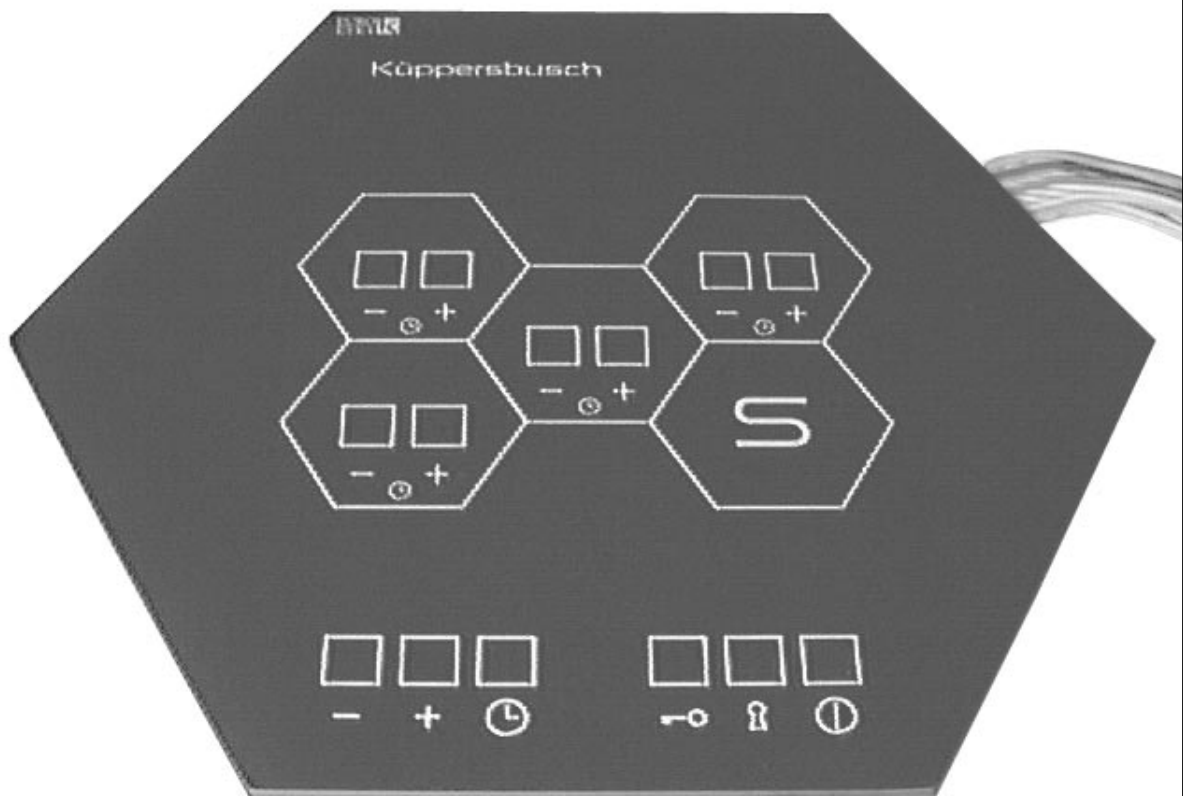


KÜPPERSBUSCH CUSTOMER SERVICE



Repair Manual

ESW 308.6

Contents

| | |
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| Contents | 2 |
| 1. Introduction and Safety Instructions | 3 |
| 2. Tools and Devices | 4 |
| 3. Functional Description of the Control Honeycomb | 5 |
| 4. Components of the Control Honeycomb | 6 |
| 4.1 Power Sections | 6 |
| 4.2 Control System | 7 |
| 4.3 Disassembly of the Power Section | 9 |
| 4.4 Disassembly of the Control System | 10 |
| 5. Adjustment and Balancing of the Sensors | 11 |
| 5.1 Main Reset | 12 |
| 5.2 Automatic Calibration | 12 |
| 5.3 Calibration of Individual Sensors | 12 |
| 6. General Notes on Possible Faults | 14 |
| 7. Instructions for replacing glass ceramic honeycomb units | 15 |

1. Introduction and Safety Instructions

The control honeycomb ESW 308.6 is a sensor-controlled cooking honeycomb which allows controlling of the cooking zones without contacting them.

In contrast to the forerunning model ESW 307.6, the ESW 308.6 is additionally equipped with a minute minder. From the outside, however, the functions have remained identical while the internal structure of the control electronics has completely changed. With the ESW 308.6 manual balancing of the sensors is no longer required. The control system will be automatically calibrated upon commissioning (factory-set). If required, calibration may also be repeated at the customer. However, it is also possible to manually adjust an individual sensor by means of a special combination of the sensors. The calibration procedure is dealt with in detail in a separate chapter.

Furthermore, power supply unit and power section of the ESW 308.6 have been assembled on a joint printed-circuit board mounted on the lid. The connectors have also been changed.

The appliances are manufactured in accordance with the applicable safety regulations.

The appliances may only be connected up to the mains, serviced and repaired by a qualified electrician according to the valid safety regulations. Work carried out incorrectly will endanger your safety.

When the appliance is connected up to the mains it must be ensured that there is a device which makes it possible to disconnect it from the mains at all poles with a contact opening width of at least 3 mm. Line-protecting switches, fuses and contactors are suitable cut-out devices.

Before opening the appliance always disconnect it from the power supply!

Further general notes are included in the "Operating and installation instructions for honeycomb cooking areas with sensor control, series ESW/EKW".

2. Tools and Devices

The following tools are required for a trouble-free performance of a customer service call:

- digital multimeter incl. measuring leads
- IC extraction tool for 28 poles
- small ratchet box
- 5.5 mm socket spanner (type Belzer No. 6400-5.5)
- 8.0 mm socket spanner
- side cutting pliers, small
- flat pliers, small
- screwdriver for slotted screws, various sizes (very important: with short handle)
- screwdriver for recessed head screws, various sizes (very important: with short handle)
- torch, offset

Furthermore the following devices are required:

- setting device for basic calibration of the sensor system
- setting power supply unit

- glass cleansing agent, "Sidolin" or similar
- cleaning cloths

3. Functional Description of the Control Honeycomb

See Operating and Installation Instructions ESW, valid: July 1997

4. Components of the ESW 308.6

4.1 Power sections

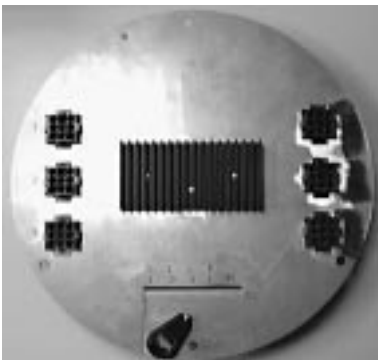
Newly supplied control honeycombs starting with the W-number xxxx will be equipped with the following combined power supply unit and power section:



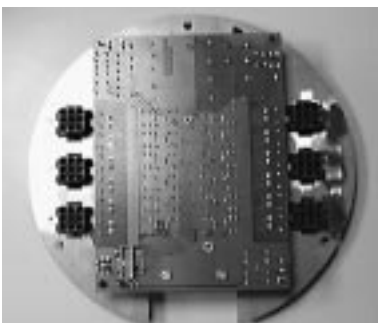
power section 2879 - rev. A



electrical connection ESW 308.6



outside view of the lid ESW 308.6



power section mounted on lid

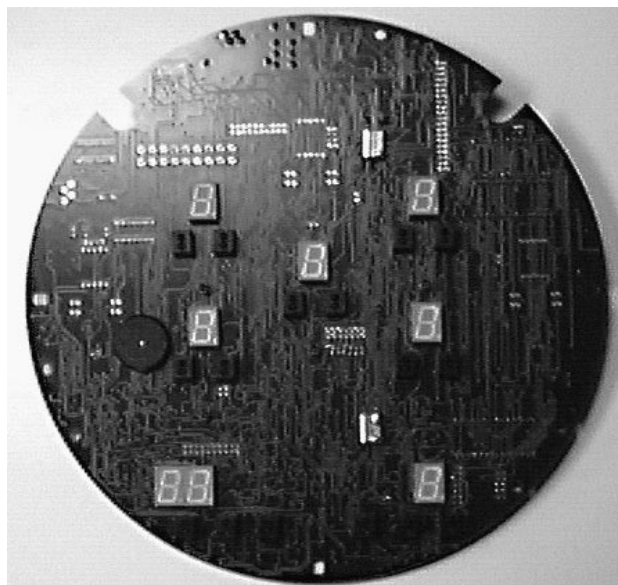
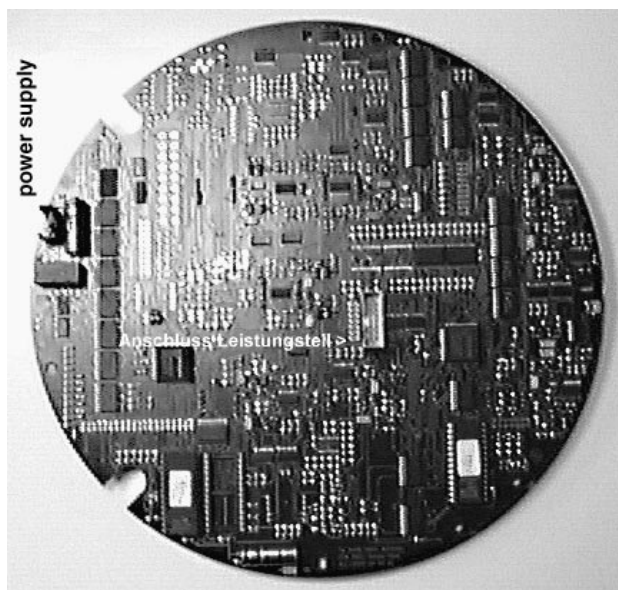
Note:

The power section may be combined with any of the forerunning honeycomb models, i. e., the control connection is pin-compatible.

4.2 Control System

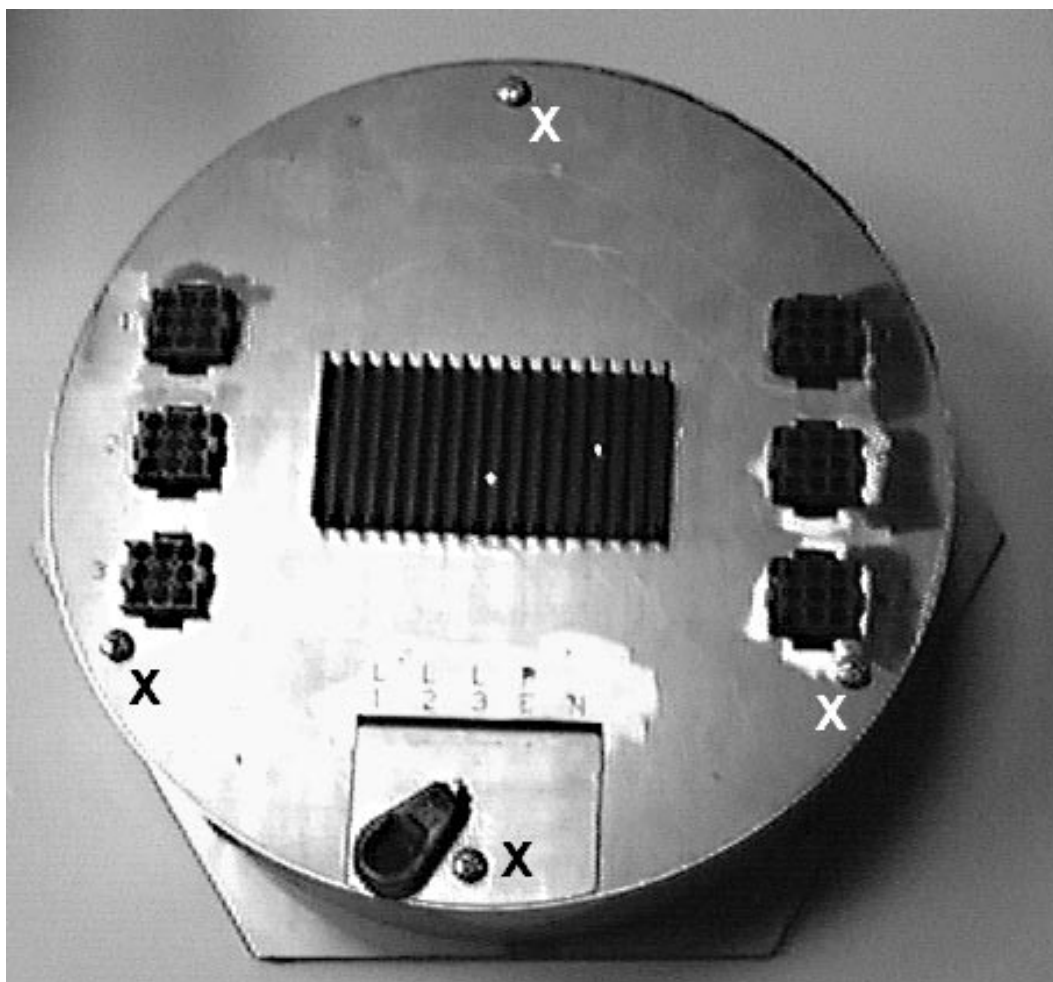
The control board is connected to the power section by means of 2 cables.

1. a 4-pole cable for power supply
2. a 14-pole ribbon cable for power section control

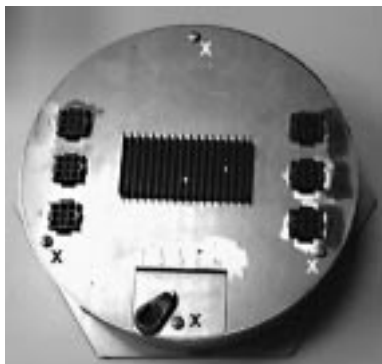


Before opening the appliance make sure to observe the safety instructions!

In order to loosen the lid of the cabinet unscrew the 4 screws (marked with an "X").



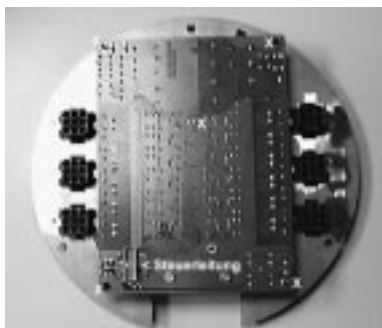
4.3 Disassembly of the Power Section



After the appliance has been **DIS-CONNECTED FROM THE POWER SUPPLY** and the heater cables have been removed, the 4 screws marked with an "X" are removed (if required, the incoming cable must also be removed).

Then the connecting line to the control system and the power supply are pulled off.

The pc board "power section" is fastened by means of 5 nuts marked with an "X" in the illustration below.



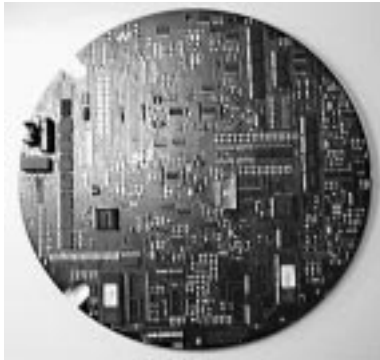
After removing the nuts the pc board can be taken out of the fastening bolts. Now the connecting cables can be pulled off from the relays and the pc board be replaced. Make sure that the terminal assignment at the relays is the same before and after replacement of the pc board.

Special terminal assignments will be made available in the future. Assembly is then performed in the reverse sequence.

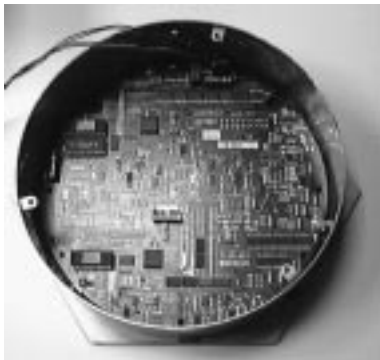
Prior to commissioning the appliance has to be checked again according to the valid VDE-regulations!

A printed board assembly for all variations is made available to the Customer Service. (It may be included in the service box.)

4.4 Disassembly of the Control System



control board



For the disassembly of the control board the steps "Removing and loosening the lid with power section" have already been performed.

Afterwards the 3 fastening screws of the control board are removed. The pc board is removed towards the top with the recess matching one of the top fastening brackets. The new pc board is inserted and fastened by means of the 3 screws.

The pc board is now illuminated from the rear side by means of a torch so that the position of the display elements can be checked from above. In case the photo sensors of the 7-segment displays do not match the imprint on the glass ceramic surface, the pc board must be loosened again in order to position it correctly. When the position then matches the imprint, the 3 screws are tightened.

At this point the balancing procedure of the sensors has to be performed. (See separate description on the following pages!)

5. Adjustment and Balancing of the Sensors

General

For balancing the sensors of the ESW 308.6 it is no longer required to carry out manual adjustments via a potentiometer as with the forerunning model ESW 307.6. Sensor balancing of the ESW 308.6 is performed from the control field, i. e. the cabinet needs no longer to be opened for this purpose.

The following sensors are important for the sensor adjustment:



In order to enter the calibration mode proceed as follows:

Disconnect the control honeycomb from the power supply via the circuit breaker. Switch the circuit breaker on again, then press the **lock sensor** within **5 seconds** and keep it depressed. (During this procedure the actual software version is displayed in the 7-segment displays from the left to the right.). After another **7 seconds** the **key sensor** must be pressed. The **lock sensor** must be released as soon as the key sensor has been activated. In this way the **COMMAND MODE** is activated, which allows access to 3 different submodes.

5.1 Main Reset

The main reset deletes **all** sensor values stored in a memory module on the control electronics. However, this is only required if an automatic calibration procedure has to be performed afterwards.

When the **clock sensor** is activated an **acoustic signal** will sound after expiry of a certain time. Afterwards the control system can be disconnected from the power supply via the circuit breaker **independently of the time**. Now all memory contents regarding the sensors have been deleted!

5.2 Automatic Calibration

Before switching on the circuit breakers again, the balancing device is positioned on the control in such a way that no sensor is covered by the spacers. Now the circuit breakers can be switched on again. After approx. 2 minutes 4 successive acoustic signals will sound to signal that calibration is completed. In this status the ESW 308.6 can be operated as usual again. It is recommended, however, to check each sensor again.

5.3 Calibration of Individual Sensors

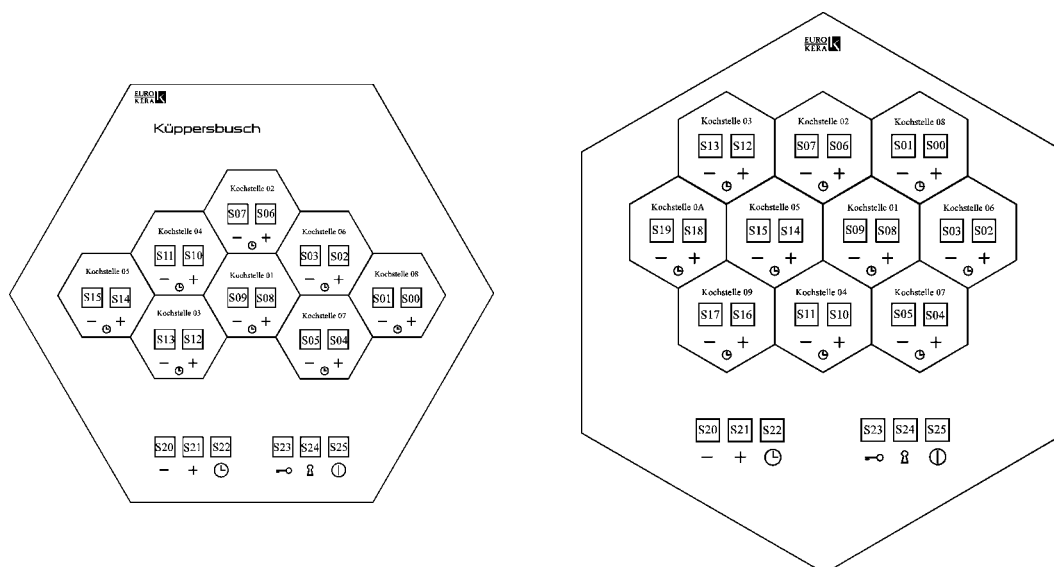
Set the appliance to the **COMMAND MODE** again.

Once again to remember:

Disconnect the control honeycomb from the power supply via the circuit breakers. Switch the circuit breakers on again, depress the lock sensor within 5 seconds and keep it depressed. (During this procedure the actual software version will be displayed in the 7-segment displays from the left to the right). After another 7 seconds the key sensor must be activated. The lock sensor must be released as soon as the key sensor is activated. In this way the COMMAND MODE is set.

General notes for the manual adjustment of a sensor:

In the version "**pointed**" and "**flat**" the sensors are numbered from **S00** to **S25** each. During manual adjustment the sensors are successively displayed, independent of whether they are physically existing are not.



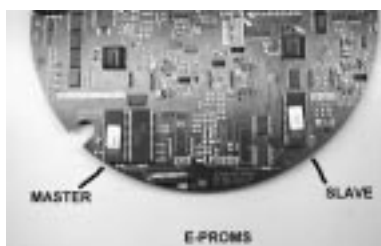
After having activated the **COMMAND MODE** the **ON/OFF sensor** is touched and a "1" is displayed. Now sensor 01 can be set. The sensor sensitivity can be decreased by means of the **key sensor** and increased by the **lock sensor**, respectively. The sensor can be set to a value between 00 and 60. The respective setting is displayed.

If the **ON/OFF sensor** is touched again, display "1" changes to "2" which represents sensor S02. In order to store the modified values, the **ON/OFF sensor** is kept depressed while it slowly counts up to "25". When "25" is reached, the sensor is still kept depressed until **4 successive acoustic signals sound**. Now the values have been stored and the ESW 308.6 can be operated as usual.

Note: If more than 2 sensors have to be reset, automatic calibration has to

6. General Notes on Possible Faults

The control honeycomb ESW 308.6 is not equipped with an optical fault display.



Three defects may occur:

1. heater is defective
2. control board of the ESW 308.6 is defective
3. power section of the ESW 308.6 is defective

In order to be able to differentiate between control board and power section, a testing unit will be available in the near future which optically displays the power section control.



In case the control board is defective, a printed board assembly will be made available to the Customer Service for the versions "pointed" and "flat". If this board is used, the slave EEPROM and the master EEPROM must be removed from the defective pc board by means of a special tool (IC extraction tool) and installed on the new board.

IC extraction and installation tool

A power section assembly will also be made available to the Customer Service.

Thus faults may be located and remedied very quickly.

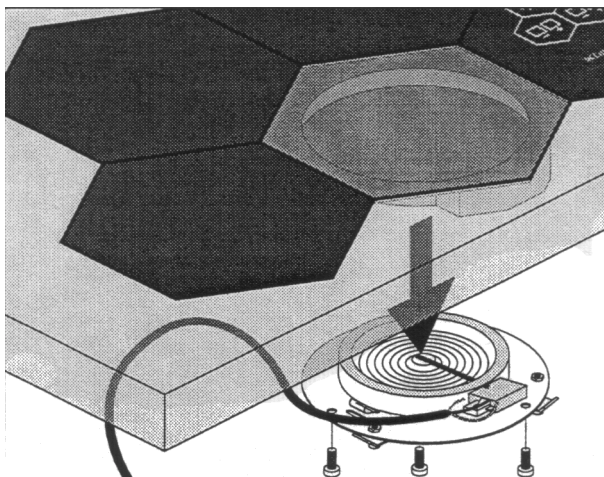
With respect to the control electronics, there may generally only occur 2 basic faults, i. e. a complete failure or a sensor problem. In most cases, a sensor problem can be remedied as described above without opening the appliance.

7. Instructions for replacing glass ceramic honeycomb units

Replace the ceramic honeycomb as follows:

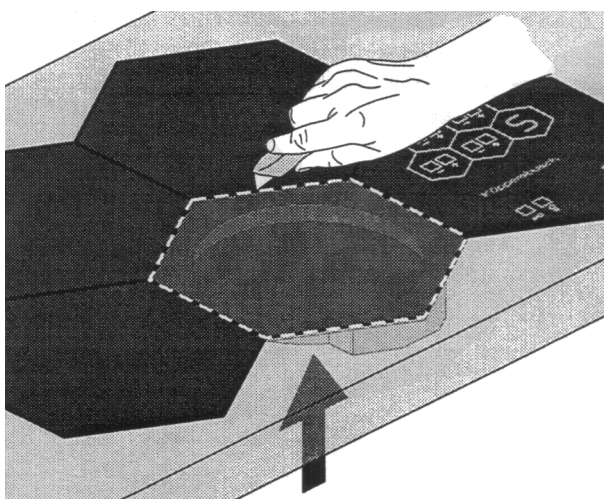
Parts required:

| | | | |
|----------|--------------------------------|----------|--------------------------|
| 53 69 25 | Glass ceramic honeycomb | 53 69 25 | Casing section mechanism |
| 53 69 30 | Glass ceramic control honeycom | 53 69 55 | Casing section mechanism |
| 09 15 81 | Adhesive cleane | | |
| 53 58 85 | PACTAN primer | | |
| 09 15 80 | PACTAN adhesive | | |



Disconnect the appliance from the mains!

Undo and remove from the casing the casing cover with power unit and control board and/or casing cover with radiant heat unit.

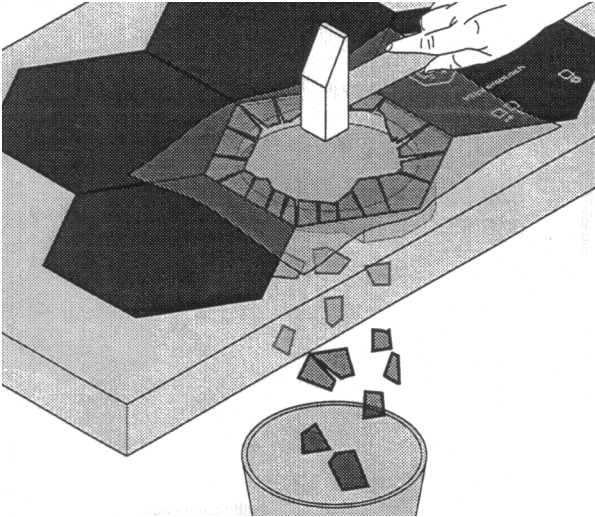


Carfully cut the silicone seam between the glass and worktop with a knife.

The glass ceramic honeycomb and casing can usually be separated from the worktop by exerting gentle but constant pressure from below.

With wood or chipboard worktops, keep the amount of wooden fragments removed to an absolute minimum.

If the casing is bonded in firmly and cannot be released, follow these steps carefully.



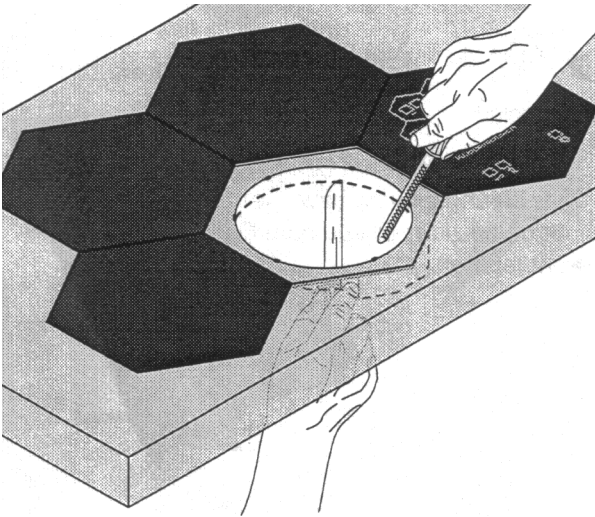
Danger. Risk of accidents!



Gloves and goggles must be worn!

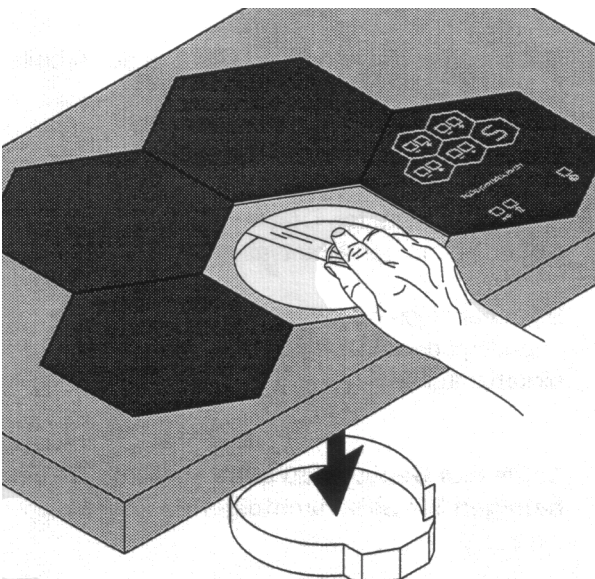
Cover the glass ceramic honeycomb to be replaced with a damp cloth and place a receptacle underneath to catch any glass splinters.

Now using a controlled level of force break the glass and completely remove it.



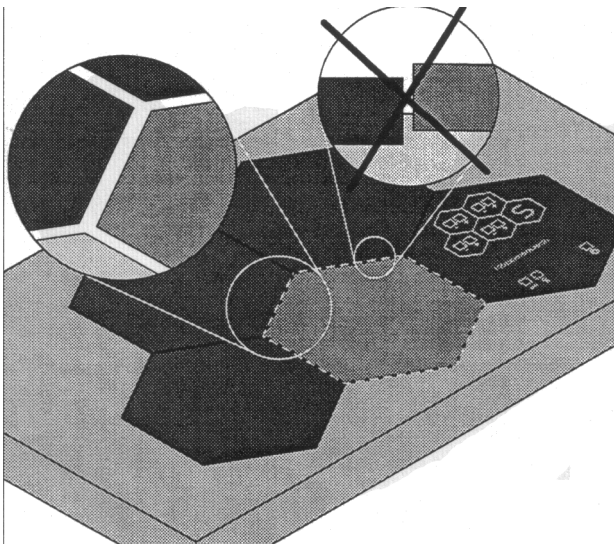
Remove any remaining welds from the ring and upper section (by filling).

Using a knife from below, cut the silicon adhesive between the ring and the worktop.



Remove the ring downwards and then carefully release the honeycombed upper section from the worktop with a knife.

Now remove any silicon residues from the worktop. If any spacers are present, take care not to damage them. Retain for later.



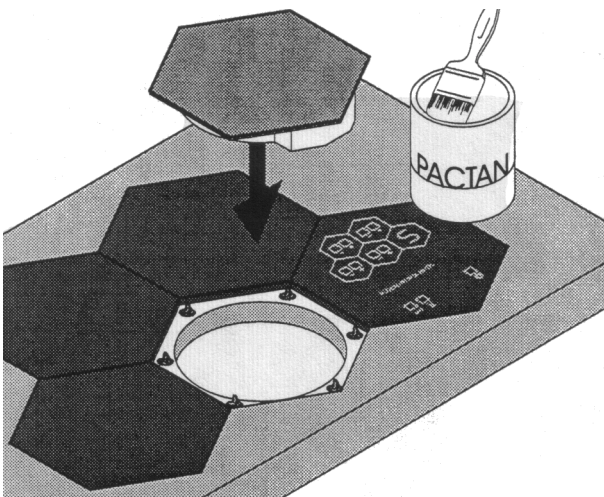
Fit the new glass ceramic honeycomb.

Make sure the surfaces are level and the joints are of even thickness.

Clean the glass ceramic honeycombs's jointing surfaces with adhesive cleaner.

Granite worktops should also be cleaned with adhesive cleaner.

First coat worktops made from wood or chipboard with PACTAN primer and leave to dry.

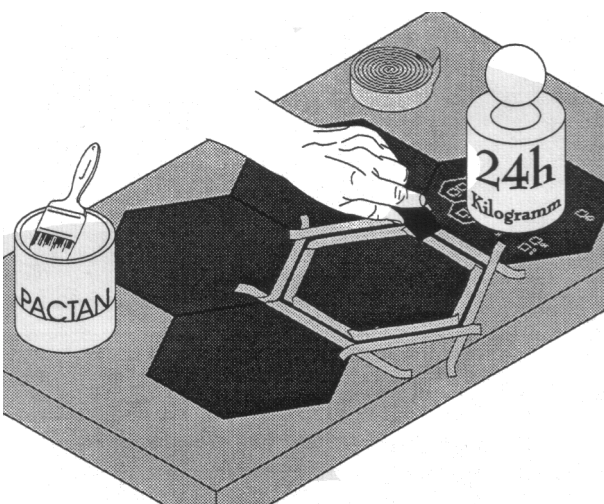


Dab the corners with PACTAN adhesive

Do not apply too thickly or the ring and the worktop will stick together again.

Carefully insert the new glass ceramic honeycomb.

Place a heavy weight on the new control honeycomb for 24 hours and screw the other honeycombs to the worktop from below with the clips.



Mask the glass surface and worktops with tape and fill the joints with PACTAN, so that the seals are absolutely watertight.

Smooth off the joints.

Carefully remove the masking tape and immediately remove any traces of adhesive from the glass or worktop.



Make clear to the customer that the hob and joints should not bear any weight for 24 hours.