KÜPPERSBUSCH CUSTOMER SERVICE

Service Manual GEH 630 - GEH 640



| VKT | | Technical In GEH 630 - | Technical Information GEH 630 - GEH 640 | | |
|---------------------------|---|--|--|----------------------------|--|
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| BL GE GE | JILT-IN GAS H 630: convei H 640: convei | OVENS ntional gas oven ntional gas oven with hot | air and backmobil | | |
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1. Technical Data

1.1 GEH 630

| Features: | | | | | |
|-------------------------------|---|--|--|--|--|
| Full glass front | | | | | |
| Removable oven door | | | | | |
| Thermostatically controlle | ed oven, conventional heating with top and bottom heat | | | | |
| Grill socket for electric int | fra-red grill | | | | |
| Oven lighting at the sides | 3 | | | | |
| Optical grill indicator | | | | | |
| Electric automatic-timed | spark ignition | | | | |
| Full ignition control | | | | | |
| ÖkoEmail oven muffle | | | | | |
| Backmobil available as a | n optional extra | | | | |
| 60- minute Minute Minde | r | | | | |
| Tangential cooling fan | | | | | |
| | Technical data: | | | | |
| 4 rings: | 1 high-speed ring 2.4 kw, 2 standard rings each 1.7 kw, 1 simmering ring 1.0 kw | | | | |
| Gas connection: | 10.3 kw | | | | |
| Electrical connection: | 2.53 kw | | | | |
| Appliance dimensions: | B x H x D approx. 592 x 595 x 530 mm | | | | |
| Niche dimensions: | B x H x D approx. 560 x 600 x 550 mm | | | | |
| Test mark: | EN30CE0085-93 | | | | |

Standard accessories:

1 roasting rack, 1 baking tray, 1 drip pan

Optional accessories:

Backmobil acc. no. 595, ET no. 505109 Infra-red grill acc. no. 545, ET no. 181738

| VKT | Technical Information GEH 640 | H2-120-01-1 | |
|---|---|----------------------|--|
| 1.2 GEH 640 | | | |
| | Features: | | |
| Full glass front Removable oven door Thermostatically control to multitherm plus - ho | led oven, conventional heating (with top and bottom heat), o | can be switched over | |
| Grill socket for electric in | ifra-red grill | | |
| Oven lighting on both sid | des n and arill | | |
| Electric automatic timed | spark ignition | | |
| Full ignition control | Span gritton | | |
| ÖkoEmail oven muffle | | | |
| Backmobil as a standard | d feature | | |
| 60-minute Minute Minde | r | | |
| Tangential cooling fan | | | |
| | | | |
| | Technical data: | | |
| 4 rings: | rings: 1 high-speed ring 2.4 kw, 2 standard rings each 1.7 KW, 1 simmering ring 1.0 KW | | |
| Gas connection: | 10.3 kw | | |
| Electrical connection: | 2.56 kw | | |
| Appliance dimensions: | B x H x D approx. 592 x 595 x 530 mm | | |
| Fitting dimensions: | B x H x D approx. 560 x 600 x 550 mm | | |
| Test mark: | EN30CE0085-93 | | |
| | Standard accessories: | | |
| 1 roasting rack, 2 baking | g trays, 1 drip pan, backmobil | | |
| | Optional accessories: | | |
| Infra-red grill, acc. no. 5 | 45, ET no. 181738 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |



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1.3 Jet Table

Factory settings/adjustment possibilities

Universal jets sets

| Ring | Town Gas 8 millibar | | Natural Gas 20 millibar | | | libar | Bottled Gas | | |
|-----------------|---------------------|---------|-------------------------|----------|---------|-----------------|-------------|----------|-----------------|
| _ | G 110 | G 140 | | G 20 | G 25 | G 20 | G 25 | 50 mbar | 50 mbar |
| | Main jet | | Low setting jet | Main jet | | Low setting jet | | Main jet | Low setting jet |
| High-speed ring | 270 | 295 | *) | 115/125 | 118/140 | 48 | 52 | 67 | 28 |
| Standard ring | 210 | 210/310 | *) | 87/110 | 98/120 | 42 | 44 | 57 | 23 |
| Simmering ring | 145/250 | 160/250 | *) | 67/85 | 75/95 | 40 | 42 | 44 | 22 |
| Oven burner | 345 | 365 | *) | 150 | 165 | 77 | 85 | 80 | 44 |

*) These jets can be adjusted to suit the load of the individual burners by referring to the flow table.



2. Technical Construction

2.1 General

Each burner has a separate gas regulator with an integrated *thermoelectrical ignition control*. The control knob for selecting the oven functions lighting, grill, top and bottom heat and hot air (GEH 640) is located next to the Minute Minder and the control knob for the oven temperature regulator.

2.2 Operation

Turning and simultaneously pushing in one of the ring or the oven controls turns on the gas supply of the relevant burner and at the same time switches on the *automatic timed spark ignition*. After the burner has been ignited, the knob must remain depressed for approx. 5 secs. until the *thermoelectrical spark ignition* has taken lasting effect. Repeat the procedure if the burner goes out.

2.3 Thermoelectrical ignition control

In recent years and in practical application thermoelectrical ignition control systems have gained predominance over conventional systems which work according to the principle of heat expansion. The flame of an ignition or ring burner heats a so-called "thermo-element" which, due to its special material components, then generates a thermoelectric voltage of about 20-51 mV. This voltage is sufficient to keep open a safety valve which is normally depressed manually during ignition. It is thus logical to equip such an appliance with a comfortable automatic spark ignition which considerably facilitates the ignition process.



The thermoelectrical current produced by the thermo-element (1) stimulates the magnet of the magnet insert (3). After the knob (6) has been pressed it holds the anchor plate (4) in position so that the safety valve (5) remains open when the knob is released. The magnet insert (3) and the thermo-element (1) each form an exchangeable unit.





2.4 Oven thermostat

The oven thermostat continually regulates the temperature in the oven, all depending on the setting of the controls.

The liquid in the heat sensor expands or contracts an expansion bellows in the thermostat. At the same time, the expansion bellows open or cut off the gas supply.

Pay attention to the setting of the bypass gas supply.







Removing the operation fascia



Disconnect the appliance from the power supply, remove the knobs by pulling them out towards the front, loosen the 2 screws from below keeping the oven door open, tilt the operation fascia downwards slightly and pull it out towards the front.

Adopt the reverse procedure when remounting the operation fascia.

Caution: The operation fascia must be inserted into the slots at the top.



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3.2 Hotplate

3.2.1 Frame, hotplate and rings

Two special spanners are required for dismantling and reassembling the hotplate: Spanner for loosening and tightening the burner tops: ET no. 707397812 Bar for lifting and holding the burner body: ET no. 132001



After removing the hotplate, loosen the screws at the corner of the frame and at the burners. Then the hotplate can be lifted off.





Caution:

When reassembling the hotplate please ensure that the deflector plate of the air channel is properly inserted into the guides of the exhaust channel. If you do not do this, the exhaust flow will be cut off and the oven burner will go out due to lack of oxygen.





3.2.2 Mounting plate, complete

Exchanging the ignition head: bend the bracket upwards.

Exchanging the thermo-element: disconnect the thermo-element above the barrier disc and pull downwards. Push the new thermo-element into the mounting plate from below and secure from the top with a barrier disc.



Disconnecting the mounting plate from the burner core: rotate the mounting plate sideways after bending the bracket upwards.



The burner pipe can be disconnected from the burner core by unclipping the friction spring. *Caution during reassembly*: Do not tilt the O-ring, carry out a leakage test.



3.2.3 Ring burners

The ring burners consist of a burner cover, an intermediate ring and a burner head. These parts are mounted one on top of the other and their positions determined by slots, grooves and openings.





Caution: An O-ring is located in the guides of the device for fastening the gas tap to the tap pipe (shown above). Carry out a leakage test.



3.4 Exchanging the jets

3.4.1 High-setting jet

There is no device for regulating the air supply at the rings. The air supply is determined by the height of the jets. The high-setting jets are exchanged from above by using a socket spanner, ET no. 132007.



3.4.2 Low-setting jet

The operation fascia must be removed when exchanging the low setting jets .

The low-setting jets are exchanged at the gas tap (or the oven regulator) by means of a screwdriver for slotted screws.

The high-setting jet for the oven burner is located in the combustion cavity below the oven. It is there that the air supply to the oven burner must be adjusted.







4. Technical Components of the Gas Oven Cabinet

4.1 Cabinet features



4.1.1 Ignition transformer, exhaust channel, tangential cooling fan

Ignition transformer:

Remove the hotplate (see instructions). The ignition transformer is located on the upper panel and fastened down by two screws. The sparking cables are attached to it.

Exhaust channel:

The exhaust channel consists of three deflector plates which are fastened to each other by screws. The fastening points of the exhaust channel are located on the upper panel and on the air deflector plate of the oven.

Tangential cooling fan:

Remove the ventilation channel and the rear panel. The tangential cooling fan is screwed onto the upper panel from below.

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5. Technical Components in the Oven Area

5.1 Oven door

5.1.1 Exchanging the oven door



Removing the oven door

Open the oven door to its full extent.

Bend the clips of the door hinges upwards.

Grasp the oven door at the sides with both hands and close it slowly. When it is almost half closed the hinges will loosen themselves from their catches. The oven door can now be removed.

Reassembling the oven door

Grasp the oven door at the sides with both hands and insert the hinges into the relevant openings on the oven.

Open the oven door very slowly.

Then bend the clips of the oven door hinges back into place.

Close the oven door.





5.1.2 Oven door with viewing panel, support and handle

Place the oven door onto its side and exchange the oven door handle from below: Unscrew the 2 screws which are aligned parallel to the handle, do not disturb the distance sleeves and the rubber washer

Adopt the reverse procedure during reassembly

Exchange the outer viewing panel of the oven:

Unloosen the 2 screws at the corner strip of the oven viewing panel, then exchange the oven handle (see above). Mount the new viewing panel and <u>align towards the centre</u>. Adopt the reverse procedure during reassembly



Exchanging the inner viewing panel:

Loosen the oven handle and the outer viewing panel, remove the 3 screws from the support of the inner viewing panel and exchange the viewing panel.

Exchanging the oven hinges:

Unloosen the oven handle and the outer viewing panel, remove the 2 screws of the hinge on the oven door frame and pull out the hinge towards the back.



5.2.1 Oven thermostat:

Remove the glass fascia and loosen the gas tap (see instructions). The end of the sensor is inserted through an opening at the right in the rear of the oven. Here are two metal brackets where the end of the sensor must be clipped into place. The sensor wire must not be bent in such a way that sharp ends are produced. Check the oven temperature after exchanging the thermostat.

5.2.2 Oven lighting:

The two oven lamps are located on the left and on the right in staggered heights. The bulb can be accessed by carefully lifting the glass cover. The bulb, which is provided with an E14 screw lampholder, is heat-resistant up to a temperature of 300°C and has an output of 25 watts at a voltage of 230-240 volts. The reflector is detached by pushing it towards the oven and, if necessary, lifting it slightly from below.





5.2.3 Oven thermostat with float rail

Exchanging the oven thermostat: loosen the burner pipe and the thermo-element with an open-jawed spanner. Remove the support on the oven cabinet.



Lift the float rail, unscrew the two M4 screws of the gas tap from below. Remove the gas tap by lifting it upwards. Adopt the reverse procedure during reassembly.

Caution: An O-ring is located in the guides of the device for fastening the gas tap to the tap pipe (shown above). Carry out a leakage test.

5.2.4 Adjusting the oven thermostat and checking the basic load

To check the setting of the basic load the control knob for regulating the oven temperature must be set to position 1. In this position the release needle (1) is pressed into the opening. This closes the operation element, cutting off the gas supply for the main load. Now only the gas supply for the basic load can reach the oven burner. If necessary it can be adjusted later by means of the adjusting screw (2). To check the basic load a steel needle with a diameter of less than 1.6 mm can be used.





5.3 Oven combustion cavity

After you have removed the cover at the base of the oven, you will see the oven combustion cavity where the following components are located:

5.3.1 Spark plug

The spark plus is fastened to the rear left of the burner pipe by means of two nuts. On the spark plug there is a thread by means of which the spark plug can be adjusted to an ideal distance of 4 mm from the burner pipe. The sparking cable is attached.

5.3.2 Thermo-element

For fastening the thermo-element please refer to "Spark plug".

The distance between the top edge of the burner pipe and the lower side of the thermo-element should be 3 mm. The top of the thermo-element should remain set back at a distance of 2 mm from the outer part of the burner pipe. The other end of the thermo-element is screwed onto the oven regulator.

5.3.3 Burner pipe

Unscrew the two screws on the left and on the right. There is another screw which fastens the air valve. After the thermo-element and the spark plug have been removed, the burner pipe can be rotated by 45°C and removed from the combustion cavity.

5.3.4 Air valve

After the burner pipe has been removed, the air valve can be detached from the burner pipe.

5.3.5 Oven jet

After the burner pipe has been removed, the oven jet can be removed by using a socket spanner and then exchanged.

During reassembly the reverse procedure must obviously be adopted. Remember to pay attention to the setting dimensions.





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5.4 Exchanging the jets

Built-in gas oven, exchanging the jets, adjusting the air supply (see appendix)





5.4.1 Exchanging the oven jets and adjusting the air supply

The main oven jet is exchanged inside the oven. See instructions.

In order to exchange the jet in the oven, the following parts must be removed: thermo-sensor, spark plug, oven burner, cabinet covers and the air valve. Then exchange the jet in the nozzle connection and reassemble by adopting the reverse procedure.

Caution: Pay attention to the setting dimensions! Spark plug A, thermo-sensor B, air supply setting C.

The air setting can be adjusted by pushing the air valve backwards and forwards. See table C.





5.5 Hot air fan motor, klixon and mains connection

5.5.1 Hot air fan motor

After unscrewing the four screws, you can remove the air deflector plate from the oven. Behind this is located the ventilation blade, which can be detached from the shaft by loosening the nuts (left-handed thread).

5.5.2 Klixon

Remove the rear panel, loosen the two screws and detach the klixon at the top right.

5.5.3 Mains connection

At the bottom left of the rear panel you will find the mains input terminal. The cover of the connection cavity is opened by using a screwdriver.



6. Trouble shooting guide

6.1 Trouble shooting guide for ring area

Error symptom: No ignition, no ignition spark in ignition area

| | Error | Remedial Measure |
|----|---|--|
| a. | Fine cracks in the ceramic body of the spark plug | Exchange spark plug. |
| b. | Sparking cable is grounded | Exchange the sparking cable. When fitting the sparking cable ensure that it does not come into contact with components that become hot when the appliance is in operation. |
| C. | Connectors loose or grounded | Ensure correct contact in the connectors or remove the grounding by means of better insulation. |
| d. | Interruption in the ignition transformer or defective ignition electronics. Note: The ignition transformer and the ignition electronics are both accommodated in the ignition device. | Exchange ignition device. Note: Check the operation of the ignition switch and exchange if necessary. |
| e. | Contact error in ignition switch | Exchange ignition switch. |
| f. | Faulty operation | Ensure the correct operation of the components. |



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| <i>Leakages</i> Error symptom: Gas escapes at the ring burners when the ring taps are closed. | | | | |
|--|--|--|--|--|
| | | | | |
| The tap cocks and the sealing of the magnet insert permit leakages | Exchange the ring tap. | | | |
| Fror symptom: Gas escapes at the ring burner w been lit. | hen the ring tap is open although the flame has not | | | |
| Error | Remedial Measure | | | |
| a. Leakage in valve disc of the magnet insert | Exchange the magnet insert. | | | |
| b. Valve face at the ring tap permits leakages | Exchange ring tap. | | | |
| Error | Remedial Measure | | | |
| Insufficient or too much distance between the initiating electrode and the burner cover. | Adjust distance. | | | |
| b. Position of the initiating electrode | An ignition spark must be sent to the lower edge of the burner ring or the burner cover. | | | |
| | | | | |
| | Burner cover | | | |
| | Burner cover Burner head | | | |
| Centre of ignition cap | Burner cover Burner head Support plate | | | |



Error symptom: Burner goes out when on low setting

| Error | Remedial Measure |
|--|---|
| a. Flame too low at this setting | Clean the connecting bore between the tap cock and the bypass jet. Clean the bypass jet. Set the bypass jet to nozzle clearance distance. |
| b. Thermo-element insufficiently heated | Correct the position of the thermo-element. |
| c. Oven door has been closed too quickly | Close the oven door gently (advice to customers). |

Appearance of Flame

Error symptom: Flame soars under nominal load

| Error | Remedial Measure | | |
|--------------------------|---|--|--|
| Gas consumption too high | Check the gas flow using the following formula | | |
| | set value = $\frac{\text{burner load}}{\text{Hu}_{B}} \times 16.7 = \frac{1}{\text{min}}$ | | |





6.2 Trouble shooting guide for oven area **Remedial Measure** Error Nut fastening thermo-element to oven Tighten nut regulator loose. Contact error at connection between thermo-Clean contact surfaces, ensure that they are in element and magnet insert. the correct position. If there is a double connection ensure that the contact plate does not tilt. Tighten both thermo-elements to the same extent. Magnet insert in oven regulator does not Change magnet insert. generate magnetic field. Shaft of oven regulator cannot be pressed in Adjust operation fascia. sufficiently. Knob collides with operation fascia. Error symptom: Odours produced after ignition Error **Remedial Measure** Excess load on oven burner Calculate nominal load and adjust oven burner accordingly. Error symptom: Odours produced on initial operation **Remedial Measure** Error Oven insulation not sufficiently evaporated Heat the empty oven for approx. 1 hour. Error symptom: Flame burns at nozzle connection **Remedial Measure** Error Leakage at nozzle connection Repair leakage



6.3 Complaints concerning the performance of gas built-in ovens

On receiving the complaint "over-browning at the back of the oven" the following checks must be carried out:

Is the built-in oven installed on an even surface?

Check the dimensions of the worktop opening, in particular the distance between the front edge of the cabinet and the front of the worktop opening.

Check the position of the air exit plate to ensure that it fits properly into the opening of the rear wall of the oven.

Is there a fault in the exhaust passage?

Cooling fan broken down or perhaps blocked after long hours in operation.

Exhaust channel not fitted or fitted incorrectly.

Exhaust exit covered over.

Exhaust passage between oven and exhaust opening blocked.

Check function of oven burner to ensure perfect operation.

Note: A visual check is possible through the glass pane.

Check the air setting by removing the oven door.

Put the burner into operation.

Close the air valve tightly.

Using the adjusting screw, open the air valve until the flame burns properly, but not as strongly as is the case with the ring burners.

Note: Around the burner pipe some flames may flicker or go out.

Measuring the temperature:

Fasten the thermo-element of the temperature measuring device in the geometric centre of the oven next to the roasting rack.

First measure the temperature in hot air operation, then in conventional operation, setting the oven to position no.3 in each case.

If necessary, recalibrate by referring to appendix 8.





