



Service Manual
GKE 6840.0M
GKE 9851.0M

Service Manual: H2-50-02

Responsible: Norbert Kirchmair
Email: norbert.kirchmair@kueppersbusch.de
Tel.: (0209) 401-718
Fax: (0209) 401-743
Date: 09.06.2011

KÜPPERSBUSCH HAUSGERÄTE AG

Customer Service
Postfach 100 132
45801 Gelsenkirchen

Contents

1. Safety	4
2. Overview of the appliance	5
2.1 Description of the hobs and their output.....	5
2.2 Control panel.....	6
2.3 Functions.....	7
3. Technical data.....	8
3.1 General features.....	8
3.2 Technical data	8
3.3 Flame control.....	8
4. Operation.....	9
4.1 Operating the cooking zone burners	9
4.1.1 Switching the hob on.....	9
4.1.2 Igniting the cooking zone burners	9
4.1.3 Adjusting a power setting	9
4.1.4 Switching off the cooking zone burners	9
4.1.5 Switching off all the cooking zone burners.....	9
4.2 Other functions	10
4.2.1 Setting the switching off time of a cooking zone burner.....	10
4.2.2 Setting the clock.....	11
4.2.3 Key lock.....	12
4.2.4 Release of a cooking zone burner	13
4.2.5 Prescribed pan base diameter	13
5. Installation.....	14
5.1 Important installation instructions	14
5.2 Mounting the hob.....	15
5.3 Gas connection	16
5.4 Electrical connection	16
6. Replacing the components.....	17
7. Settings and conversion to a different type of gas	18
7.1 Replacing injectors	18
7.2 Selecting the type of gas used for cooking.....	19
7.3 Setting the minimum volume of gas for the cooking zone burners.....	21
8. Fault messages.....	23
9. Electronic unit configuration.....	24
10. Cooking zone valve measuring voltage	25

1. Safety



Danger!

*Repairs may only be carried out by a qualified electrician!
Improper repairs can be extremely dangerous for the user.*

It is essential that you observe the following instructions in order to prevent electric shocks:

- The casing and the frame may be live in the event of faults!
- Touching live components inside the appliance may cause dangerous currents to flow through your body!
- Disconnect the appliance from the mains prior to carrying out any repair work!
- When inspecting live parts, a residual current circuit breaker must always be used!
- The earthed conductor resistance must not exceed the resistance specified in the standard! It is vital for ensuring the safety of persons and the functioning of the appliance.
- On completion of repairs, an inspection must be carried out in accordance with VDE 0701 [Association of German Electrical Engineers] or in accordance with the corresponding regulations for your country!
- Do not touch any of the components in the appliance. The modules are also live!
- Observe instructions on electrostatic hazards!



Attention!

Make sure you observe the following instructions:

- The appliances must be disconnected from the mains prior to all repairs. If inspections must be carried out on live appliances, make sure you use a residual current operated device.



Sharp edges: Use protective gloves.

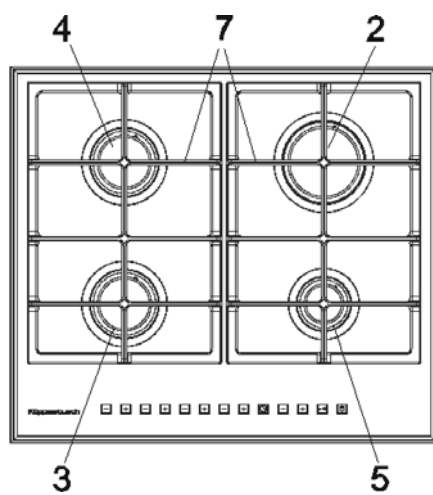


Components may be electrostatic!
Observe handling precautions!

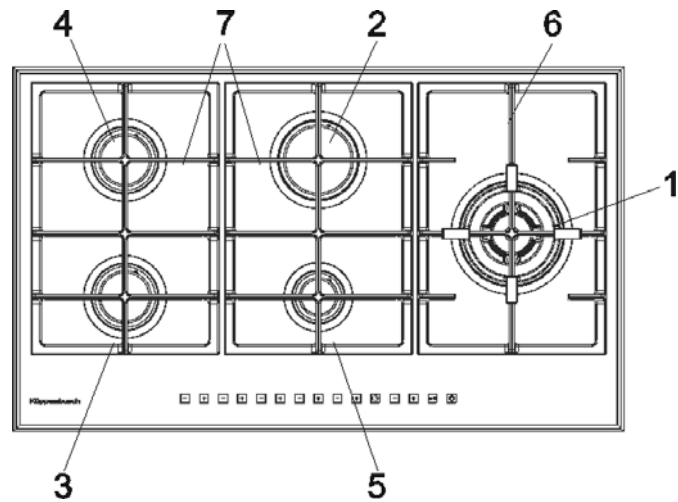
2. Overview of the appliance

2.1 Description of the hobs and their output

Hob with an electronic cooking zone burner control system, with touch controls



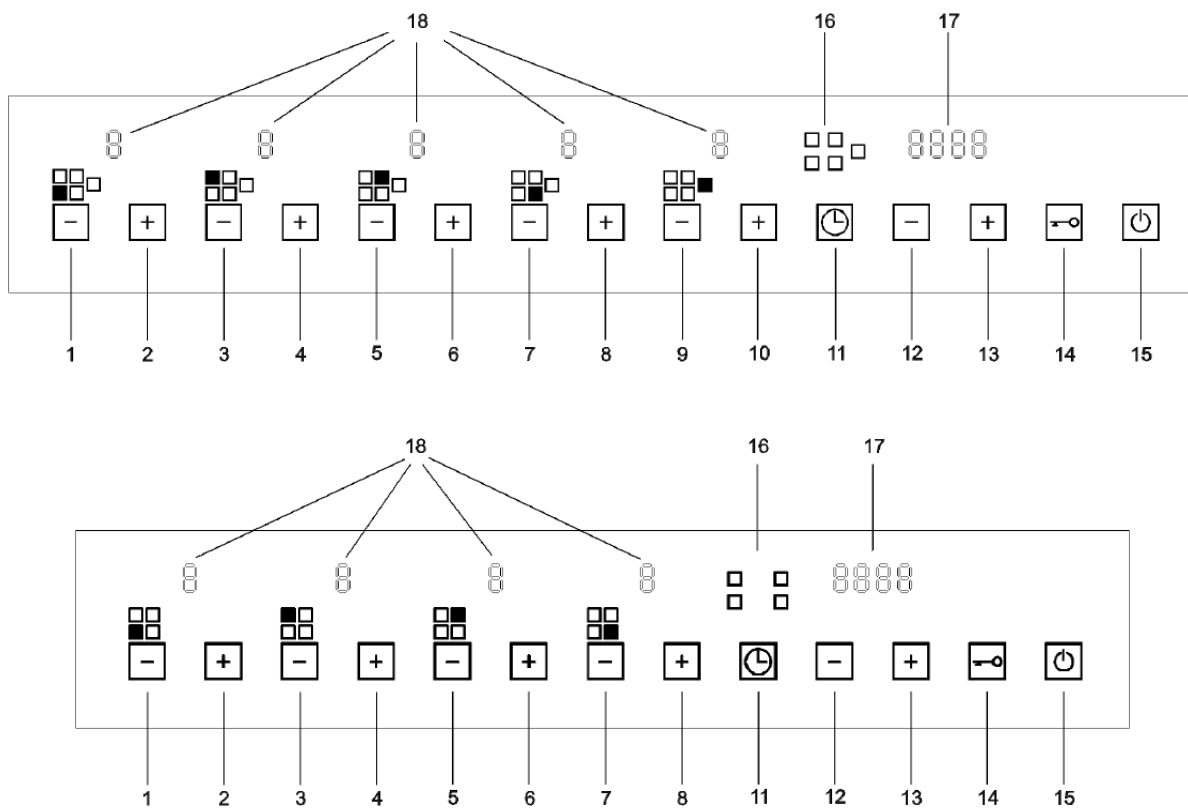
GKE6840.0M



GKE9851.0M

- | | |
|---|-------------|
| 1. Wok burner | 3350W |
| 2. Fast burner | 2800W |
| 3. Front left semi-fast cooking zone burner | 1350-1400 W |
| 4. Back left semi-fast cooking zone burner | 1750 W |
| 5. Extra cooking zone burner | 1000W |
| 6. Wok grid | |
| 7. Burner grid | |

2.2 Control panel



- 8** Front left cooking zone burner minus key
- 9** Front left cooking zone burner plus key
- 10** Back left cooking zone burner minus key
- 11** Back left cooking zone burner plus key
- 12** Back right cooking zone burner minus key
- 13** Back right cooking zone burner plus key
- 14** Front right cooking zone burner minus key
- 15** Front right cooking zone burner plus key
- 16** Wok burner minus key
- 17** Wok burner plus key
- 18** Clock key
- 19** Clock programming minus key
- 20** Clock programming plus key
- 21** Lock key
- 22** On/Off key
- 23** Position display of the functioning burners
- 24** Timer display
- 25** Power setting display (0 - 9)

2.3 Functions

Users and fitters have the following functions at their disposal:

- Standby mode (cooking zone burner, keys activated).
- Key lock as protection against unauthorised switch-on/settings.
- 9-level setting of the volume of gas for each burner.
- Safety interlock with manual resetting through release of the key.
- Setting of the switch-off time for each burner.
- Maximum operating time for each burner, pre-set in the memory, duration of 4 hours.
- Temperature reading on the edge of the electronic unit circuit board.
- Administration of faults/errors on the basis of codes shown in the display.

The following functions can only be accessed by fitters:

- Procedure to set the lowest setting for each burner.
- Setting the amount of fuel used: natural gas/liquid gas.

3. Technical data

3.1 General features

The basic features are listed here:

- 7-segment display, red, with LED for displaying the volume of gas for each burner and for displaying the time and settings.
- Touch-control with 15 sensor keys for setting the power level of the individual cooking zone burners and for the settings, locking the sensors and switching on and off.
- Five output ports, 24V DC for the Brahma VPC01 control valves.
- Output port, 24V DC for the Brahma VPC01 master valve.
- Five input ports for the flame detection electrodes of the five burners.
- Output port for regulating an ignition device at 220-240V.
- Administration of the pre-set modulation stages in the memory.
- Possibility to administrate two modulation charts (G20 and G30).
- Procedure integrated in the appliance for setting the smallest flame for each cooking zone burner.
- Clock displaying the time of day in a 24-hour format.

3.2 Technical data

Power supply:	220 - 240V alternating current $\pm 10\%$
Frequency:	50 - 60Hz
Power consumption:	30VA
Ignition transformer output contacts:	220 - 240V alternating current $\pm 10\%$ - 250mA
Connection to identification electrodes:	4.8mm x 0.8mm
Operating temperature:	-10°C to +85°C
Protection class:	IP 00

3.3 Flame control

The flame detection device makes use of the fact that flames straighten up by themselves.

Minimum ionisation current:	0.2*A DC
Maximum ionisation current (supply voltage of 264V _{RMS}):	4.5mA DC
Recommended ionisation current:	3 to 5 times the minimum current
Maximum cable length:	1m
Minimum insulation resistance of the electrodes and the identification earth cable:	> 50M Ω

4. Operation

4.1 Operating the cooking zone burners

On the top of the hob a sign can be seen above every key, showing the burner to which the key relates. The cooking zone burners are ignited as follows once the gas tap or the gas bottle have been opened:

4.1.1 Switching the hob on

Press the on/off key for at least 2 seconds to switch the hob on. The hob will switch on and the power setting displays will show setting zero in line with the burners, which are switched off.

4.1.2 Igniting the cooking zone burners

Press the plus key for the burner that is to be ignited and then release it in order to ignite a cooking zone burner.

Press the plus key again within 3 seconds in order to ignite the burner at setting 9. The burner will ignite at setting 5 when you press the minus key.

Now the control will attempt to ignite the burners 3 times at the most. Between each attempt there will be a waiting period of 10 seconds. If ignition is not successful, the burner will block after the third attempt and the respective LED will show the letter "b". To unlock the cooking zone burner see "Release of a cooking zone burner" on page 13.

Each cooking zone burner for which no timer has been programmed will switch off automatically after 4 hours of continuous operation.

As long as a burner is switched on, this will also be shown in the corresponding cooking zone display.

4.1.3 Adjusting a power setting

In order to increase the volume of gas, press the plus key with the cooking zone burner ignited. The minus key must be pressed to reduce the volume of gas. In order to adjust the volume of gas progressively, keep the plus or minus key pressed and let it go again at the required setting. The volume of gas can be set from 1 to 9.

4.1.4 Switching off the cooking zone burners

In order to switch off a cooking zone burner, press the plus and minus keys of the cooking zone briefly at the same time. The corresponding LED will show the letter "H" (hot) for a few minutes to indicate that the cooking zone burner is hot.

4.1.5 Switching off all the cooking zone burners

Press the on/off key briefly to switch all the cooking zone burners off at the same time. This switches off the entire hob.

4.2 Other functions

4.2.1 Setting the switching off time of a cooking zone burner

A time can be set for each cooking zone burner, after which the cooking zone will automatically switch off.

The clock key (11) must be pressed to programme a cooking zone timer. In the part of the touch control panel in which the position of each cooking zone is shown with an LED, the display of the front left cooking zone, for example, will light up to indicate that the front left burner has currently been selected for programming.

The cooking zone for which a time is to be set can be selected with the minus (12) and plus (13) keys of the clock programming. The selected cooking zone is marked by the blinking of the corresponding display. The timer display shows 0.00 - this means that the timer of the selected cooking zone has not been activated.

Press the clock key (11) again to programme the switch-off time of the selected burner. The timer display will show 0.00. The flashing number on the left of the decimal point shows the hours and the minutes are shown on the right. The minus (12) and plus (13) keys of the clock programming system can be used to raise or lower the number of hours of operation from 0 to 9. When the minus (12) and plus (13) keys of the clock programming system are kept pressed, the hours will be continuously changed.

The clock key (11) must be pressed again to indicate the number of minutes. Now the numbers on the right of the decimal point will flash. Proceed the same as described for the hours to set the minutes.

The current setting can be reset at any time while the time is being programmed by pressing the minus (12) and plus (13) keys of the clock programming simultaneously. A time equal to zero will deactivate the timer of a burner. The clock key (11) must be pressed in order to confirm the time shown in the display. Now only the displays of the cooking zones for which a timer has been activated will blink.

Pressing the clock key (11) will take you back to programming the timer in order to display the time remaining until switch-off or in order to process the current settings. If no key is pressed for longer than 10 seconds during the programming process, the setting will automatically be discontinued and returned to the main display. Changes to the settings of the selected cooking zone burner are not deleted and the corresponding timer remains activated.

The timer can be programmed when the burner is switched off and when it is ignited. Timing starts as soon as the time that has been set is confirmed. Once the time has lapsed the burner is switched off with the timer and at the same time a buzzer sounds for 30 seconds (the acoustic alarm can be switched off by pressing the clock key (11)).

When a cooking zone burner is switched off by a user the corresponding timer is also deactivated.

4.2.2 Setting the clock

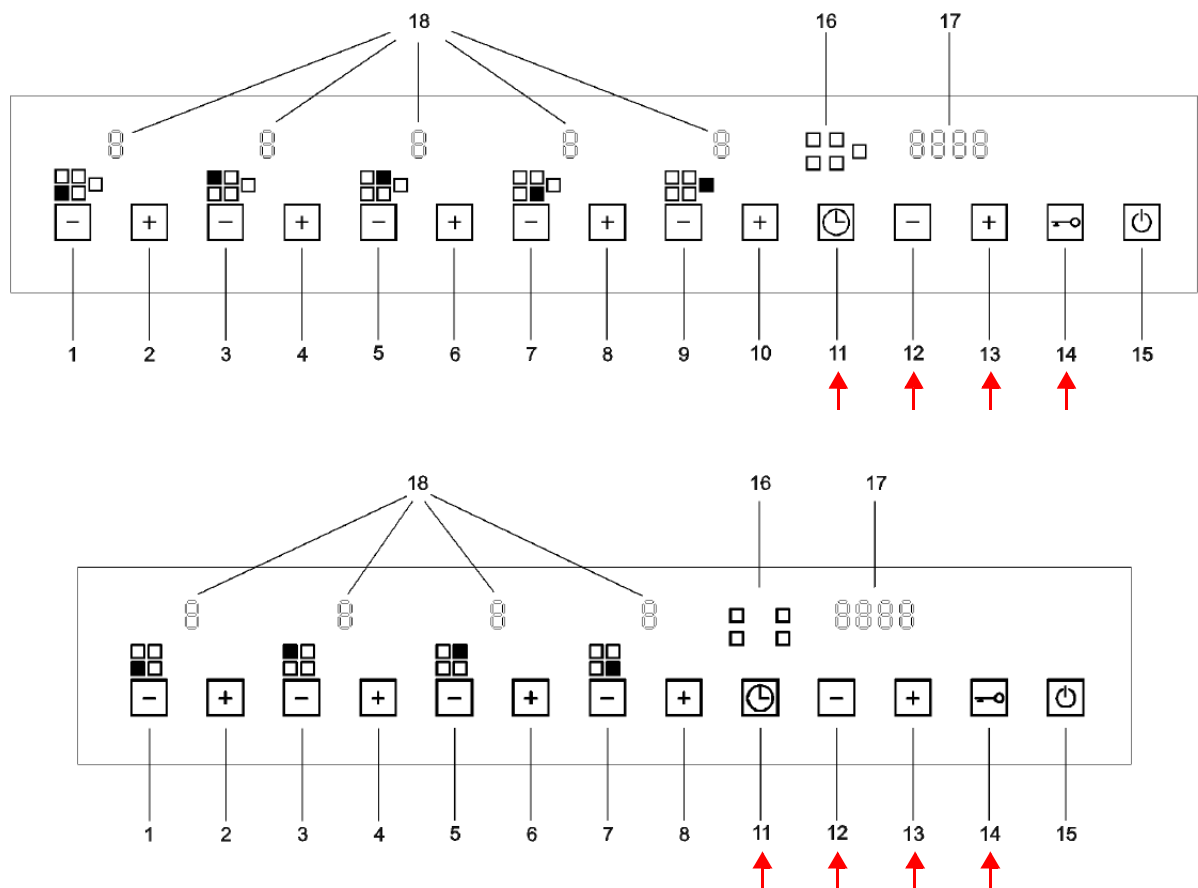
The time of day shown by the hob's inner clock will have to be reset after a power failure.

The clock key (11) and the key sensor (14) will need to be pressed simultaneously for at least 3 seconds to set the time of day.

The number flashing on the left of the dot shows the hours and the minutes are shown on the right. The hours can be raised or reduced by pressing the minus (12) or plus (13) keys. When the minus (12) and plus (13) keys are kept pressed, the hours will be changed without any interruption.

Press the clock key again to set the minutes. The numbers on the right of the dot will start to blink. Proceed the same as described for the hours to change the minutes.

Pressing the clock key (11) will store the time of day that has been set.



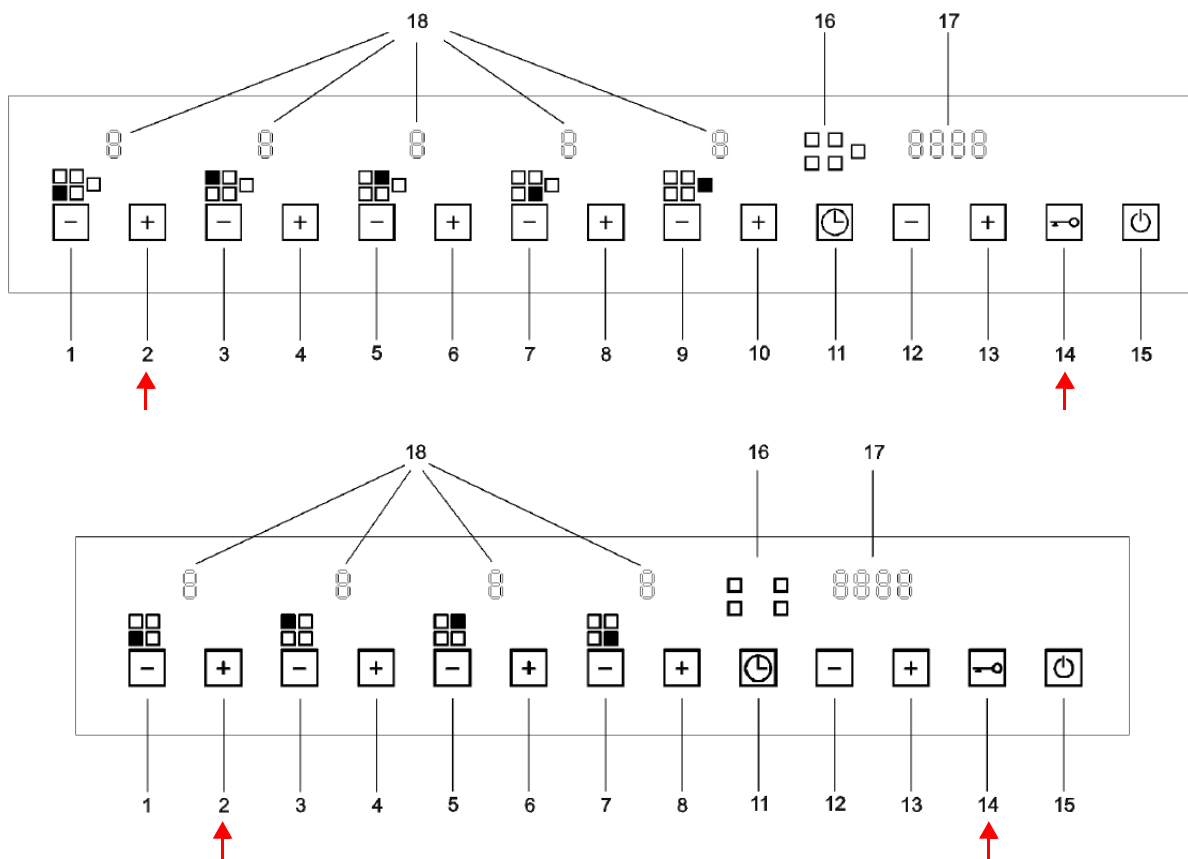
4.2.3 Key lock

Activating the key lock

The key lock is activated by pressing the key sensor for at least 2 seconds. The burners will remain at their current level. The key lock is displayed when the decimal points in the power level display of the individual burners light up. When the key lock is active, neither the burner power settings nor the timer settings can be changed. However, the hob can be switched off at any time by pressing the on/off keys (reliable switch-off).

Releasing the key lock

Press the key sensor (14) and the plus key of the cooking zone on the front left (2) for at least 2 seconds in order to release the key lock. The release of the key lock is displayed when the decimal points in the power level setting go off.



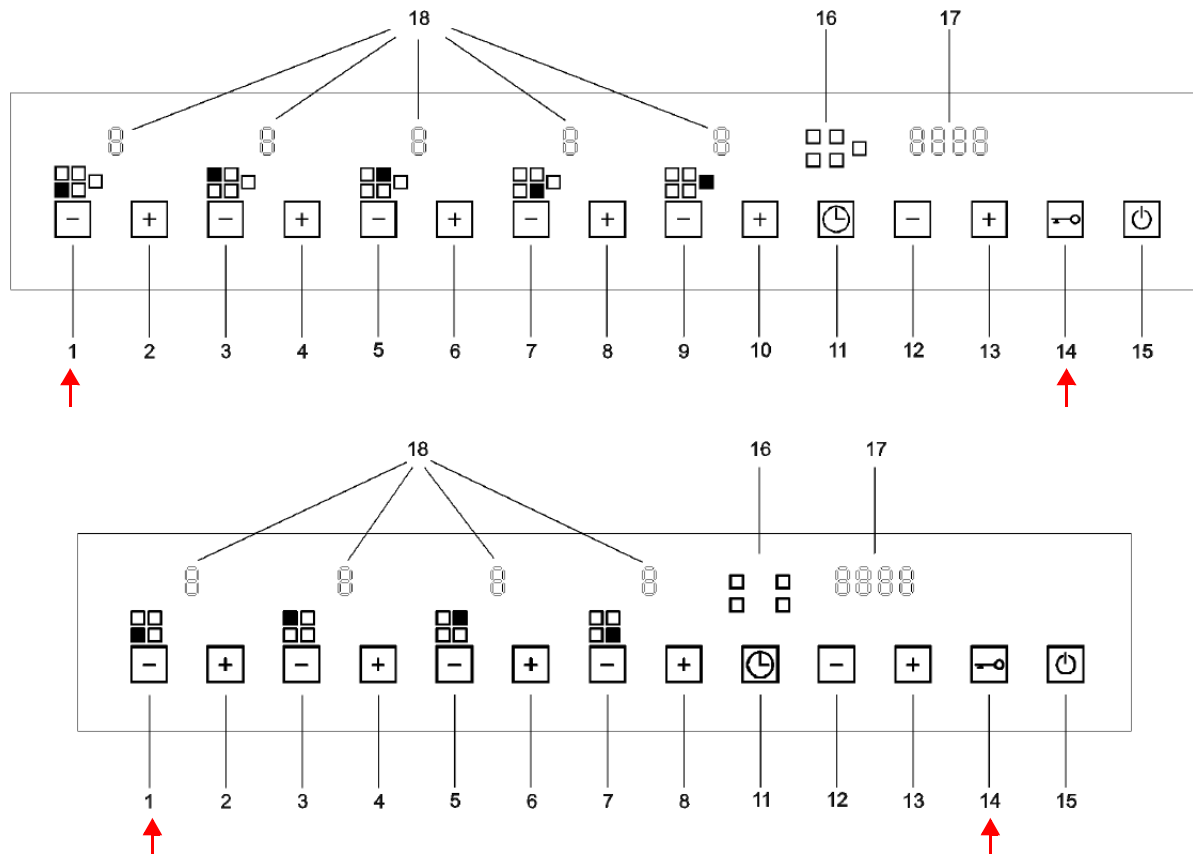
4.2.4 Release of a cooking zone burner

A cooking zone burner which still does not ignite after three attempts will be blocked. When a burner is blocked, the letter “b” will appear in the power level display.

The burner is released by pressing the minus key of the cooking zone on the front left (1) and the key sensor (14) for at least 2 seconds. After release the burners will be reset at 0 and can then be re-ignited.

Please note: If release is repeated 5 times in sequence in a period of 15 minutes, the controls will show FLT06 and will not accept any request for release for another 15 minutes.

It is not possible to release a blocked burner when the key lock is activated. The key lock must first of all be cancelled in order to release the burner.



4.2.5 Prescribed pan base diameter

Table 1:

Cooking zone burner	Power in watts	Pan diameter in cm
Wok burner	3350	24-26
Fast burner	2800	20-22
Semi-fast on the front left	1350-1400	16-18
Semi-fast on the back left	1750	16-18
Additional burner	1000	10-14

5. Installation

5.1 Important installation instructions

The appliance can be installed with a tall unit on one side (on the right or left of the hob). The minimum clearances shown on the installation diagram must be maintained.

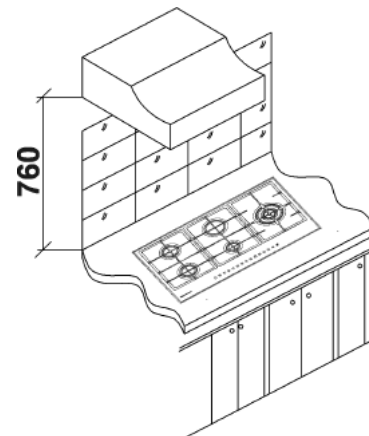
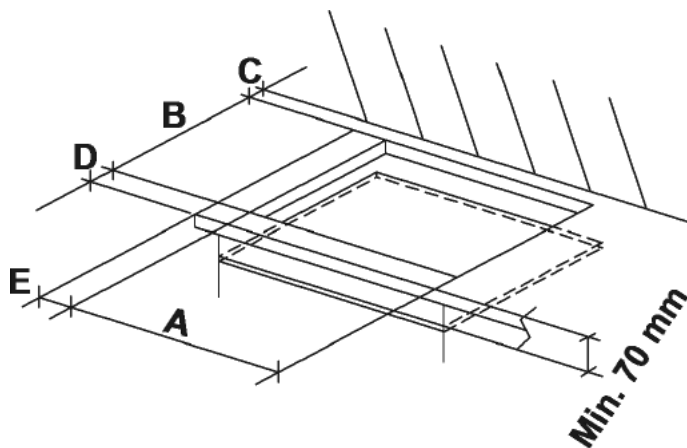
The rear panel and the adjacent surfaces around the hob must be able to withstand an excessive temperature of 65K. The adhesive connecting the plastic surface and the unit must be able to withstand temperatures of at least 150°C to ensure that the covering does not come off the unit.

The appliance must be installed in compliance with relevant regulations.

Dimensions to be maintained (in mm)

Table 2:

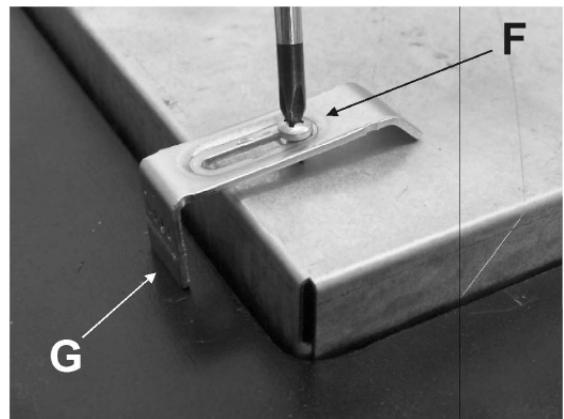
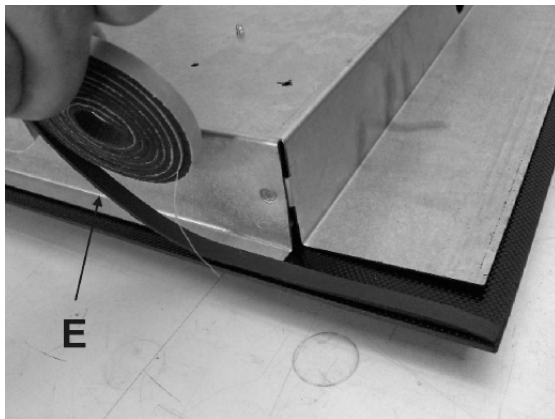
	A	B	C	GB	E
4 cooking zones (60)	553	475	62.5	62.5	55 min.
5 cooking zones (90)	833	475	62.5	62.5	55 min.



5.2 Mounting the hob

The hob is fitted with a special sealing so that no liquids can get into the unit. The following instructions must be followed carefully in order to apply the sealing correctly:

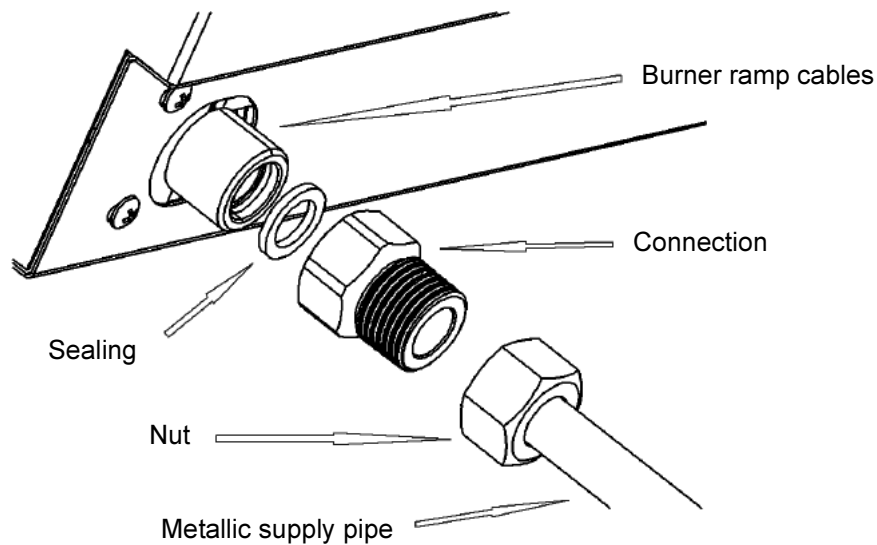
- Remove all the loose parts of the hob.
- Cut the sealing into 4 parts. They must be long enough to be put on the 4 edges of the glass.
- Turn the hob around and apply the adhesive side of the sealing "E" (Figure 9) properly under the edge so that the exterior of the sealing is flush with the outer edge of the glass panel. The ends of the strips must fit together without overlapping.
- Glue the sealing evenly and securely onto the glass, pressing it on with your finger.
- Position the hob in the cut-out that has been made in the unit and use the screws "F" to secure the fastening hook "G" (see illustration).



- In order to avoid making accidental contact with the overheated surface of the recess while the hob is in operation, a shelf must be installed under the appliance with a clearance of at least 70 mm to the top of the workspace. The shelf may only be removable with tools.
- Tighten the screws with a hand screw driver only; do not use a battery-operated screw driver.

5.3 Gas connection

The gas connection is carried out according to the following illustration.



Instructions:

- The gas intake connection of the appliance has a tapered screw thread for 1/2" gas according to EN 10226.
- The appliance complies with the regulations of the European directives CEE 90/396 + 93/68 concerning gas safety.
- The rear panel and the surfaces adjacent to and surrounding the hob must be able to withstand an excessive temperature of 65K.

5.4 Electrical connection

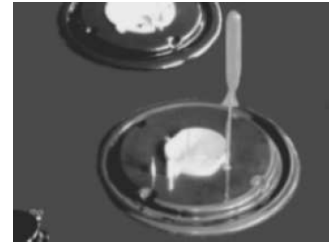
The electrical connection must be executed in compliance with valid regulations and legal requirements.

Prior to connection, it must be ensured that the socket or the system is earthed according to valid regulations and legal requirements.

A functional earthed conductor is essential for failure-free operation.

6. Replacing the components

The flanges must be removed when components in the hob are to be replaced. Loosen the screws and remove the glass ceramic hob.

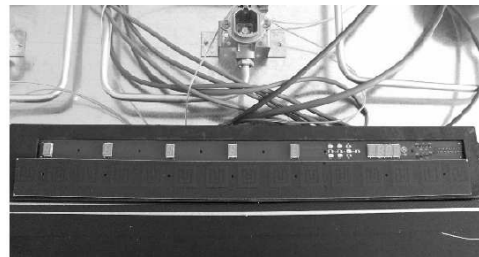
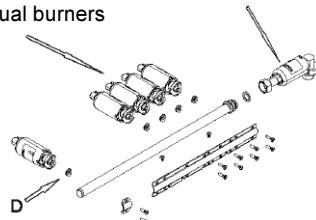


After carrying out the activities defined above, it will be possible to replace the electrically operated valves, the electric components and the electronic card.

It is recommended that the gasket "D" is always replaced when an electric valve is replaced in order to guarantee perfect sealing between the body and the ramp.



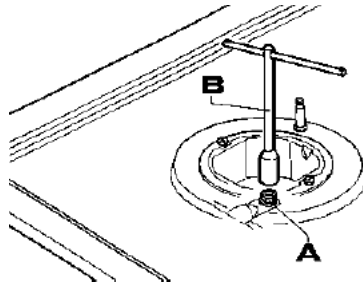
Electric valves of the individual burners Main electric valves



7. Settings and conversion to a different type of gas

7.1 Replacing injectors

The cooking zone burners can be adapted for different types of gas by mounting main injectors in compliance with the type of gas used. The burner heads will first of all need to be removed. Then use a straight spanner "B" to screw out the injector "A" and replace it with an injector in accordance with the type of gas used.

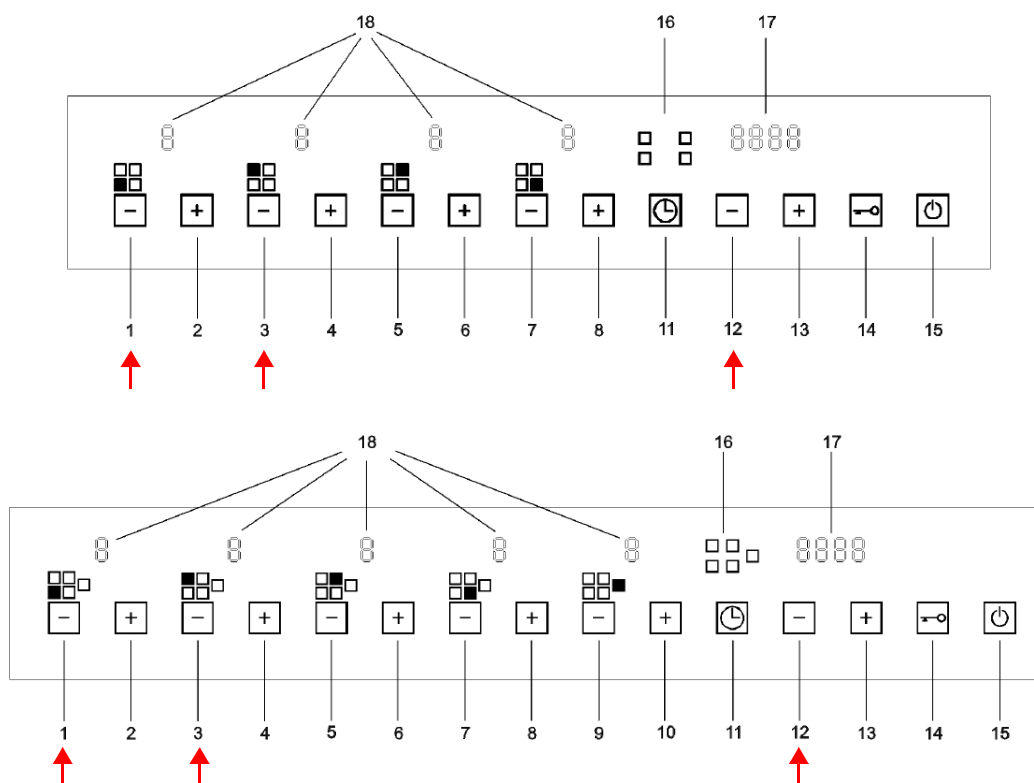


The primary air does not need to be adjusted for the cooking zone burners.

7.2 Selecting the type of gas used for cooking

The hob can be adjusted for operation with natural gas (MET) or liquid gas (GPL). In order to activate the choice of gas to be used for cooking the hob must be ready for operation and all the cooking zone burners must be switched off.

Press keys 1, 3 and 12 simultaneously for at least 2 seconds.



When the power setting displays (18) switch off the selection process for the gas type will have started.

At the same time the timer display (17) will show "Met" (natural gas) or "Gpl" (liquid gas) depending on the current configuration.

The required setting can be made with keys 12 and 13. Press the clock key (11) to end the process.

Activating this function may delete the switch-off times that have been programmed for the cooking zone burners.

Chart with the flow rates, the thermal output of the burners, the diameter of the injectors and the operating pressure of the various types of gas

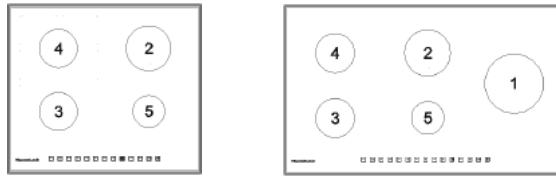


Table 3:

Burners		Gas	Operating pressure mbar	Thermal output		Injector diameter 1/100 mm	Thermal output (W)	
No.	Name			g/h	l/h		min.	max.
1	Wok burner	G 30 - butane	50	244		73 F4	1900	3350
		G 31 - propane	50	239		73 F4	1900	3350
		G 20 - natural gas	20		319	128 Y	1500	3350
		G 30 - butane (NL)	28-30	244		93	1500	3350
		G 31 - propane (NL)	37	239		93	1500	3350
		G 20 - natural gas (NL)	20		319	128 Y	1500	3350
2	Fast burner	G 25 - natural gas (NL)	25		371	135 K	1500	3350
		G 30 - butane	50	204		70 M	1050	2800
		G 31 - propane	50	200		70 M	1050	2800
		G 20 - natural gas	20		267	117 Y	800	2800
		G 30 - butane (NL)	28-30	204		83	750	2800
		G 31 - propane (NL)	37	200		83	750	2800
3	Semi-fast, front left	G 20 - natural gas (NL)	20		267	117 Y	750	2800
		G 25 - natural gas (NL)	25		310	125 F 2	750	2800
		G 30 - butane	50	102		54 M	1000	1400
		G 31 - propane	50	100		54 M	1000	1400
		G 20 - natural gas	20		133	85 Y	750	1400
		G 30 - butane (NL)	28-30	98		58	550	1350
4	Semi-fast, back left	G 31 - propane (NL)	37	96		58	550	1350
		G 20 - natural gas (NL)	20		133	85 Y	550	1400
		G 25 - natural gas (NL)	25		155	89 K	550	1400
		G 30 - butane	50	127		59 M	1000	1750
		G 31 - propane	50	125		59 M	1000	1750
		G 20 - natural gas	20		167	98 Z	750	1750
5	Additional burner	G 30 - butane (NL)	28-30	127		65	550	1750
		G 31 - propane (NL)	37	125		65	550	1750
		G 20 - natural gas (NL)	20		167	98 Z	550	1750
		G 25 - natural gas (NL)	25		194	98 Y	550	1750
		G 30 - butane	50	73		42 M	750	1000
		G 31 - propane	50	71		42 M	750	1000
		G 20 - natural gas	20		95	75 X	550	1000
		G 30 - butane (NL)	28-30	73		50	550	1000
		G 31 - propane (NL)	37	71		50	550	1000
		G 20 - natural gas (NL)	20		95	75 X	450	1000
		G 25 - natural gas (NL)	25		111	73 F 1	450	1000

Order numbers for the injector sets:

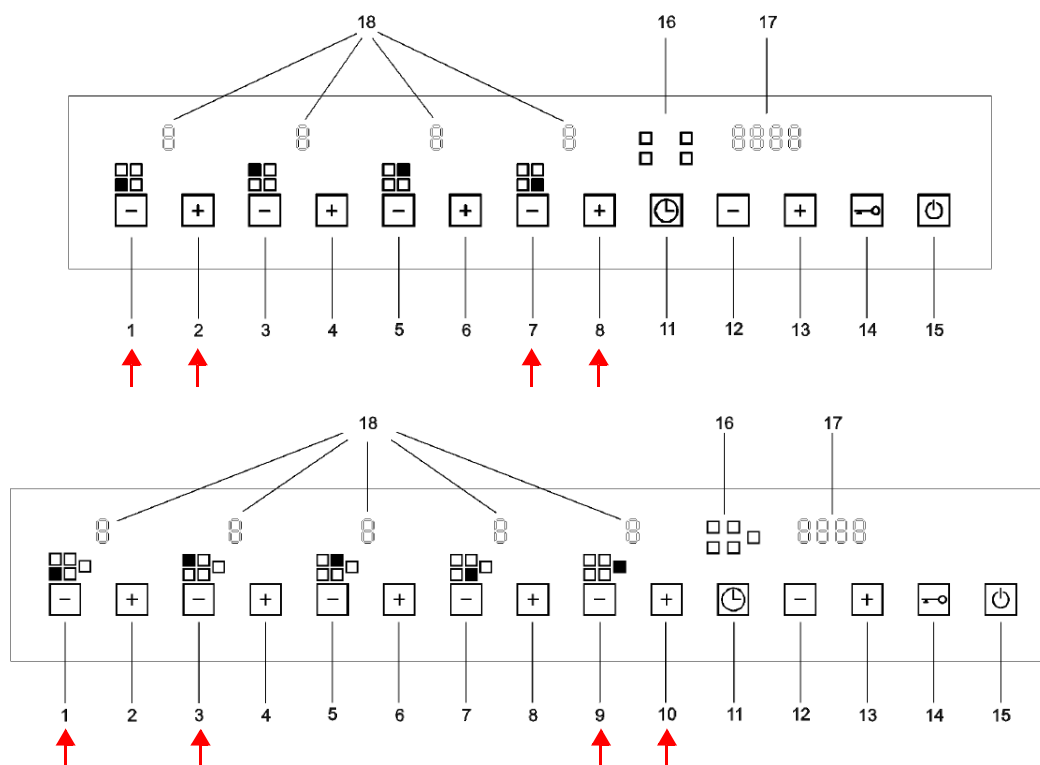
Liquid gas / Propane / Butane G30/31 50 mbar	Spare-part no. 542160
Liquid gas / Propane / Butane G30/31 30 mbar	Spare-part no. 542161
Liquid gas / Propane / Butane 3BP/G30 37 mbar	Spare-part no. 542162
Natural gas (standard) G20 20 mbar	Spare-part no. 542283
Natural gas NL (standard) G25 25 mbar	Spare-part no.

7.3 Setting the minimum volume of gas for the cooking zone burners

The procedure for entering the minimum levels enables the pre-determined minimum gas volume to be changed. Each burner is adjusted to the existing type of gas to which the hob is connected.

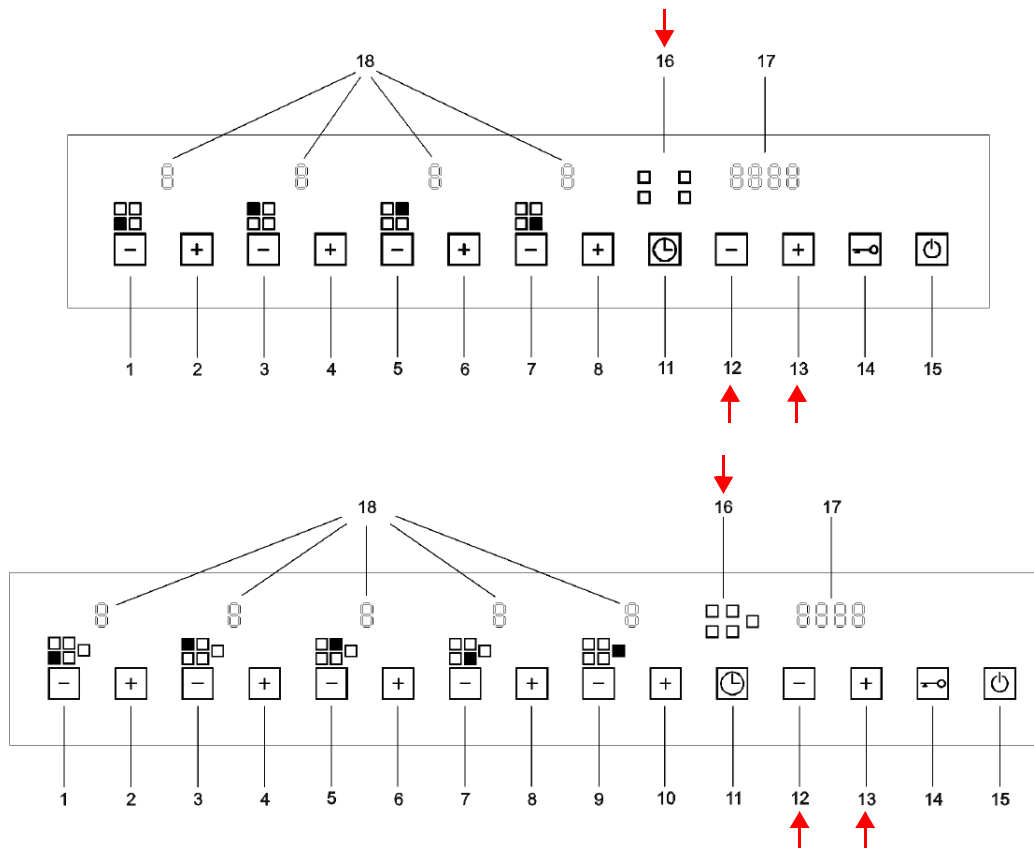
The appliance must be ready for operation in this case and the cooking zone burners must all be switched off.

- *Model GKE 6840.0M:* Press and hold the minus (1) and plus (2) keys of the burner at the front left and the minus (7) and plus (8) keys of the burner at the front right simultaneously.
- *Model GKE 9851.0M:* Press and hold the minus (1) and plus (2) keys of the burner at the front left and the minus (9) and plus (10) keys of the wok burner simultaneously.



Activation of a setting procedure is shown in the display (17) when "MIN" is indicated. Now the cooking zone burner that is to be set can be selected with the minus (12) or the plus (13) key of the programming for the clock. The selected burner will light up in the display (16).

After confirmation with the clock key (11), the burner that is to be set is ignited at its lowest level and the gas volume of the lowest level can be set with the + and - keys of the burner.



A - (minus) will appear in the power setting display (18) during the setting procedure when the minimum setting is the same as the factory setting.

The display blinks and switches to A or v in order to display a higher or lower volume of gas in relation to the pre-set volume. The clock key (11) must be pressed in order to confirm the required minimum volume.

The "MIN" display remains visible and no LED blinks. Now the clock key (11) can be pressed to end the process or the minus (12) and plus (13) keys of the clock programming in order to select a different cooking zone burner and set the minimum gas volume. Minimum gas volumes are then picked up by the appliance and saved for use in the normal operation of the hob.

8. Fault messages

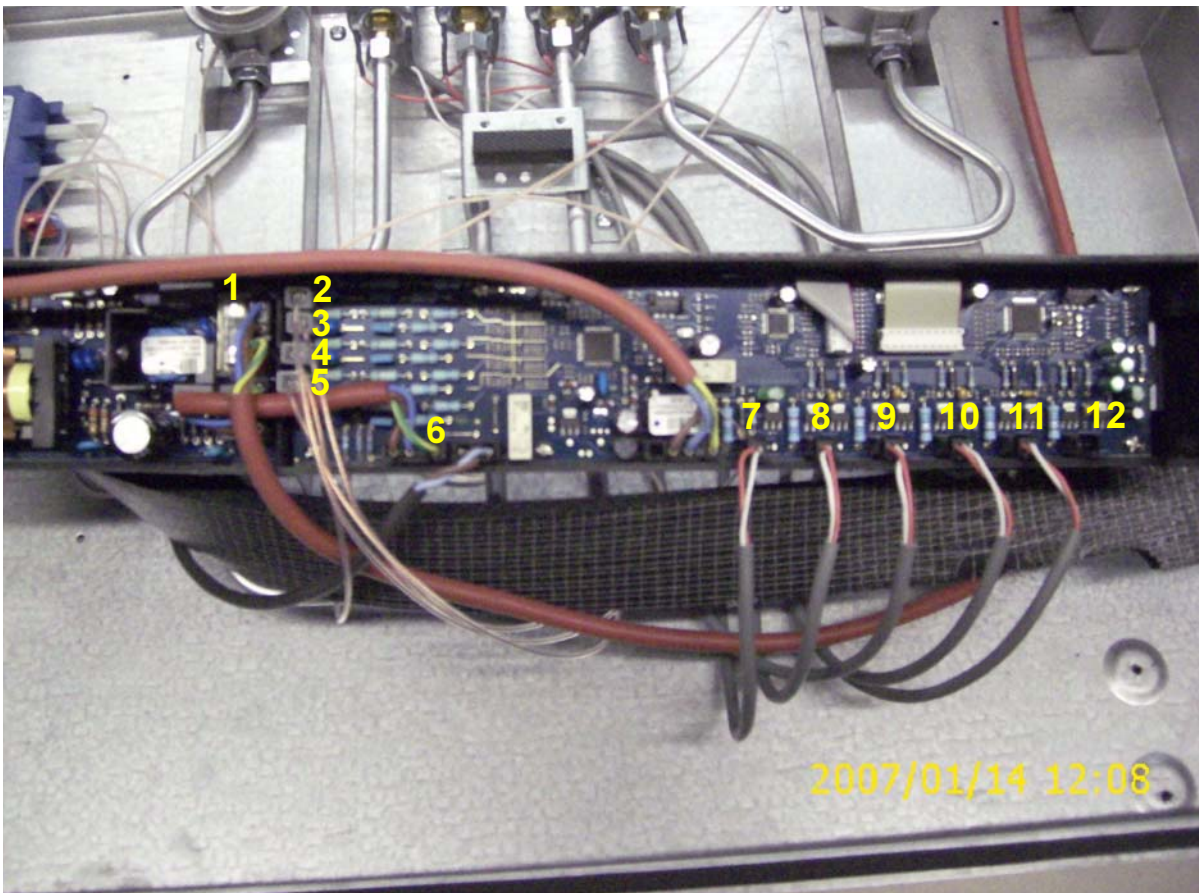
The electronic circuit boards constantly check on their own status. If any problems with the hardware or defections of the circuit board occur which could have a negative effect on the safety of the end user, the appliance will switch to a "safe" status in which the electric valves are switched off. The code for the type of error appears in the display.

It is only possible to reset the electronic system by disconnecting the power supply for at least 30 minutes or by turning the mains plug by 180 degrees. If this does not delete the error message, the electronic unit will have to be replaced.

Table 4:

Type of fault	Error code displayed
Individual cooking zone burner blocked	B
Extra flames/ fault in the flame detection electric circuit for individual cooking zone burners	F
Master valve electric circuit fault	FIt00
Electric circuit reference voltage fault	FIt01
Watchdog circuit fault	FIt02
Microcontroller port fault	FIt03
Eeprom fault	FIt04
Valve control circuit fault	FIt05
Exceeding of the maximum of 5 unlocking processes in 15 minutes	FIt06
Supply electric circuit fault	FIt08
Resonator fault/general fault	FIt09
Cooking zone burners all blocked	FIt0A
Communication error in the control logic	FIt0[
Keyboard control error	FIt0E

9. Electronic unit configuration



1. Supply line
2. Ionisation electrode, front right
3. Ionisation electrode, back right
4. Ionisation electrode, back left
5. Ionisation electrode, front left
6. Ignition transformer
7. Master valve
8. Valve, front right
9. Valve, back right
10. Valve, front left
11. Valve, back left
12. Not occupied

10. Cooking zone valve measuring voltage

Applied voltage (average value) for the respective type of gas:

	Natural gas	Liquid gas
1	11.7 V	10.5 V-DC
2	12.1 V	10.9 V-DC
3	12.5 V	11.3 V-DC
4	12.9 V	11.7 V-DC
5	13.5 V	12.2 V-DC
6	14.1 V	12.8 V-DC
7	14.9 V	13.5 V-DC
8	15.6 V	14.3 V-DC
9	16.4 V	15 V-DC

Master valve

Supply voltage 24V DC