns on filter or modules. 3. Check cable connections between filter and module. 4. Check IGBT and bridge rectifier 5. Replace filter, if fault still shown an induction module has also failed. 6. Isolate one induction module then re-check to determine which module is faulty.
E7	Fan Speed	<ol style="list-style-type: none"> 1. Check fans are running and not obstructed. 2. Ensure correct installation.
E8	Input electronics configuration error	<ol style="list-style-type: none"> 1. For model EHD68210P use chart below 2. Check the bridge is fitted within the terminal block (240V only) 3. Check the cable connecting the user interface and induction module, clean the induction module and user interface cable contacts. 4. *If no success with the above change the right hand induction module. (*NOTE: On older models with separate filter board, change filter board) 5. If no success with the above change the user interface.
E9	Communication error	<ol style="list-style-type: none"> 1. Replace the user interface.
F or ?	No pot detected Coil open circuit	<ol style="list-style-type: none"> 1. Check pot with magnet. 2. Check coil resistance.

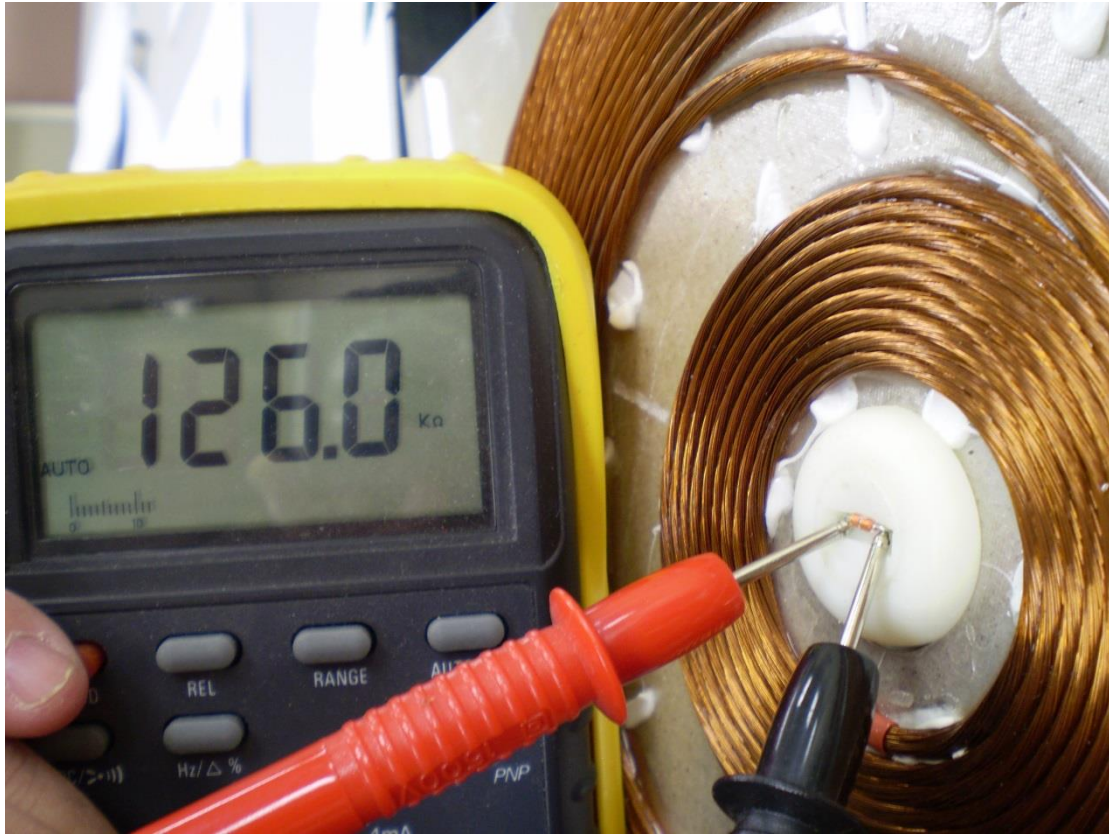
Use this chart for EHD68210P		
E8	Input electronics configuration error	<ol style="list-style-type: none"> 1. Check the cable connecting the user interface and power board, clean the power board and user interface cable contacts. If unsuccessful, replace power board then user interface. NOTE: before serial N° 944xxxxx both user interfaces will require changing 2. Check 240V between Neutral and Phase connections 3. Replace right induction module

Fault Diagnosis.			
Problem	Display	Possible cause	Fix
Cook top is not switching ON. No display shortly after powering up.	None	Electronic is not reacting any longer.	1. Disconnect the appliance from the mains for 30 sec.
		No power supply or Wrong connection at mains terminal.	1. Check 240VAC between Neutral and Phase. See connection label on bottom of appliance.
		Power board defect.	1. 5VDC supply for user interface defect. Check for 5VDC. If voltage is missing replace power board.
		Over temperature protection of power board active.	1. Cool down appliance 2. Check if the housing of the Power board is deformed or very brown. If yes: - exchange deformed housing. - check that all springs at the bottom of the housing are in place. - check that all heating elements are pressed against the glass ceramic and that the springs for the heating elements are correctly mounted.
		User interface cable not correct plugged or mounted.	1. Check plugs at power board and the user interface, check the interface cable, if faulty replace.
		User interface defect.	1. If all the above failed, replace user interface.
No power on all cooking zones.	Normal cooking level	Demo mode active.	1. De-activate demo mode.
2 cooking zones not functioning, but operable	Normal	Power supply of phase 2 missing.	1. Check 240VAC between N and Phase. Check both terminals 1 and 2 at the mains terminal of the hob
		Power board defect (main relay).	1. Replace the Power board.
1 cooking zone is not heating.	Normal	Heater defect.	1. Check heater terminals for open or short cut. In case of failure exchange heating element.
		Wiring defect.	1. Check wiring between power board and elements 2. Replace the wiring if the terminals are burnt.
		Relay defect.	1. Replace power board.
Pot is not getting hot.	Normal cooking level	Pot with large bow on the base. Bad heat transfer.	1. Replace pot.
		Heater is not pressed correctly to glass.	1. Check that all heating elements are pressed against the glass ceramic and that the springs for the heating elements are correctly mounted.
		Pot size not suitable for selected zone or multi zone not switched on.	1. Change zone or switch on multi zones.
Single keys are not operable		User interface not correctly pressed to the ceramic or defective.	1. Check the interface springs are in place, the is located within the housing correctly and pressing against the ceramic. 2. Disconnect appliance from mains for 30 seconds. 3. If 1 & 2 don't resolve the problem replace the interface.

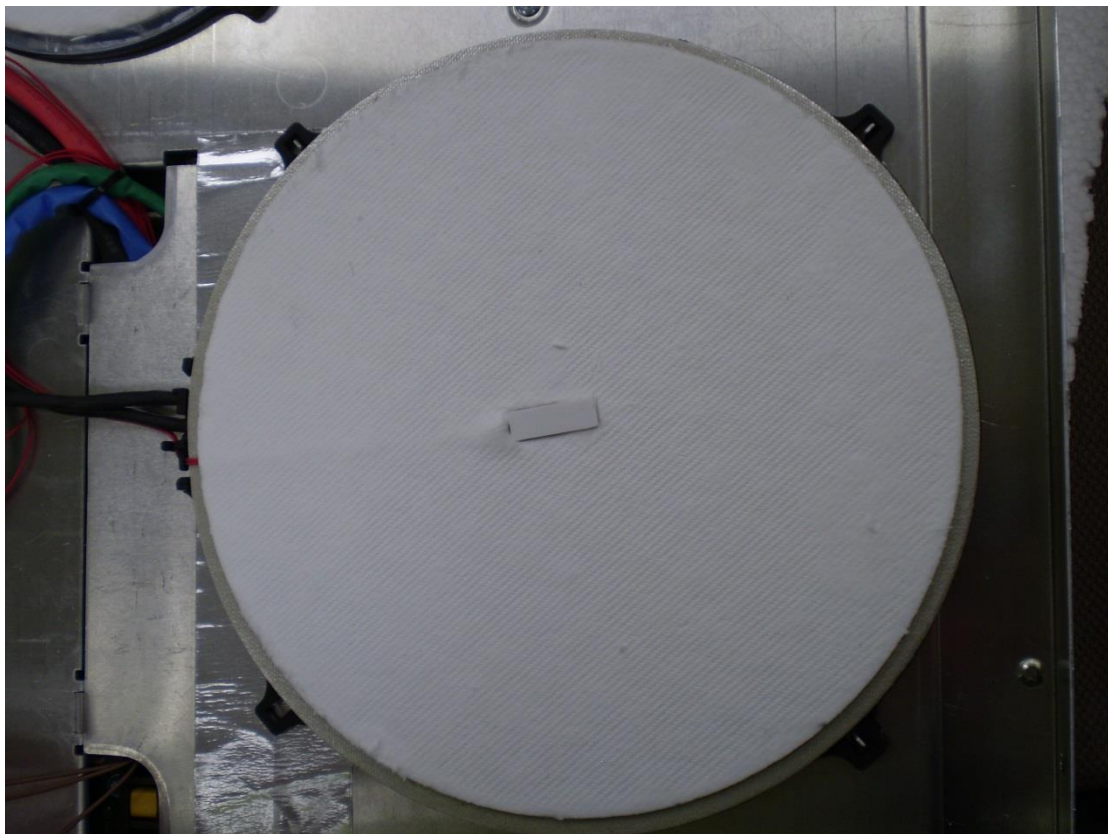
Problem	Possible cause	Fix
The cooking zone cannot be switched on or is not functioning.	More than 10 seconds have passed since the appliance was switched on.	Switch appliance back on.
	The child safety lock is activated.	De-activate the child safety lock.
	Numerous sensor panels were touched simultaneously	Only touch one sensor panel.
	Automatic deactivation has been triggered.	Remove any objects (pot, cloth, etc.) from the operating panel, switch appliance back on.
	There is water on the operating panel or the operating panel is covered by fat splashes.	Wipe over operating panel.
	Demo mode is activated.	De-activate demo mode.
Buzzer sounds when appliance is switched off.	The operating panels completely or partially covered by object.	Remove object.
The residual heat display does not display anything.	The cooking zone has only been on for a short time and is therefore not hot yet.	
	The element hot light switch has failed.	Replace element.
	User interface faulty.	Replace user interface.
The buzzer sounds and the appliance switches itself on and off again after 5 sec.; the buzzer sounds again after 5 sec.	There is water on the operating panel or the operating panel is covered by fat splashes The On/Off sensor panel has been covered up, e.g. by a cloth.	Wipe over operating panel. Do not place any objects on the operating panel.
"-" is illuminated.	Automatic deactivation has been triggered.	Switch cooking zone off, switch cooking zone back on again.
"E" and a number are displayed.	Electronics error.	Disconnect the appliance from the mains for a few minutes (remove the fuse from the house fuse cabinet. If "E" still displayed, refer fault code chart.

	3 step residual heat indicator stays on even when cold.	Replace relevant coil as indicated by the controller.
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Heat Sensor F4 Fault

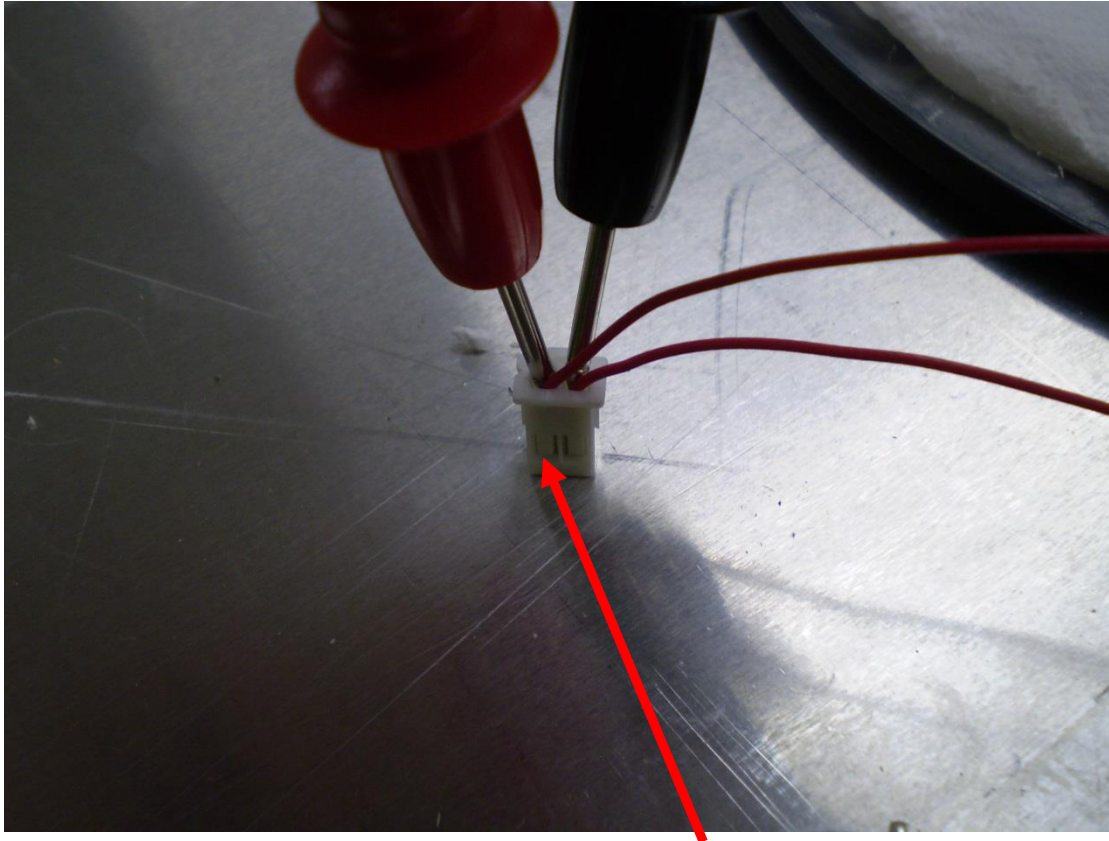


E4 - Un-plug the sensor from the board and check here, it should read 100k ohms or more and be centrally located within the silicone mount.



E 4 - On this type of coil the sensor can only be checked at the plug end.

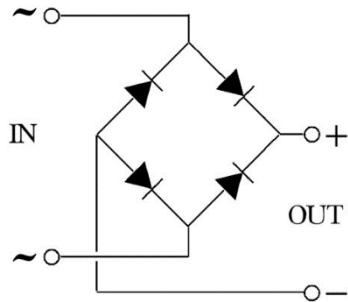
Heat Sensor F4 Fault



E4 – Un-pug and check sensor, it should read 100k ohms or more on integrated filter board models and 1k ohms on separate filter board models.

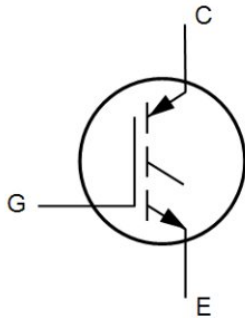
IGBT & Bridge Rectifier

Rectification is used in the conversion of alternating current (AC) to direct current (DC) by only allowing electrons to flow in one direction. This is then filtered to a smooth DC value and used to power the electronics and the induction coils.



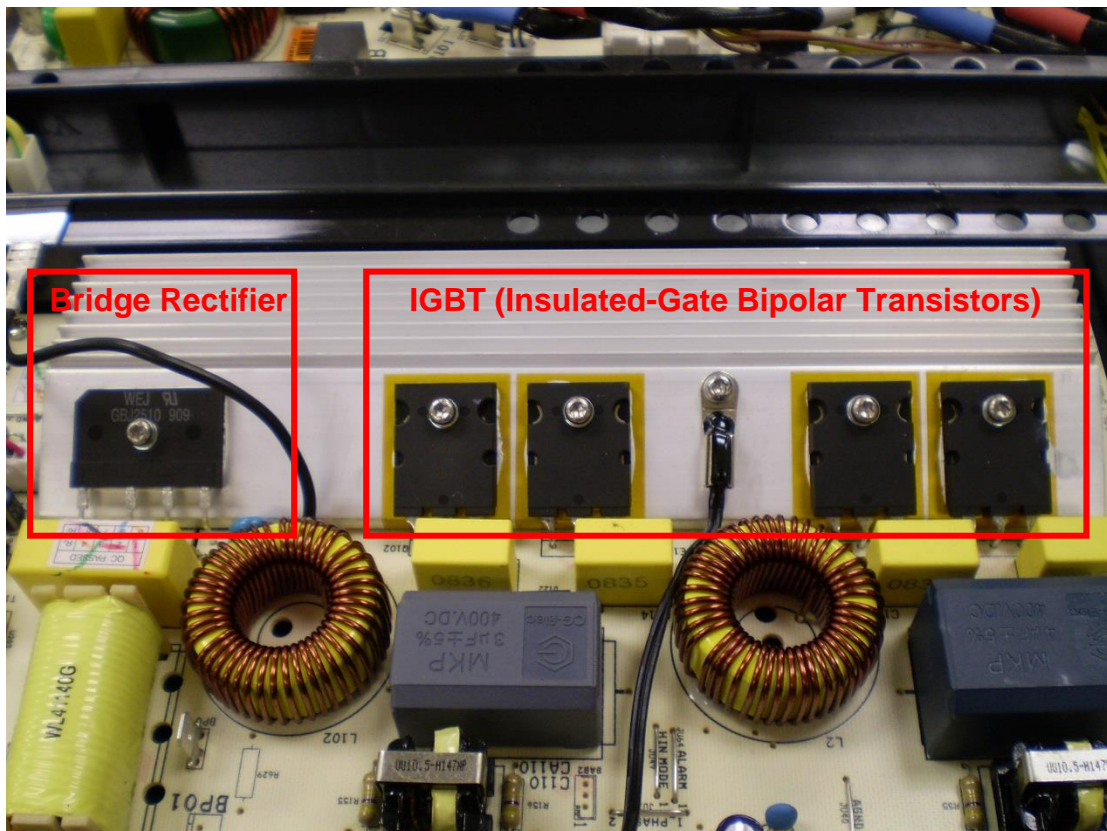
Bridge Rectifier

The Insulated **G**ate **B**ipolar **T**ransistor or IGBT is a three-terminal power semiconductor device which is used to drive high-frequency alternating current through the induction coils.

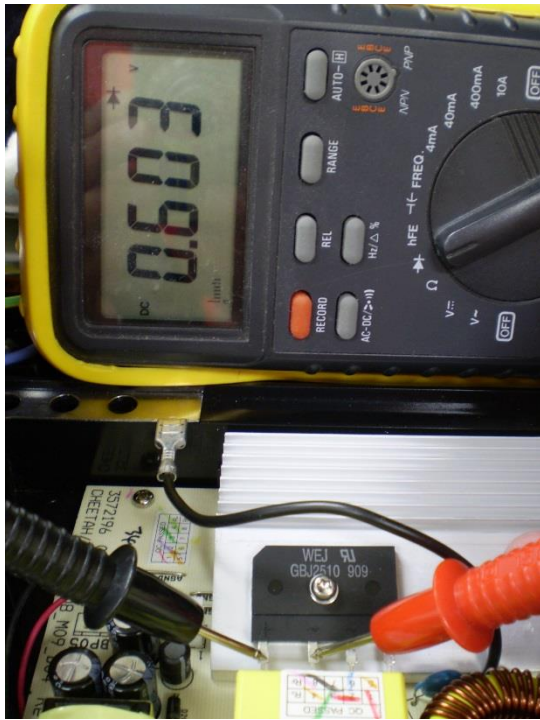


IGBT

C - Collector
G - Gate (Heat Sink)
E - Emitter

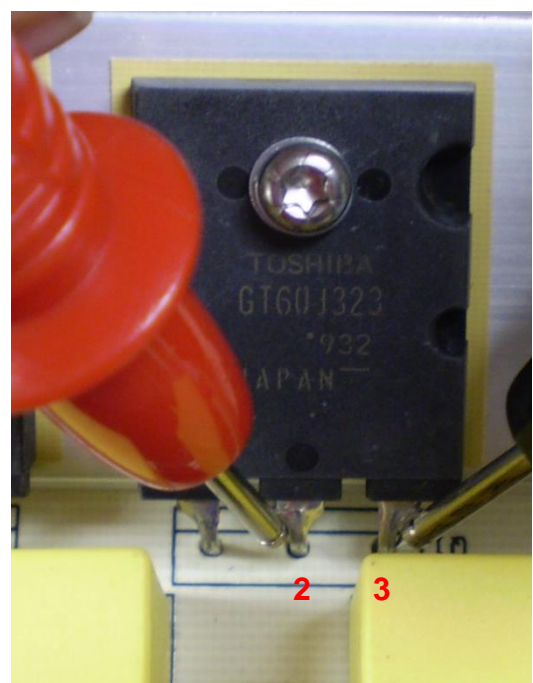
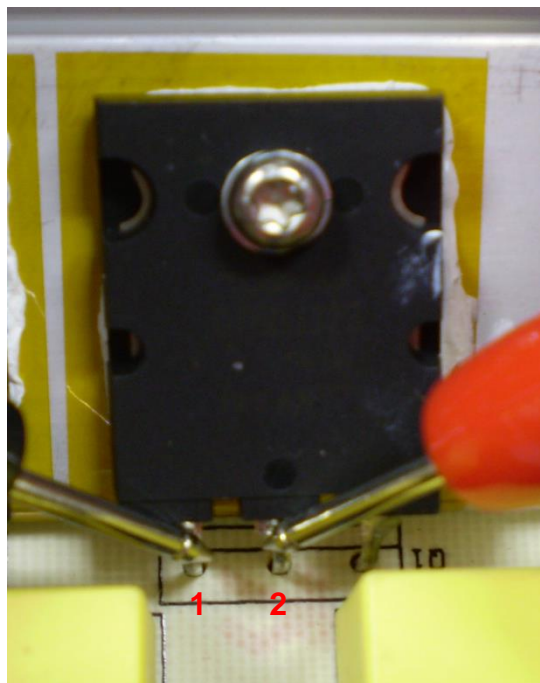


IGBT & Bridge Rectifier



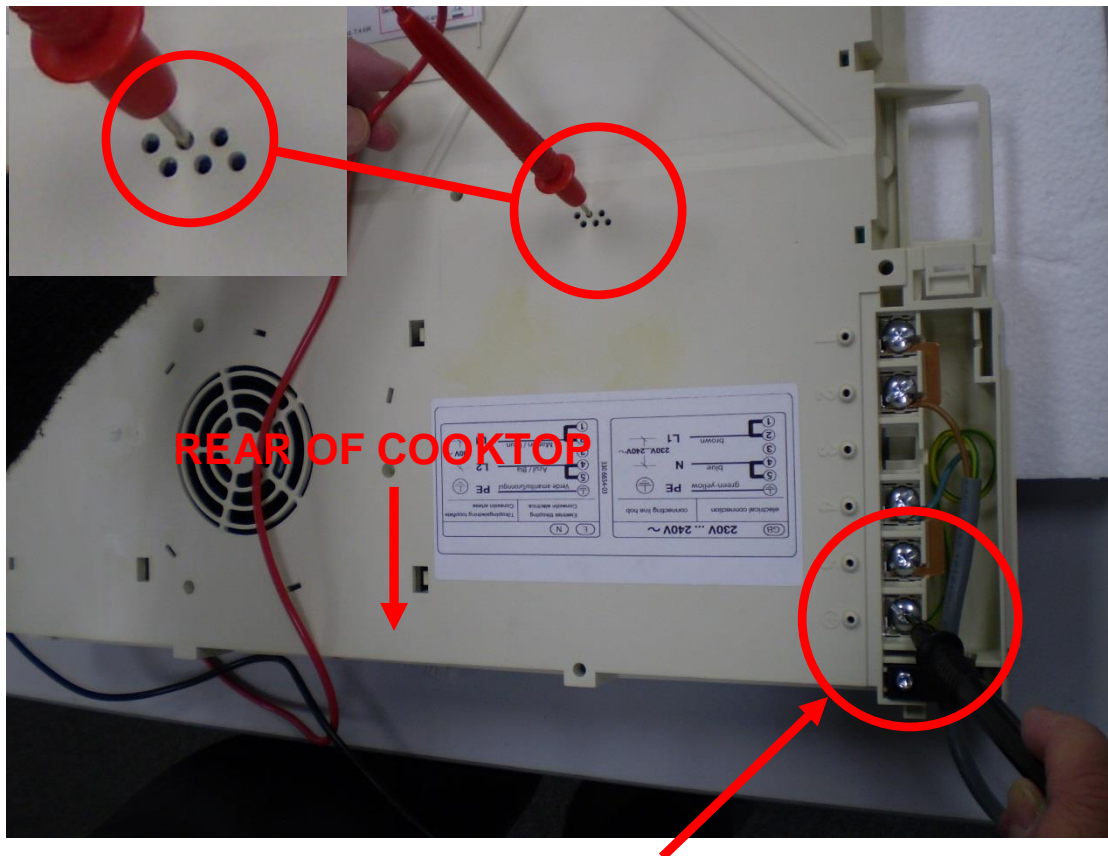
Set your multimeter to the diode. Make sure your leads are polarised correctly red in + black in the -. Check the bridge rectifier as shown above. You should get a reading of approximately 5VDC, if not it's open and faulty.

NOTE: Bridge rectifiers only allow one-way flow of electrons.



Set your multimeter to the Ohms setting then check IGBT's, pins 1 – 2 and 2 – 3 anything below 50k ohms the module has failed and should be replaced.

E6 Fault - 5VDC check



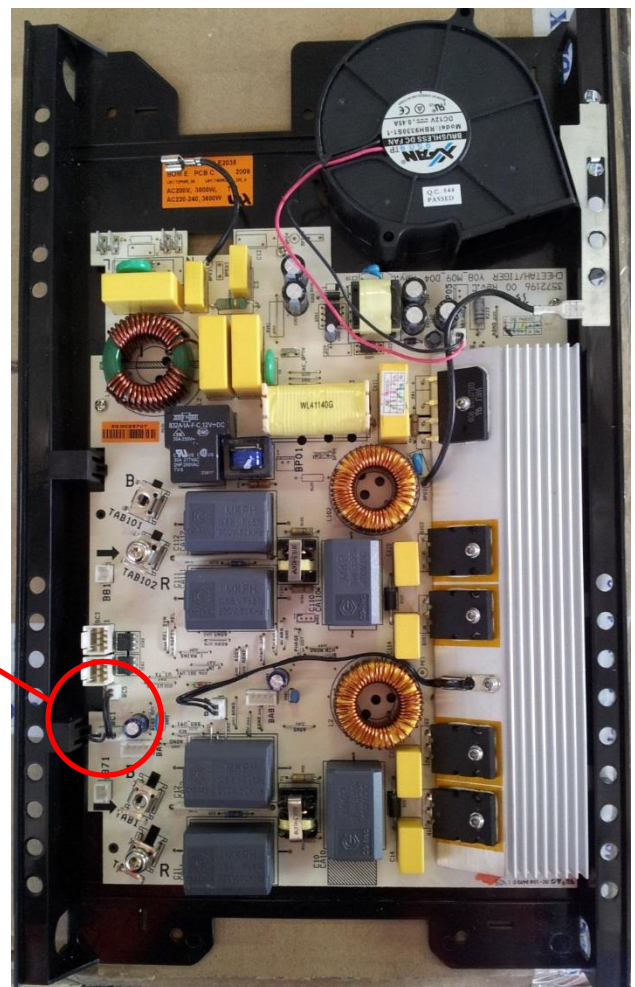
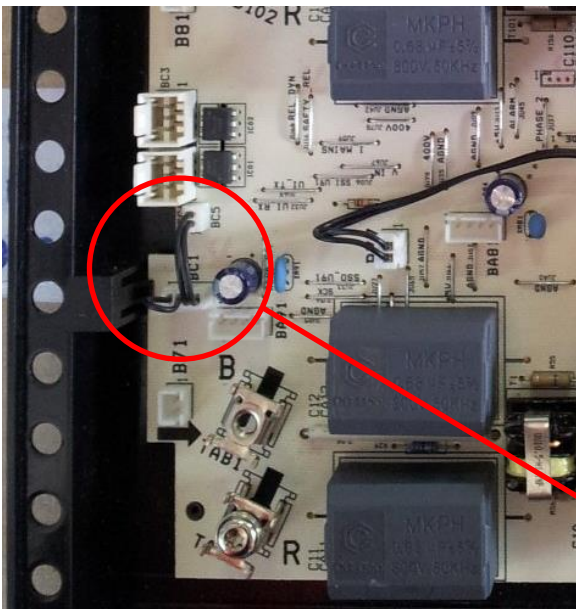
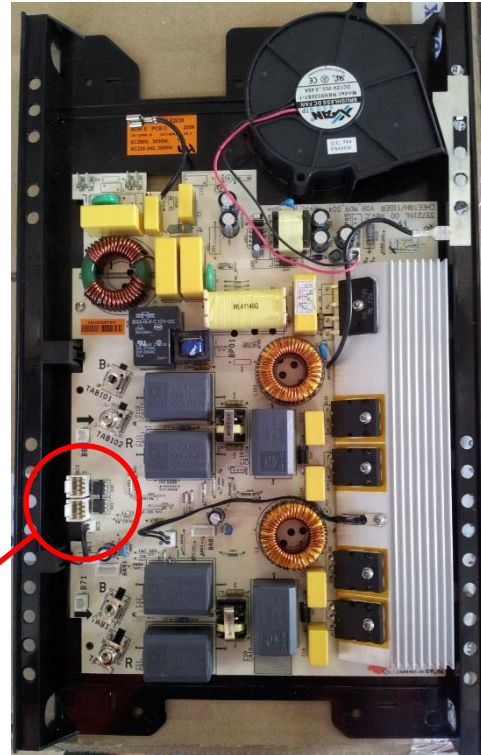
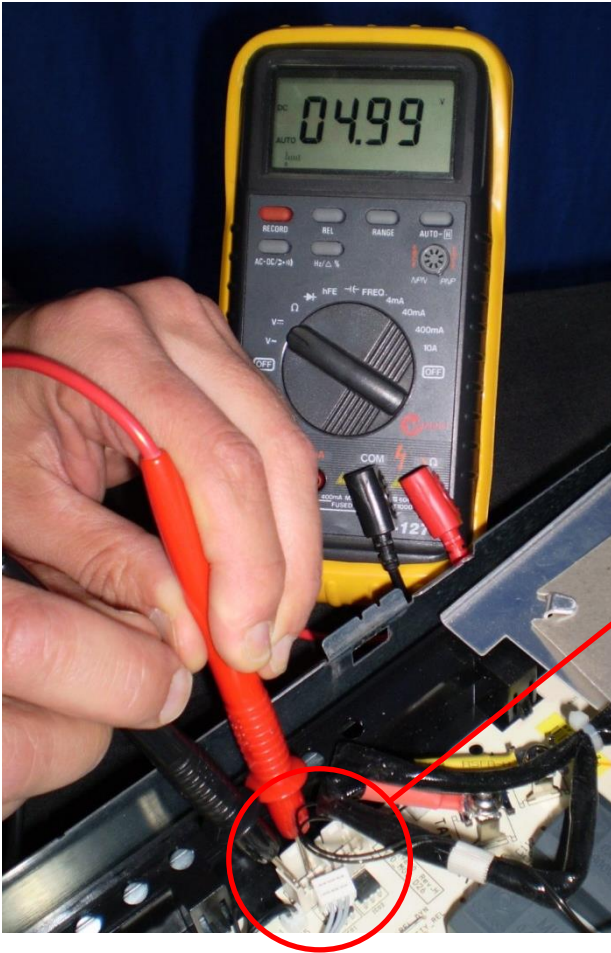
E6 – Check for a 5VDC reading by using control point 3 and the earth.
If incorrect voltage found replace filter. If 5VDC is present replace the controller.

5VDC which supplies the user interface can be checked (on some models) on the underside of the cooktop.



5VDC check - Jumper Wire

On models without the underside access will have to be checked inside of the hob. Disconnect the user interface to check the plug at the board.



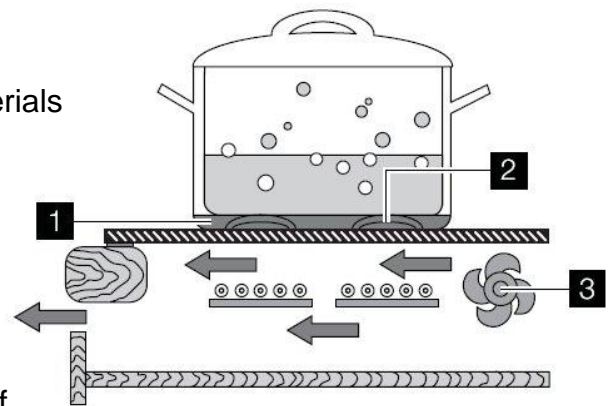
The jumper wire on the left hand induction module between BC1 and BC5 must be fitted otherwise the cooktop will not work.

NOTE: Some boards come without a jumper wire, transferring the wire from the old board is required.

Operating Noises.

Depending on the material and the processes of the pot/pan base, the following noises may occur.

- Crackling or whistling **1** can happen when using cookware made of different materials (sandwich construction).
- Humming **2** can occur at high power levels.
- Clicking **2** can be heard during electric switching processes.
- Hissing whirring or buzzing **3** can be caused by the electronic cooling fans, may deviate depending on performance and continue after the cooktop is switched off.
- Where an oven is fitted below and has been used the residual heat may activate the cooling fan.



The noises described are normal and do not refer to any defects.

Child Lock.

Switching on.

1. Switch on the appliance (do not set heat setting)
2. Touch the **“Lock”** sensor field for 4 seconds, **“L”** will be displayed.

Switching off.

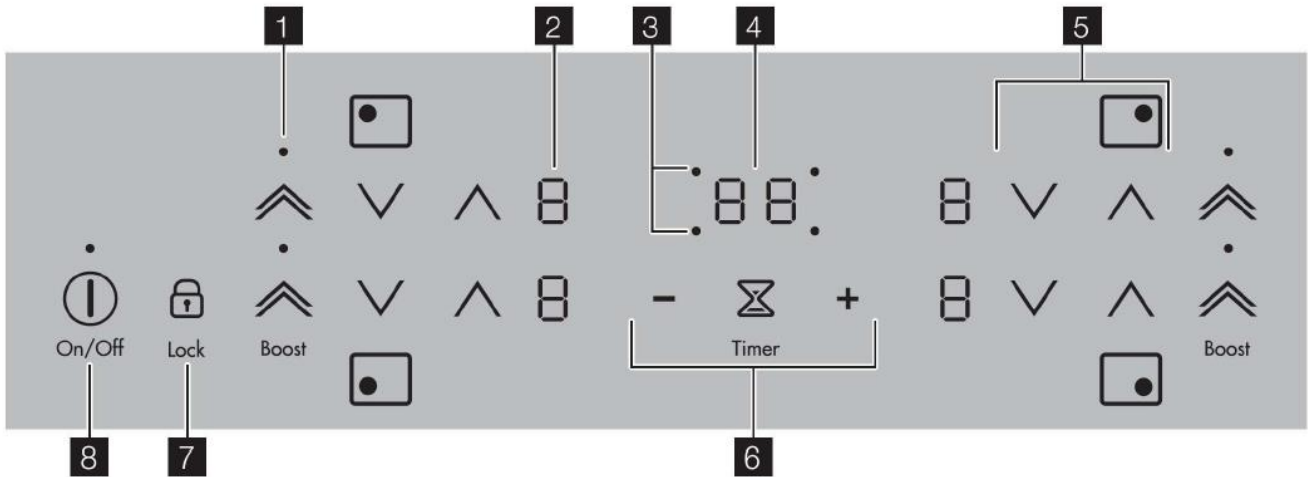
1. Switch on the appliance (do not set heat setting)
2. Touch the **“Lock”** sensor field for 4 seconds, **“0”** will be displayed.
3. Switch the appliance off.

Overriding.

The child lock can be switched off for a single cooking session and will remain active after use.

1. Switch on the appliance (do not set heat setting)
2. Touch the **“Lock”** sensor field for 4 seconds, **“0”** will be displayed.
3. A cooking function must be selected within 10 seconds of the appliance will automatically switch off.

Falcon Controller



- 1** Boost
- 2** Display
- 3** Cooking zone indicators. Timer function
- 4** Timer display
- 5** Heat setting selection
- 6** Timer
- 7** Lock
- 8** On/Off

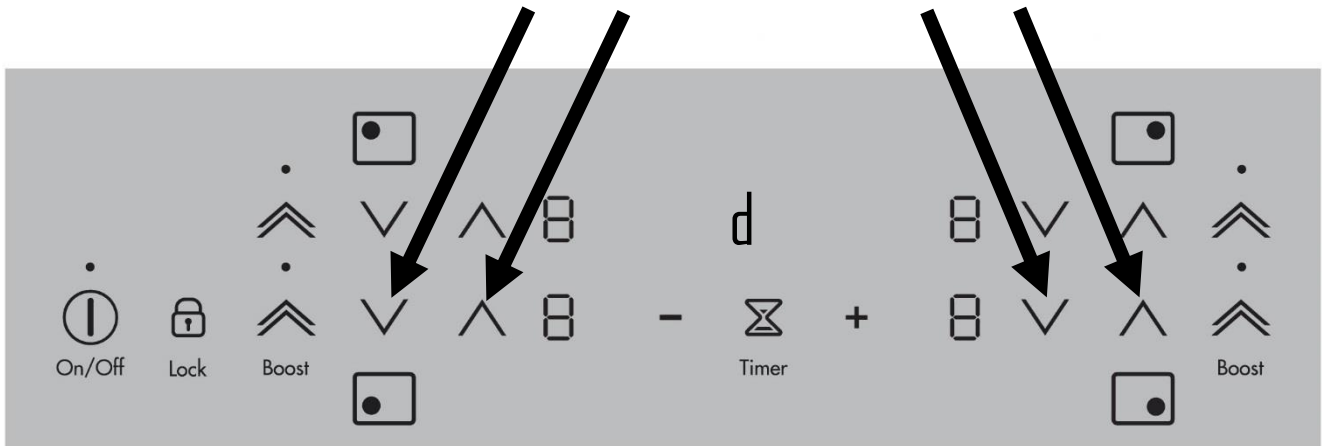
Demo Mode/ Service Mode/ Alarm Error Mode.

If a mode is not selected within 10 seconds, the cooktop will switch off and the process will have to be repeated from the start.

1. With the hob switched off activate the on/off sensor field for 3 seconds until all displays are de-activated.



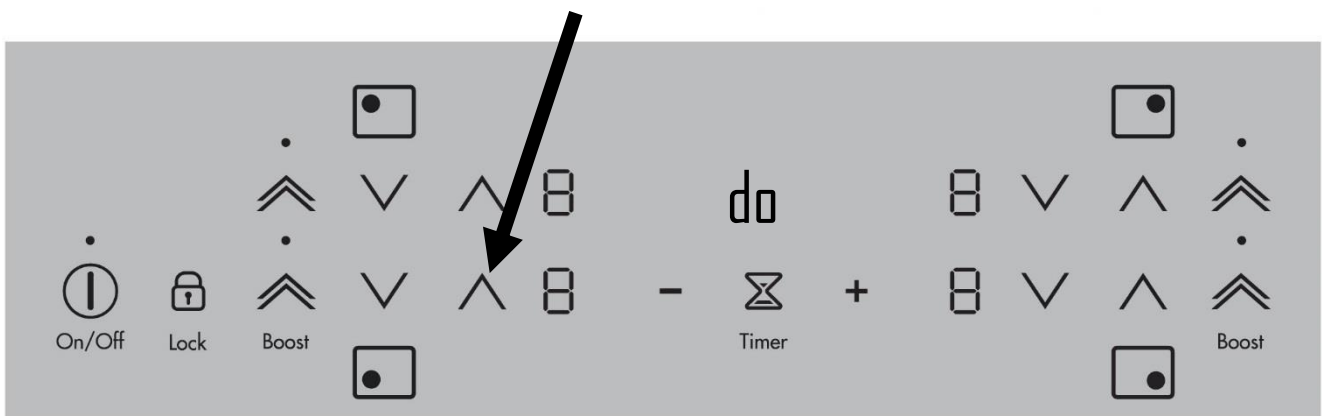
2. Immediately touch the “▼” and “▲” sensor fields for both the front cooking zones, a beep will indicate correct finger location then after 3 seconds a beep is heard and “d” is displayed in the timer display.



Demo Mode.

Demo Mode is activated by pressing the front left cooking “▲” sensor field. The timer will display “do”, turn off or wait 10 seconds and the cooktop can now be used as normal without any heat output.

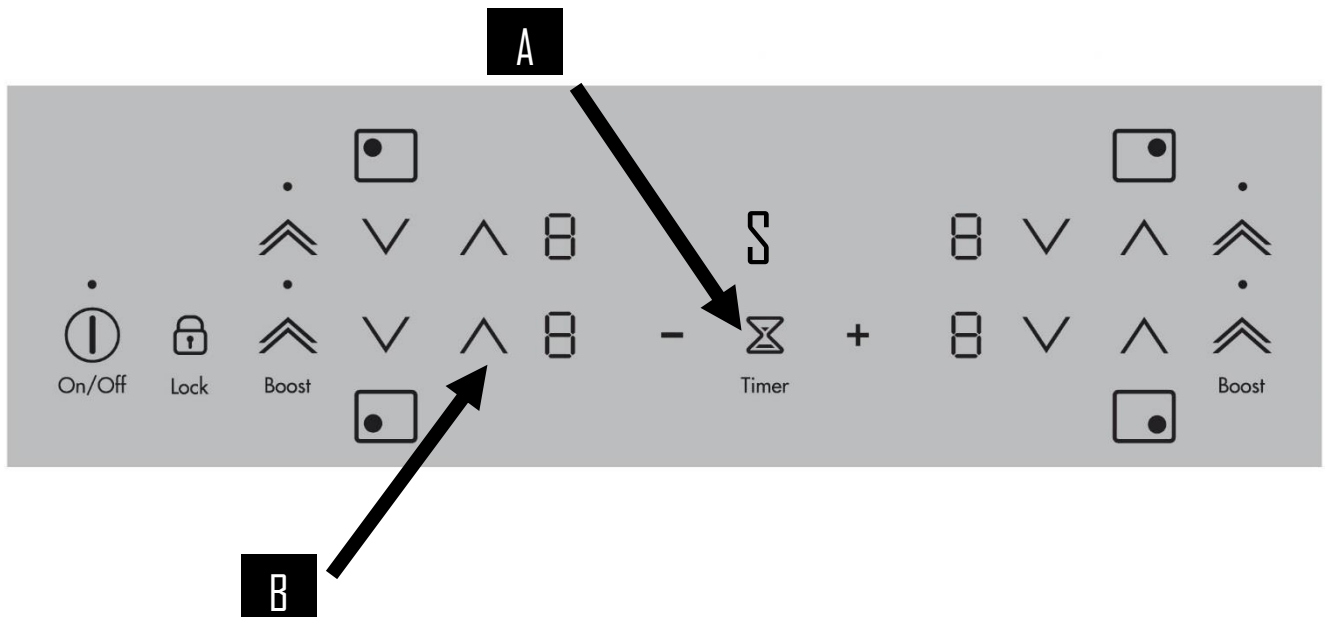
Demo mode is deactivated by repeating steps 1 and 2 then touching the front left cooking “▲” sensor field. The timer will display “d” and the cooktop can now be used as normal again.



Service Mode.

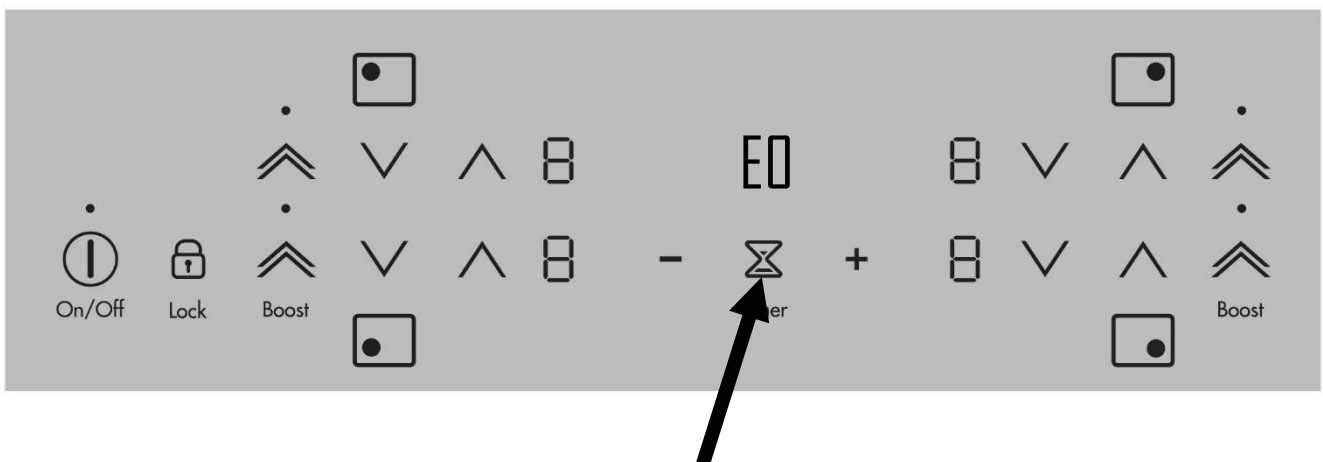
After steps 1 and 2, touch the timer sensor field **(A)** once – “S” will display. The Service mode is activated by touching the front left cooking “▲” sensor field **(B)**

- The function of all LEDs and displays are tested for 5 seconds.
- The software version and the user interface version are displayed in the timer display for 5 seconds, an “F” (for “Falcon” user interface board) will be displayed in the back right cooking zone display.
- Control and Power software versions for both boards are then displayed.



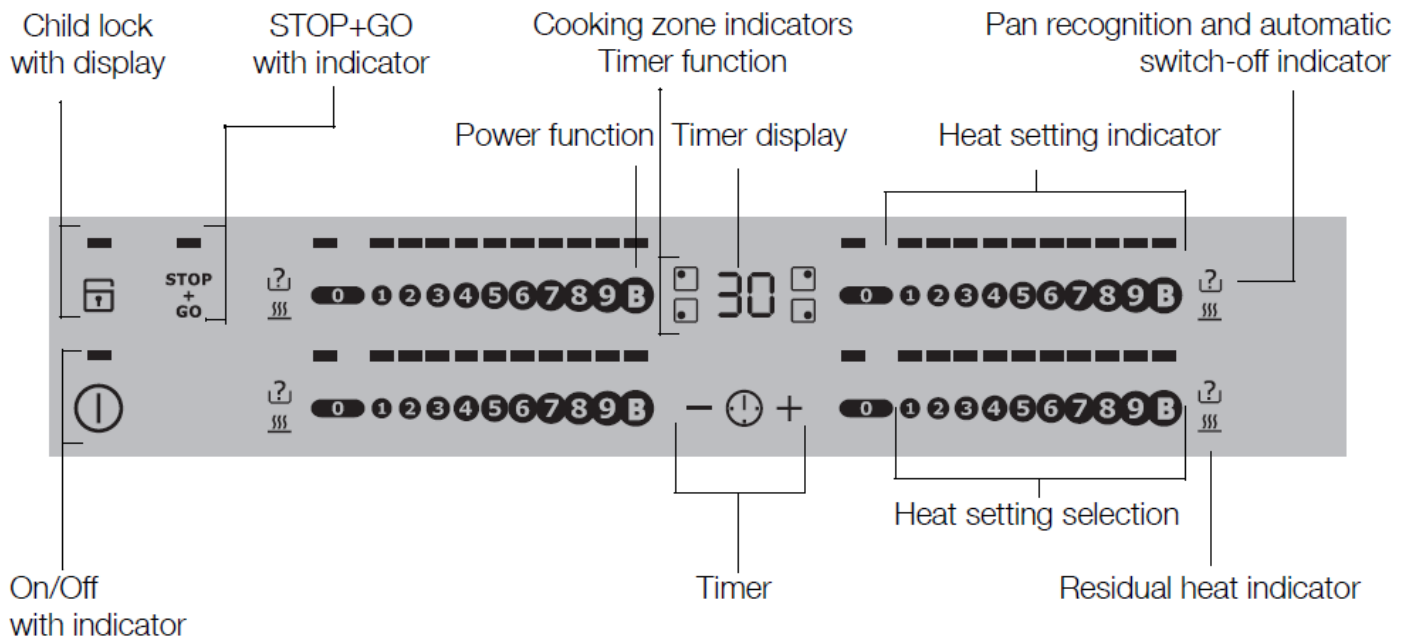
Alarm Error Mode.

After steps 1 and 2 press the timer sensor field **(A)** twice “E0” will display (this is not a fault) with “0” reading in the front left display. The Alarm Menu is activated by pressing the front left “▲” cooking selection field **(B)**. The last 5 alarms will be displayed.



Kite Controller

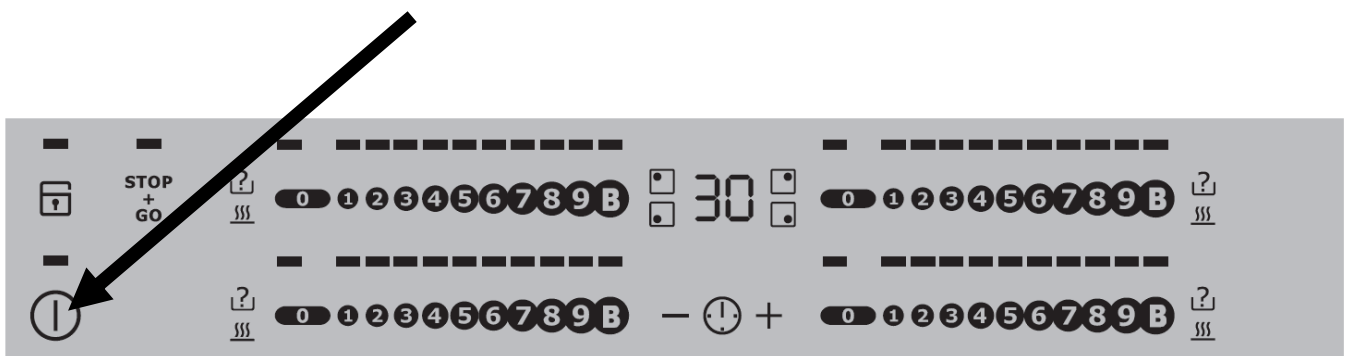
Control panel layout



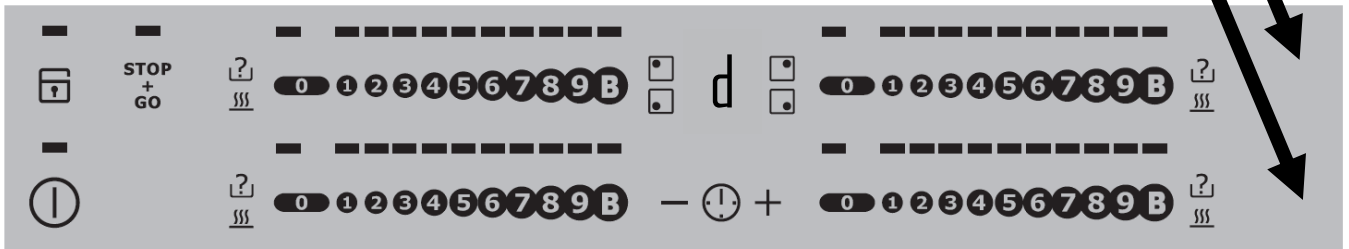
Demo Mode/ Service Mode/Alarm Error Mode.

If a mode is not selected within 10 seconds, the cooktop will switch off and the process will have to be repeated from the start.

1. With the hob switched off activate the on/off sensor field for 3 seconds until all displays are de-activated.



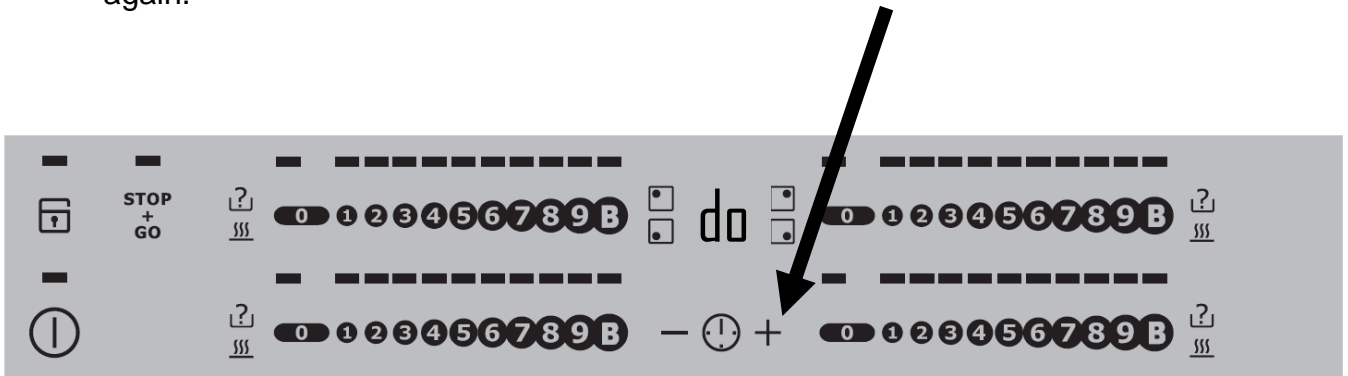
2. Immediately touch the hidden sensor fields approximately 25mm to the right of the heat sensing indicators. A beep will indicate correct finger location then after 3 seconds a beep is heard and “d” is displayed in the timer display.



Demo Mode.

Demo Mode is activated by touching the timer sensor “+” field. The timer will display “do”, turn off or wait 10 seconds and the cooktop can now be used as normal without any heat output.

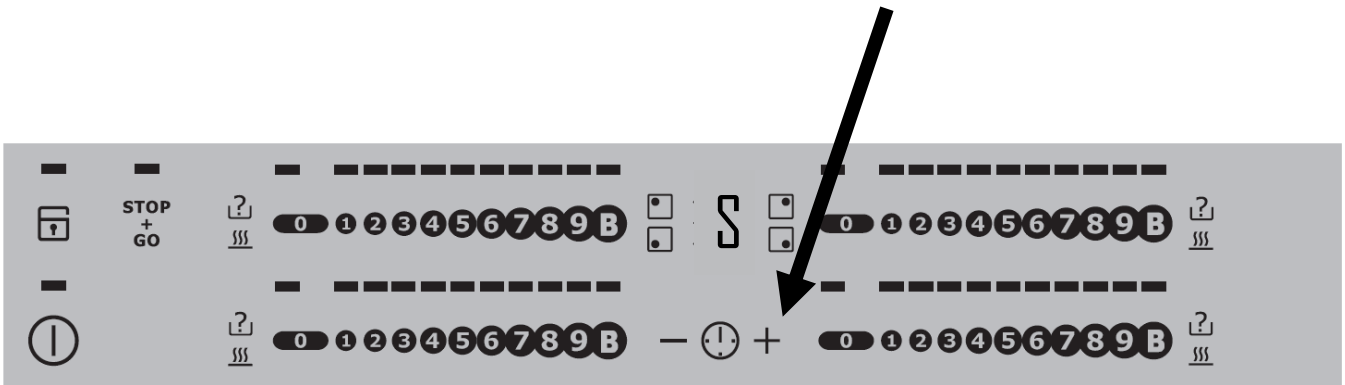
Demo mode is deactivated by repeating steps 1 and 2 then touching the timer “+” sensor field. The timer will display “d” and the cooktop can now be used as normal again.



Service Mode.

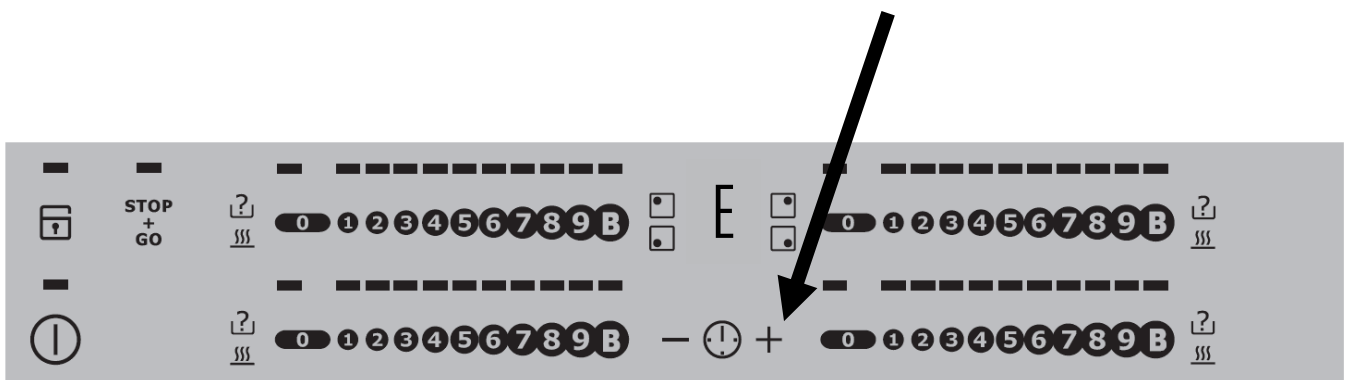
After steps 1 and 2, touch the timer sensor “+” field twice – “S” will display. The Service mode is activated by touching the timer “+” sensor field

- The function of all LEDs and displays are tested for 5 seconds.
- The software version and the user interface version are displayed in the timer display for 5 seconds. Software versions for both boards are then displayed.



Alarm Error Mode.

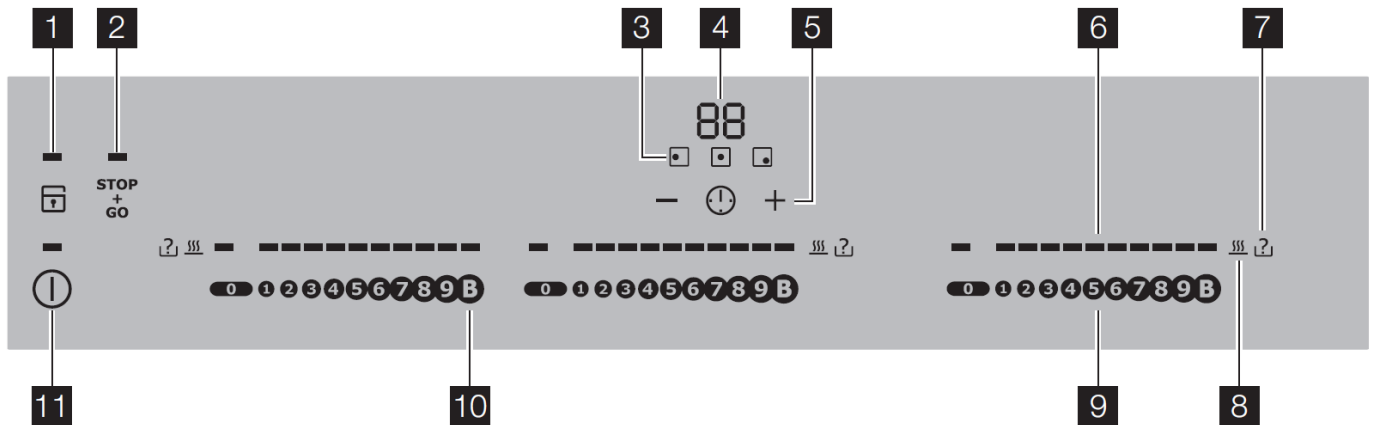
After steps 1 and 2 press the timer sensor “+” field three “E” will display (this is not a fault) The Alarm Menu is activated by pressing the front left “+” cooking selection field. The last 5 alarms will be displayed.



Kite controller 3 Coil

- 1 Child Lock with plot light
- 2 STOP+GO with pilot light
- 3 Cooking zone indicators Timer function
- 4 Timer display
- 5 Timer
- 6 Heat setting indicator

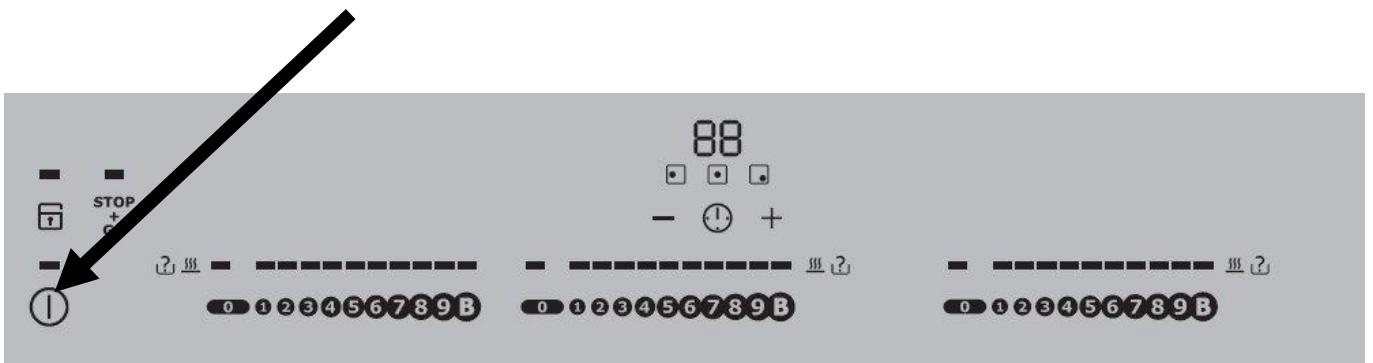
- 7 Pan recognition and automatic switch-off indicator
- 8 Residual heat indicator
- 9 Heat setting selection
- 10 Power function
- 11 On/Off with indicator



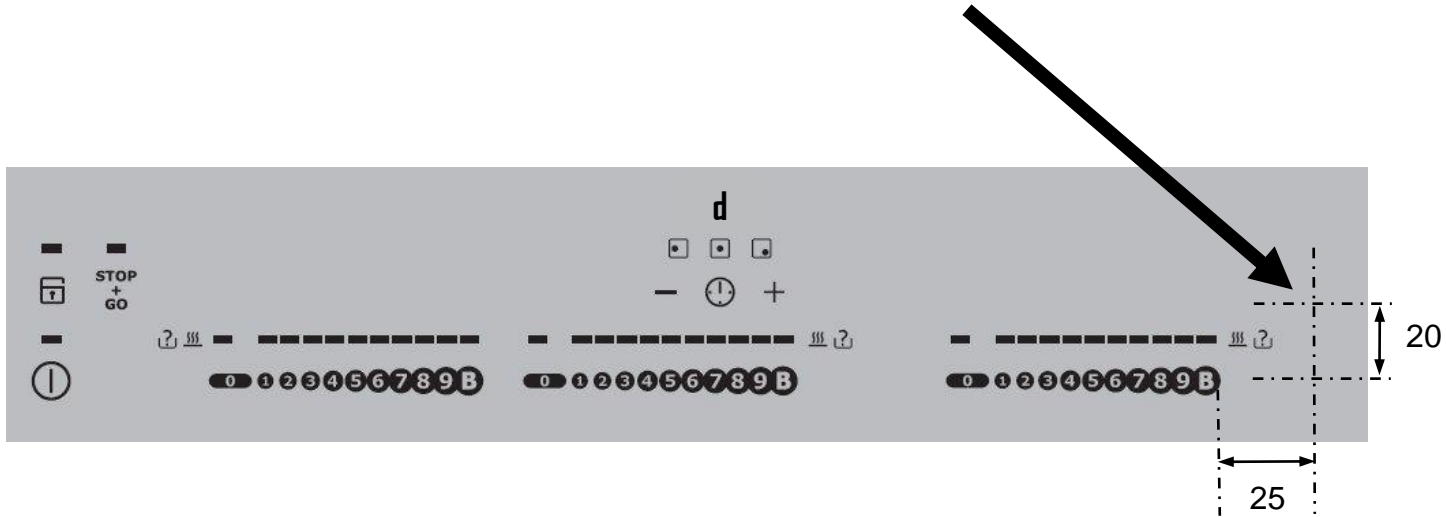
Demo Mode/ Service Mode/Alarm Error Mode.

If a mode is not selected within 10 seconds, the cooktop will switch off and the process will have to be repeated from the start.

1. With the hob switched off activate the on/off sensor field for 3 seconds until all displays are de-activated.



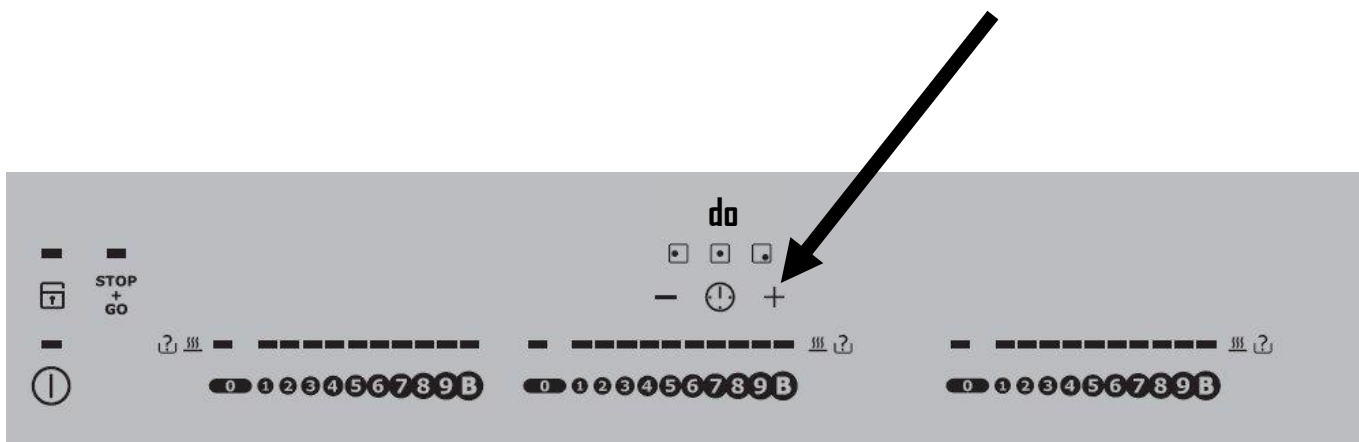
2. Immediately touch the hidden sensor field approximately 25mm to the right and 20mm above the heat sensing indicators. A beep will indicate correct finger location then after 3 seconds a beep is heard and “d” is displayed in the timer display.



Demo Mode.

Demo Mode is activated by touching the timer sensor “+” field. The timer will display “do”, turn off or wait 10 seconds and the cooktop can now be used as normal without any heat output.

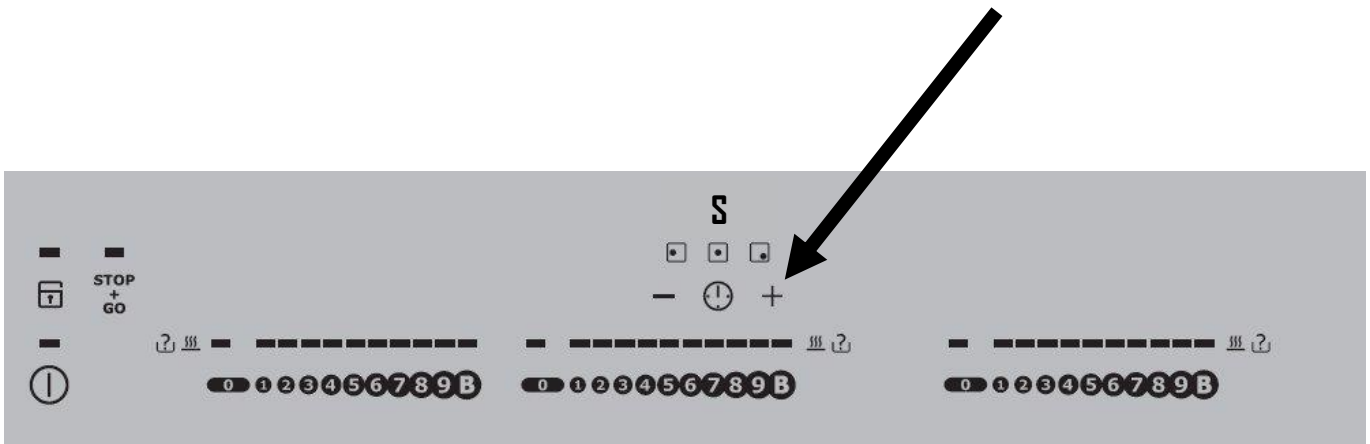
Demo mode is deactivated by repeating steps 1 and 2 then touching the timer “+” sensor field. The timer will display “d” and the cooktop can now be used as normal again.



Service Mode.

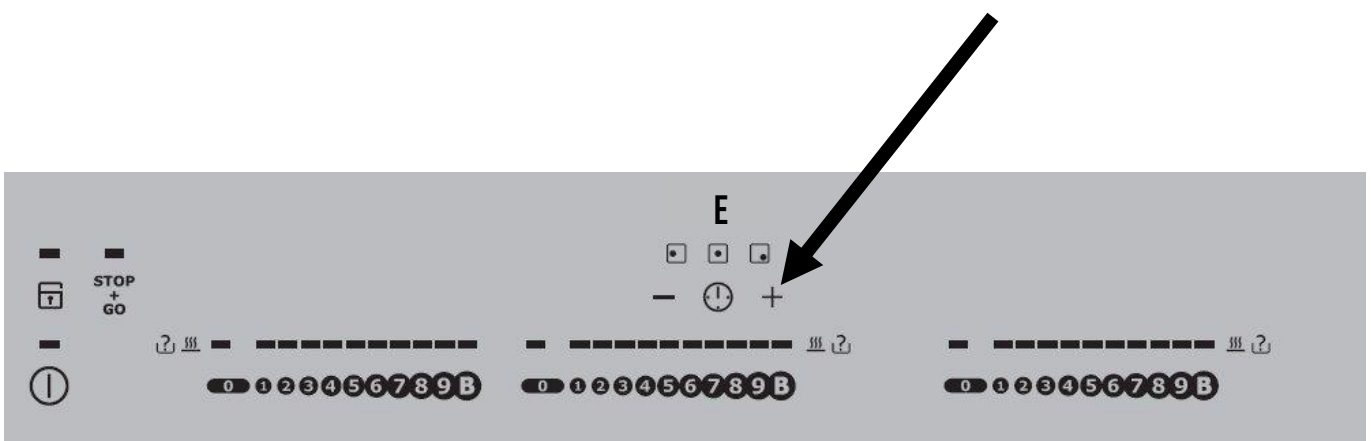
After steps 1 and 2, touch the timer sensor “+” field twice – “S” will display. The Service mode is activated by touching the timer “+” sensor field

- The function of all LEDs and displays are tested for 5 seconds.
- The software version and the user interface version are displayed in the timer display for 5 seconds. Software versions for both boards are then displayed.



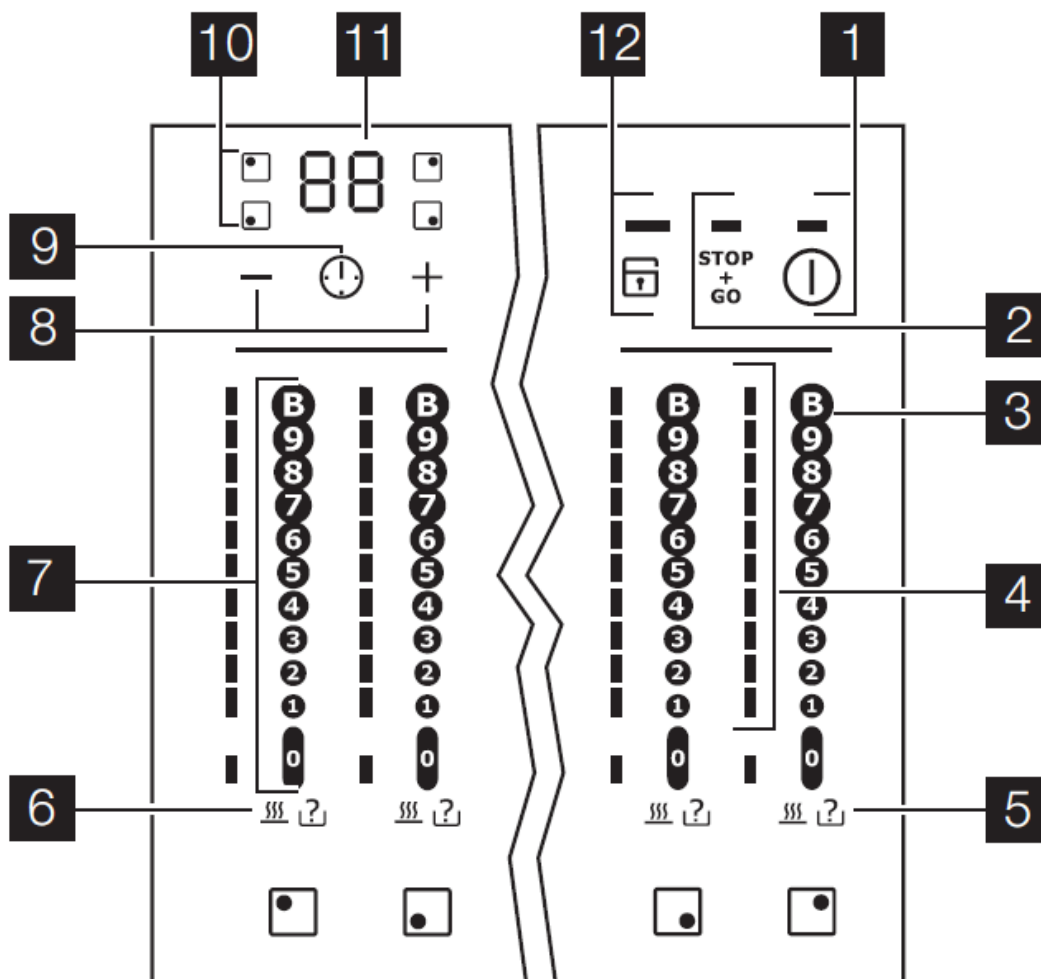
Alarm Error Mode.

After steps 1 and 2 press the timer sensor “+” field three “E” will display (this is not a fault) The Alarm Menu is activated by pressing the front left “+” cooking selection field. The last 5 alarms will be displayed.



Kite controller Split

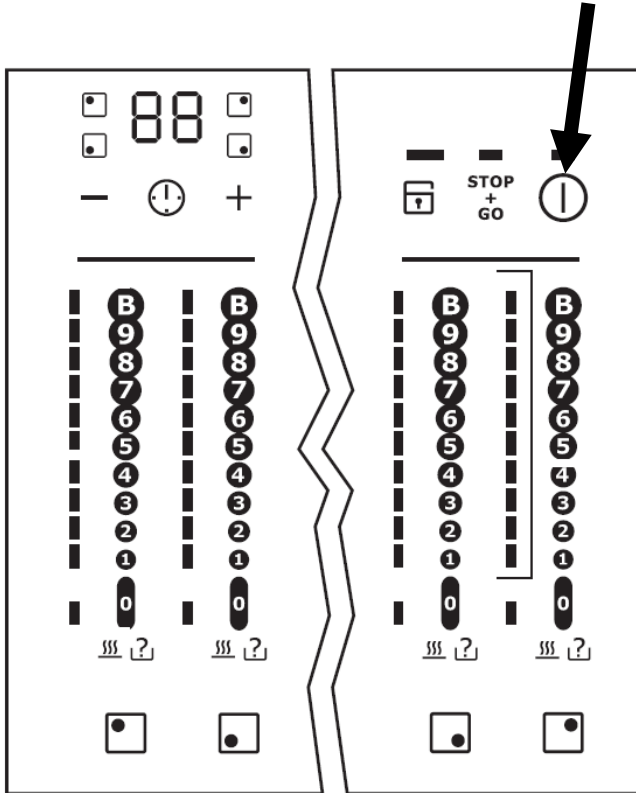
- | | |
|--|--|
| 1. On/Off | 6 Hot zone indicator |
| 2. STOP+GO | 7 Sets the heat |
| 3. Power function | 8 Increases or decreases the time |
| 4. Indicates the heat setting | 9 Timer |
| 5. Indicates that: | 10 Indicates which zone you set the time |
| There is no cookware on the cooking zone | 11 Indicates the time in minutes |
| The cookware is incorrect | 12 Child lock – On/Off |
| Automatic switch off is active | |




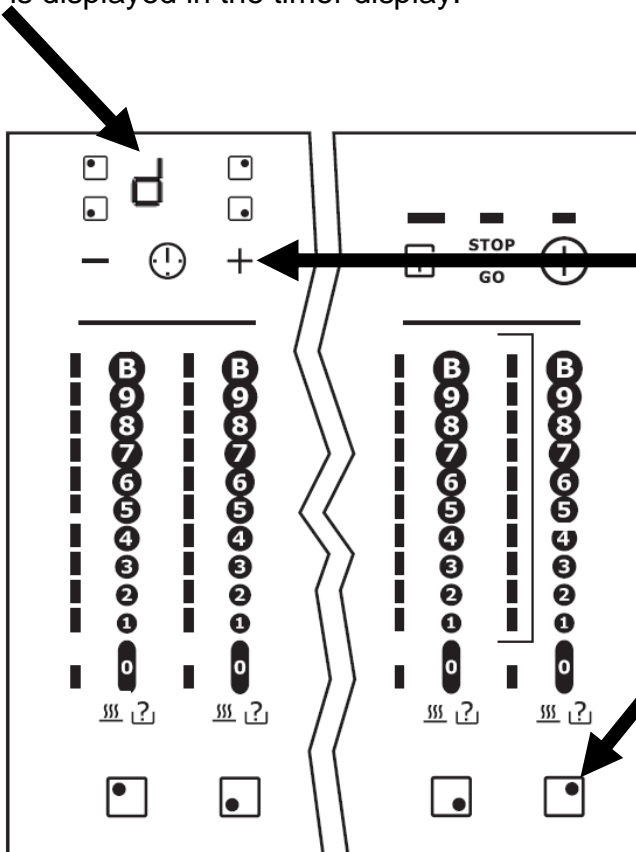
Demo Mode/ Service Mode/Alarm Error Mode.

If a mode is not selected within 10 seconds, the cooktop will switch off and the process will have to be repeated from the start.

2. With the hob switched off activate the on/off sensor field for 3 seconds until all

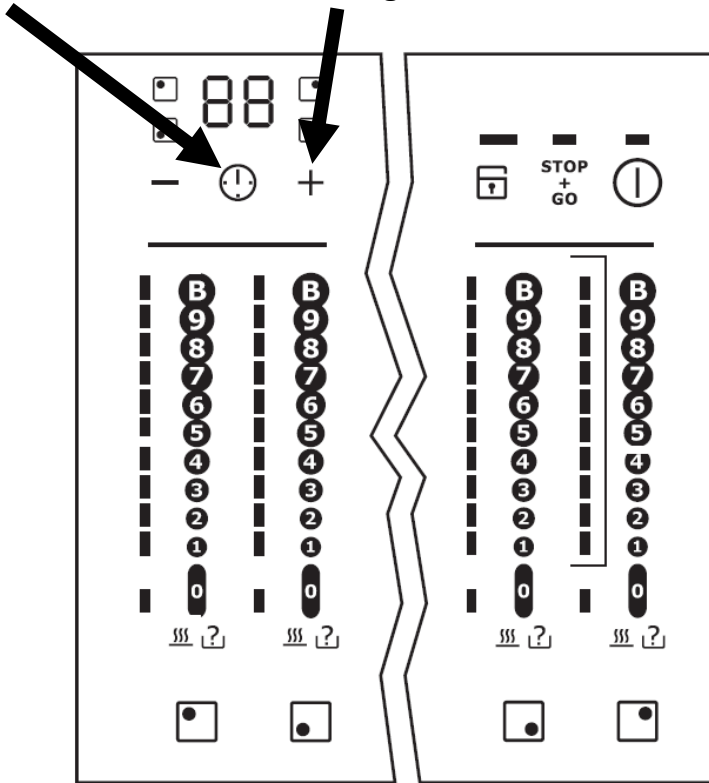


2. Immediately touch the right hand front sensor field  A beep will indicate correct finger location then after 3 seconds a beep is heard and "d" is displayed in the timer display.



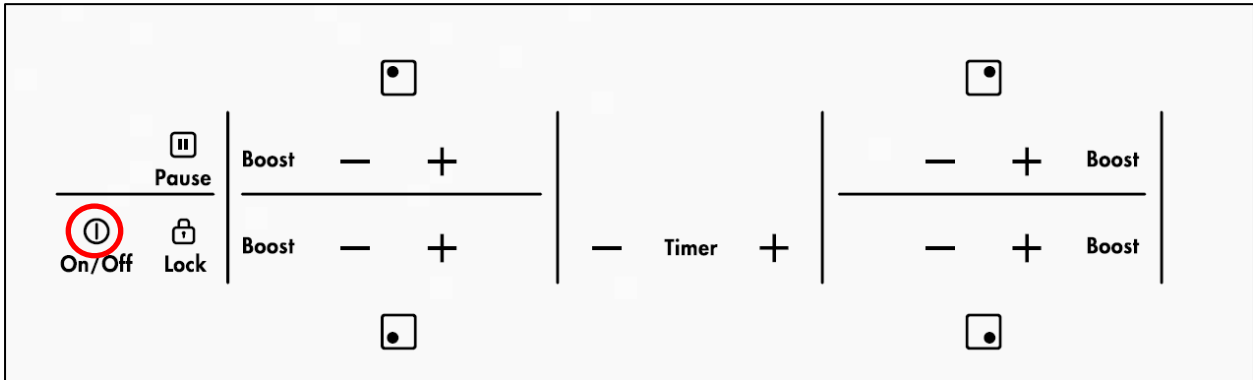
3. Touch the '+' to activate/deactivate) "demo mode" "do" will confirm "demo mode" is on.

4. Touch the timer then '+' to view the software version. To view the previous 5 errors touch the '+' again.

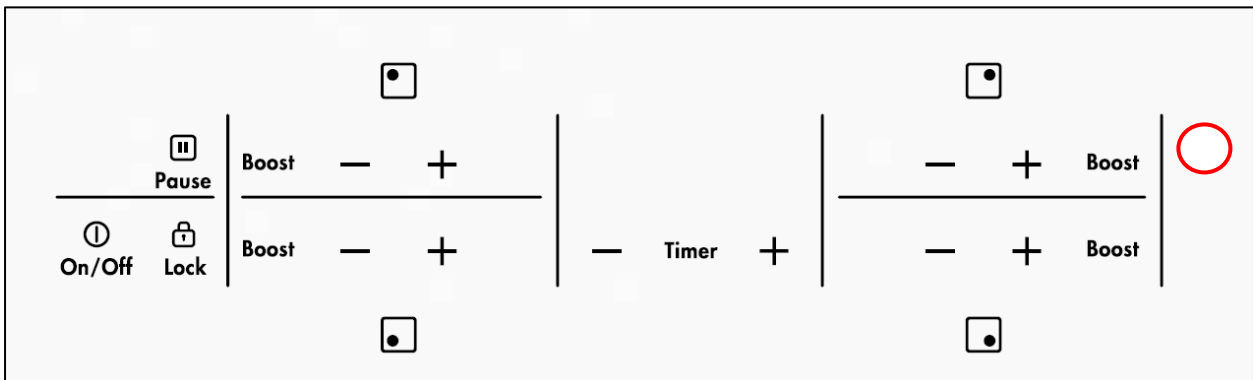


Pelican Controller

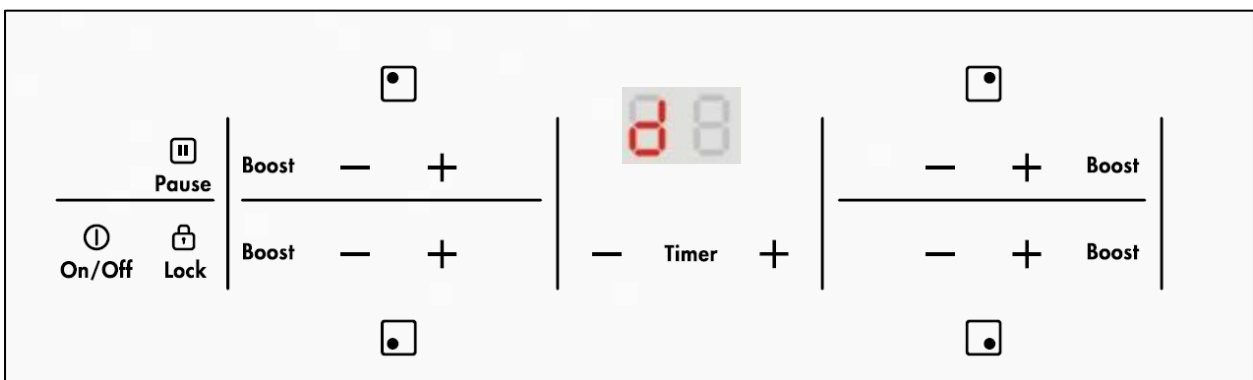
1. In standby mode press and hold the On/Off button until the cooktop turns on and then off again.



2. Immediately touch the control panel here for 3 seconds – A beep will confirm the correct location.



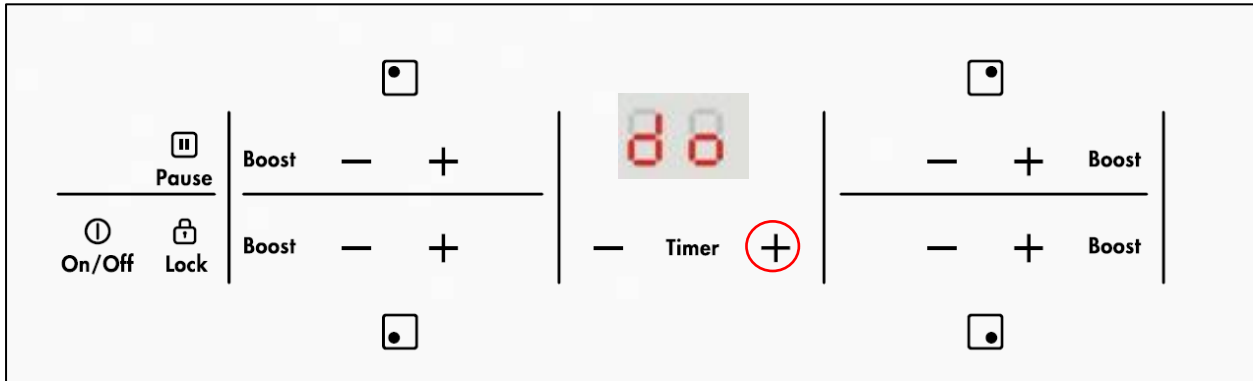
3. A 'd' will display on the control panel.



4. Press the '+' button and 'do' will display on the control panel.

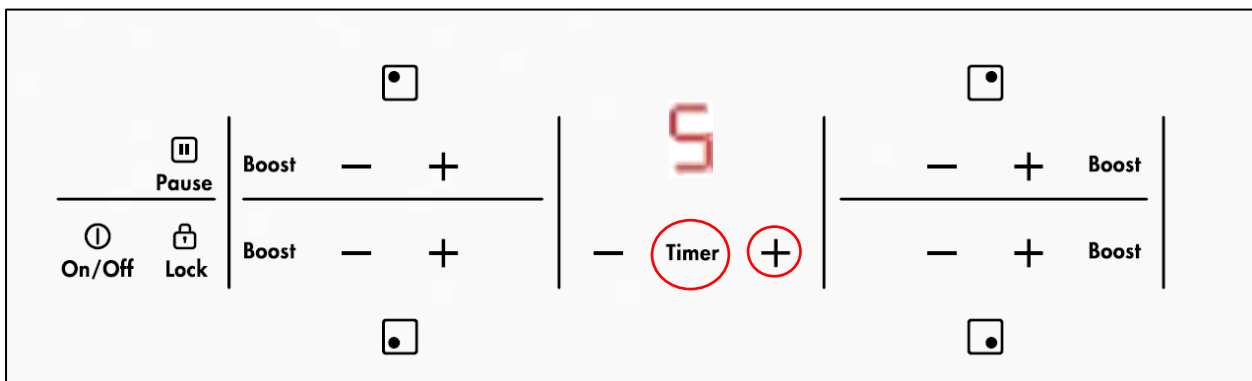
Switch the cooktop off and it is now in 'Demo Mode' and can be used to demonstrate its functions but not heat.

To turn off 'Demo Mode' repeat the procedure from step 1 – 3 then toggle the '+' button to revert.

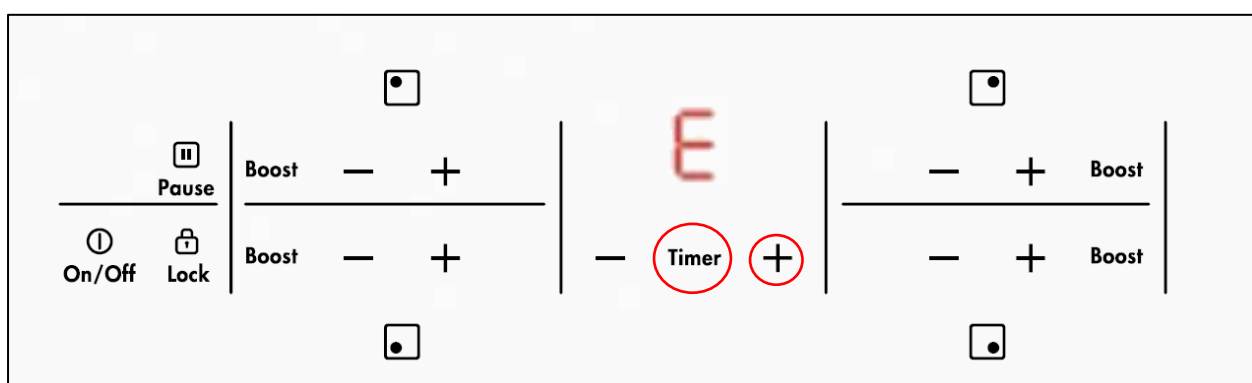


5. To enter 'Service Mode' follow the procedure from 1 – 3 and then press the 'Timer' button – S will display, press the '+' button and the cooktop will display its software version.

1. Induction Module
2. User Interface



6. To enter 'Error Mode' follow the procedure from 1 – 3 and then press the 'Timer' button twice – E will display, press the '+' button and the cooktop will display the last 5 errors. If only 'E' is displayed then no errors are present.



Kingfisher Controller

8.6 - "KINGFISHER" DEMO MODE MENU

8.6.1 - "KINGFISHER" 4 ZONE

1. With the appliance completely off, press the power button On / Off for 3 seconds.



Fig. 52

2. Press the Power keys of the front zones at the same time until you see the letter "d" or "d" and "o" in the display of the cooking zones (see Fig. 53).

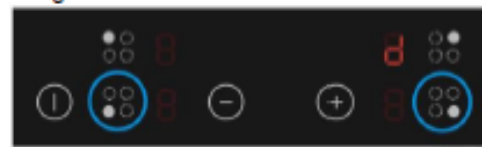


Fig. 53

3.1 Using the power key of the right rear zone activates the demo mode. Select "d" in the upper display and "o" in the lower (*) (see Fig. 54).

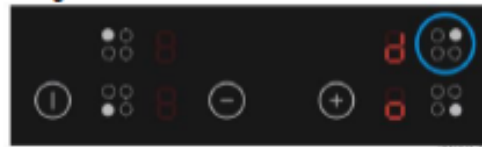


Fig. 54

3.2 Using the power key of the right rear zone deactivates the demo mode. The display shows "d" (see Fig. 55).

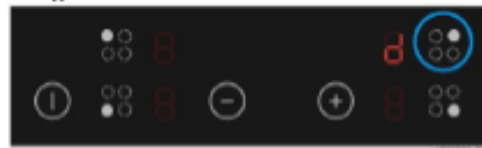
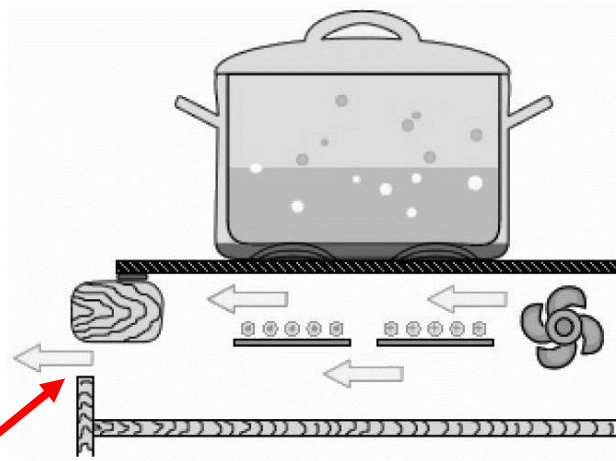
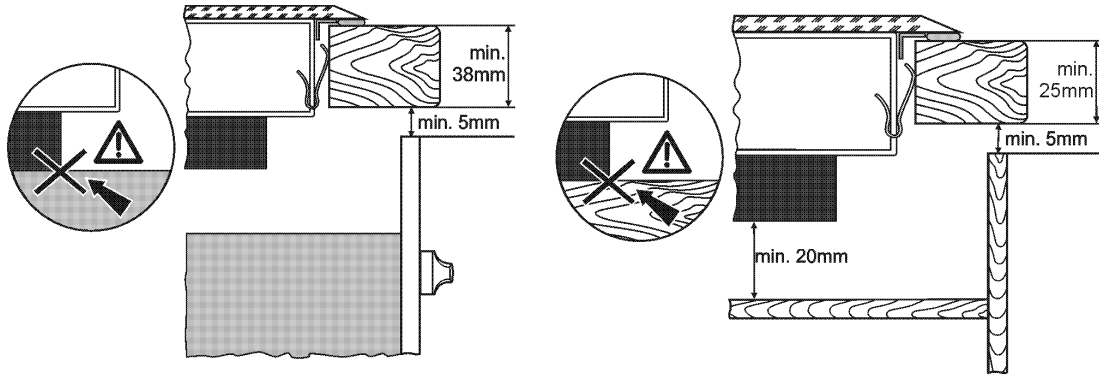


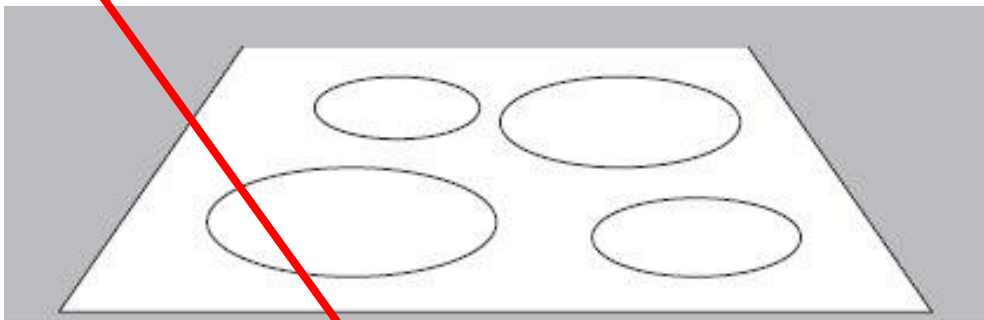
Fig. 55

Installation

Ensure the cooktop is installed as per the owner's manual. A 5mm (minimum) ventilation gap and correct clearances must be present (as shown below) failure to do so can cause overheating of the cooktop.



5mm minimum gap



NOTES:

1. When re-assembling the cooktop ensure the coils are located correctly, this ensures ceramic graphics and coil align.
2. If one coil is faulty, check coil for open circuit or test temperature sensor
3. Some models pre mid 2007 have a problem when a zone is on full load (or boost) and the cooker ware is lifted off of the zone very quickly. This can cause a spike, blowing the power regulator section of the board.
4. It has been noted that on occasion one side of the cooktop will appear to detect a pot but no heat up occurs. Often when this happens the opposite side shows "F". The module on the side detecting the pot and not heating should be changed.
5. On some models tool **3877958-00/3** will be required to dismantle.