



Combined Steam Ovens

EEBD 6600.0 EDG 6600.0 EKDG 6800.0

EDG 6600.1 EKDG 6800.1

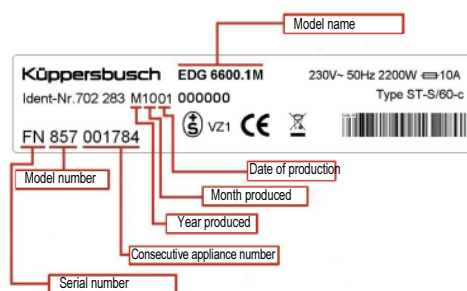
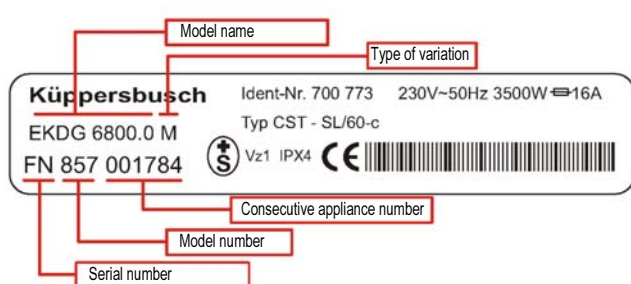
EKDG 6800.2

EKDG 6800.0-75

Service Manual: H3-72-01

Model	Type
EEDB 6600.0	858
EKDG 6800.0	856
EKDG 6800.0-75	875
EKDG 6800.1	699
EKDG 6800.2	687
EDG 6600.0	855
EDG 6600.1	698

Sample of a model identification plate (until 06/2007) model identification plate (from 06/2007)



The model identification plate is visible on the left-hand side of the frame when the flap is opened



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1. Safety



Danger!

Repairs may only be carried out by a qualified electrician! Inexpert repairs may lead to risks and damages for the user!

To prevent electric shocks, please observe the following tips:

- In the event of faults, housing and frame may be live!
- Touching live components inside the appliance may cause dangerous currents to flow through your body!
- Prior to repairs, disconnect the appliance from the mains!
- When inspecting live parts, a residual current operated device must be used at all times!
- The ground wire resistance must not exceed that specified in the standard! It is of vital importance for ensuring the safety of people 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 the corresponding regulations for your country!
- On completion of repairs, a function and impermeability inspection must be carried out.



Caution!

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. General

Depressurised steam cooking involves cooking food with a combination of steam and hot air. Gentle steam cooking at temperatures of between 40 °C – 100 °C optimally preserves vitamins and minerals as well as maintaining colours and natural aromas. Food does not dry out and nor will it burn or stick.

Since only a relatively small amount of water needs to be heated, steam cooking means that a great deal of time and energy can be saved.

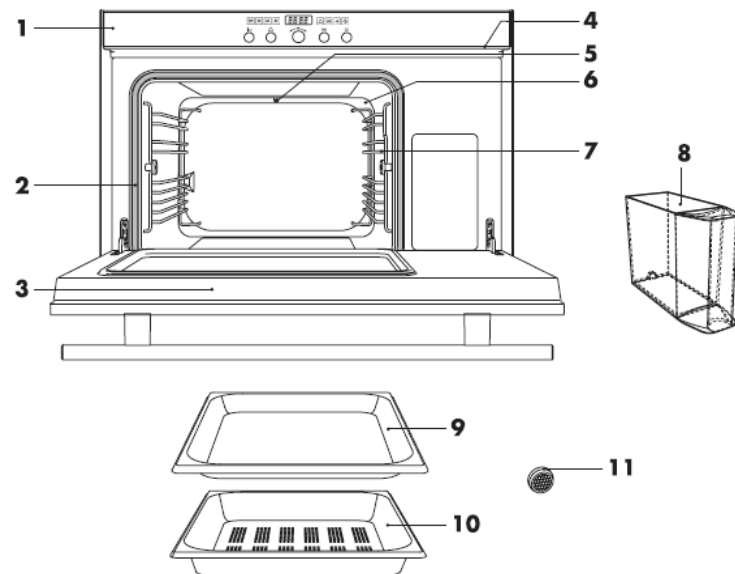
Depressurised steam cooking takes place at temperatures of between 40 °C and 100 °C, thus making it easy to cook food just as it is required. The climatic sensor steams the food in just the right conditions, irrespective of the quantity of food being cooked. Instead of being destroyed, vitamins and minerals are largely preserved. Flavour, colour and consistency are maintained – food does not lose its structure. There is therefore almost no need to add salt and spices.

To sum up: cooking with steam makes conscious, healthy eating possible without any extra effort. The steam cooker provides excellent possibilities in combination with the ökotherm® cooker or oven.

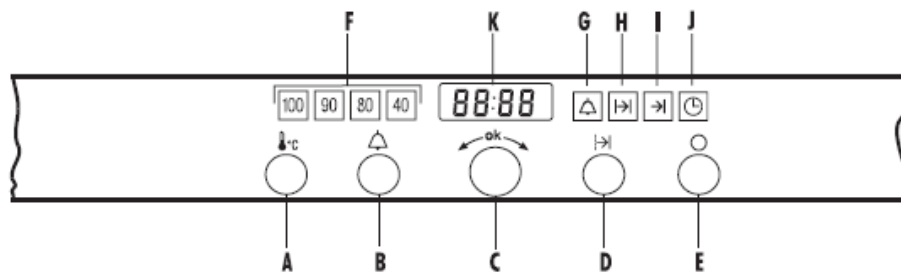
It is particularly when meat is being cooked that the oven becomes dirty due to squirting juices. Dirt which has become dried can be removed more easily if the cooker, prior to cleaning, is operated with the “steam” cooking mode at a temperature of 100 °C for approximately 30 minutes, thus softening any soiling. After being used for some time the oven will take on a golden colour.

3. Appliance overview

3.1 EDG 6600.1



- | | | | |
|---|------------------------------|----|-----------------------------|
| 1 | Control and display elements | 7 | Supporting grid |
| 2 | Oven temperature sensor | 8 | Water tank |
| 3 | Door seal | 9 | Stainless steel baking tray |
| 4 | Appliance door | 10 | Perforated cooking pan |
| 5 | Air vent slit | 11 | Water filter (3 filters) |
| 6 | Steam inlet | | |



3.1.1 Control elements

- | | |
|---|------------------------------------|
| A | Operating mode |
| B | Timer |
| C | Adjusting knob |
| D | Operating time and switch-off time |
| E | Switching off |

Displays

- | | |
|---|------------------------------|
| K | Time, cooking time and timer |
|---|------------------------------|

3.1.2 Technical data

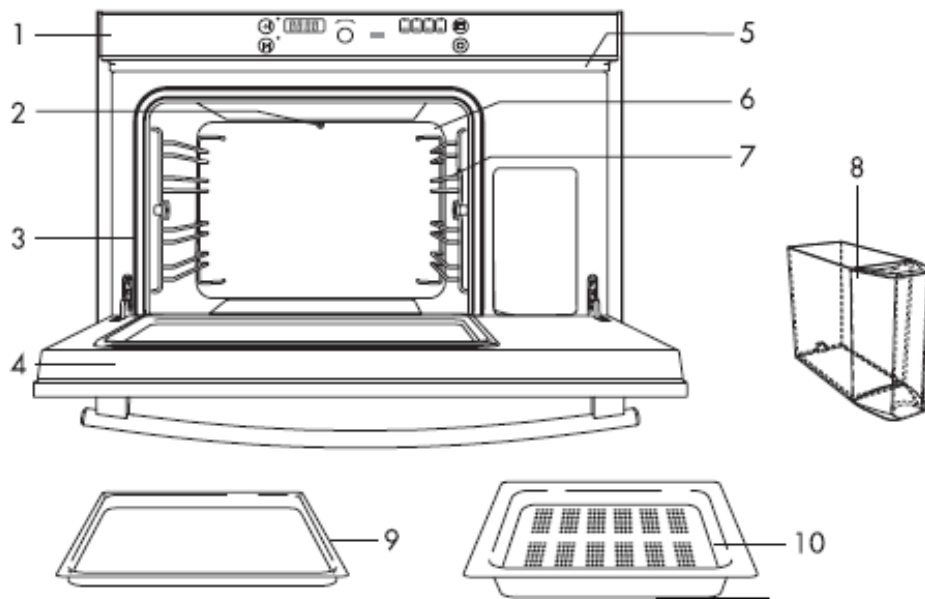
	Appliance dimensions	Oven dimensions	Niche dimensions
Height	37,8 cm	25,0 cm	38,0 cm
Width	54,8 cm	35,9 cm	at least 58,0 cm
Depth	55,1 cm	39,0 cm	at least 55,0 cm
Weight		47 kg	
Electrical connection			
Connection voltage		230V ~50 Hz	
Power		Connected wattage 2,2 kW	
Electrical voltage		10 A	
Heating power			
Steam generator		2,0 kW	
Floor heater		0,15 kW	

Safety concept

The appliance will be monitored by the electronic control system for as long as it is supplied with power. Any faults which occur will be shown in the clear text display.

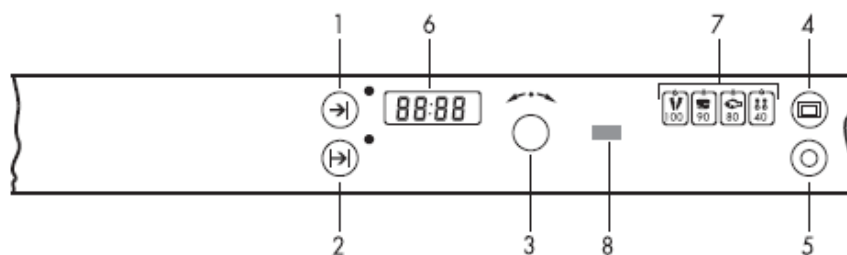
Maximum load: 2 kg

3.2 EDG 6600.0



- | | | | |
|---|------------------------------|----|-----------------------------|
| 1 | Control and display elements | 6 | Steam inlet |
| 2 | Oven temperature sensor | 7 | Supporting grid |
| 3 | Door seal | 8 | Water tank |
| 4 | Appliance door | 9 | Stainless steel baking tray |
| 5 | Air vent slit | 10 | Perforated cooking pan |

3.2.1 Control elements



Buttons / adjusting elements

- | | | |
|---|-----------------|----------------------|
| 1 | Switch-off time | with a control light |
| 2 | Operating time | with a control lamp |
| 3 | Knob | |
| 4 | Operating mode | with a control light |
| 5 | Switching off | with a control light |

Displays

- | | |
|---|--|
| 6 | Time / Remaining time / Operating time / Switch-off time |
| 7 | Operating mode |

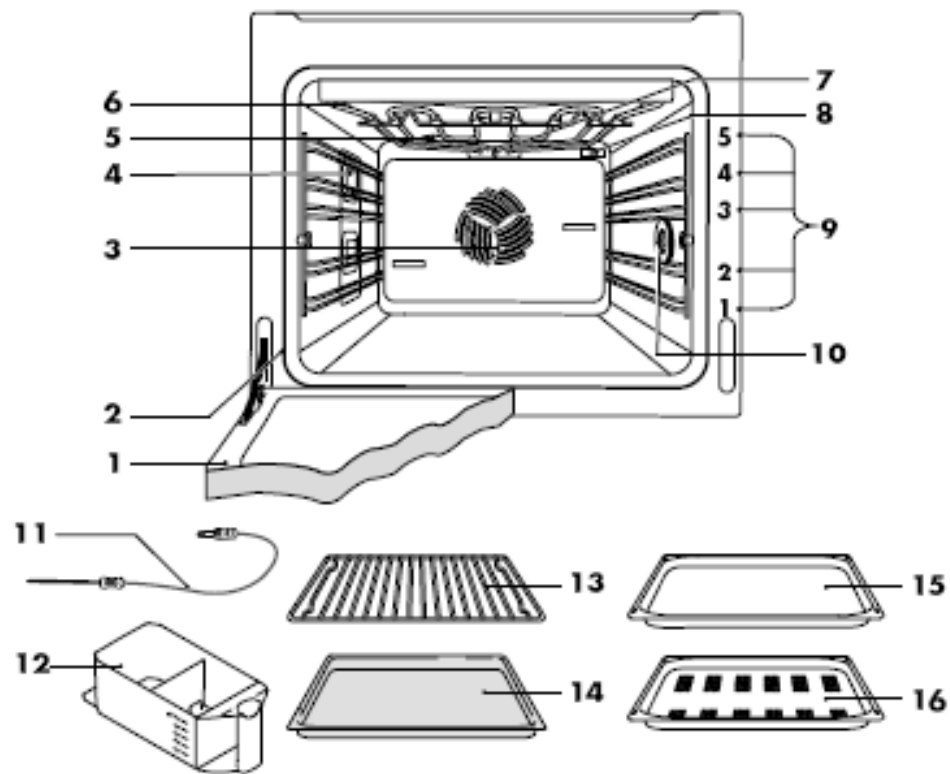
3.2.2 Technical data

	Appliance dimensions	Oven dimensions	Niche dimensions
Height	37.8 cm	25.0 cm	38.0 cm
Width	54.8 cm	35.9 cm	at least 58.0 cm
Depth	55.1 cm	39.0 cm	at least 55.0 cm
Weight		47 kg	
Maximum load		2kg	
Electrical connection			
Connection voltage		230V ~50 Hz	
Power		Connected wattage 2.2 kW	
Electrical voltage		10 A	
Heating power			
Steam generator		2.0 kW	
Floor heater		0.15 kW	

Safety concept

The appliance will be monitored by the electronic control system for as long as it is supplied with power. Any faults which occur will be shown in the clear text display.

3.3 EEBD 6600.0

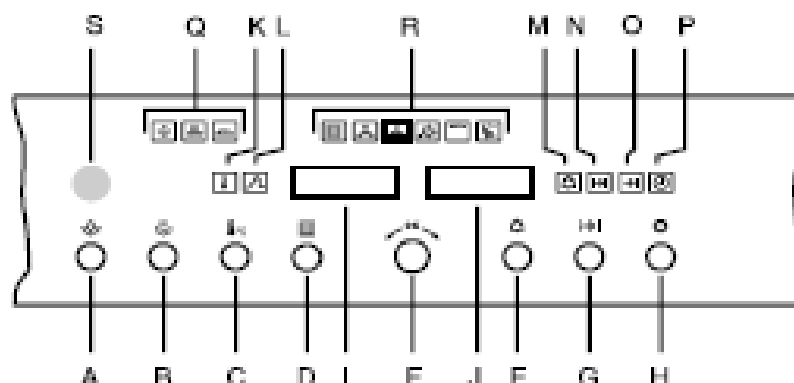


- | | | | |
|---|-------------------------|----|---------------------------|
| 1 | Appliance door | 6 | Grill/top heat |
| 2 | Door seal | 7 | Oven temperature sensor |
| 3 | Hot air blower | 8 | Steam inlet |
| 4 | Illumination | 9 | Supports |
| 5 | Oven ventilating system | 10 | Socket for the food probe |

Accessories

- 11 Food probe
- 12 Water tank
- 13 Roasting grid
- 14 Original baking tray
- 15 Stainless steel baking tray
- 16 Perforated cooking pan

3.3.1 Control elements



Buttons / adjusting elements

- A Illumination
- B Operating mode using steam
- C Oven/food probe temperature
- D Operating mode without any steam
- E Adjusting knob
- F Timer
- G Operating time / Switch-off time
- H Switching off

Displays

- I Temperature
- J Time / cooking time and timer

Symbols

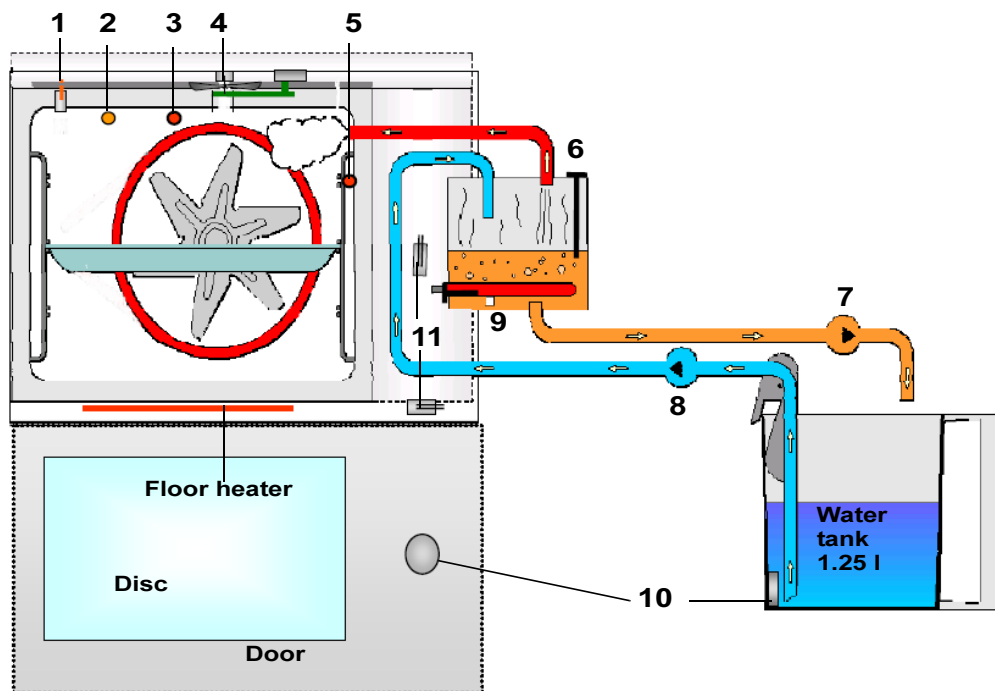
- K Oven temperature
- L Food probe temperature
- M Timer
- N Operating time
- O Switch-off time
- P Time
- Q Operating mode using steam
- R Operating mode without any steam
- S Draught eye

General information on operation

Select the various operating modes, the oven temperature and the core temperature as well as the duration and various other functions by pressing the respective key once or more often.

- The symbol for the function selected will light up or blink.
- A proposal will blink in the display.
- Turning knob E will adjust the proposed setting.
- The appliance will start up immediately when knob E is pressed. If the knob is not pressed the appliance will start up approx. 15 seconds after the last setting was made. Settings can be made or adjusted at any time.
- The appliance will switch off when key H is pressed.
- Settings can be made with the knob after the button for the respective mode of operation has been pressed.
- Once the button has been pressed settings can be changed for a short time.

3.3.2 Appliance structure



- | | |
|---|--|
| 1 Air temp. NTC 25°C/10kΩ | 7 Water pump empty water below 80°C |
| 2 Protection against excessive temperatures
Oven 135°C | 8 Water pump suction |
| 3 Temp. oven PT 500 PTC 25°C/550kΩ | 9 Condenser water temperature
NTC 25°C/10kΩ |
| 4 Inlet air | 10 Ignition solenoid |
| 5 Food sensor | 11 Reed switch |
| 6 Condenser water conductance | |

3.3.3 Technical data

	Appliance dimensions	Oven dimensions	Niche dimensions
Height	59.8 cm		60.0 cm
Width	59.6 cm		56.0 cm
Depth	56.7 cm		at least 55.0 cm
Weight		47 kg	
Oven		50 l	
Water tank, removable		approx. 1.25 l	

Heating power

Hot air heater:	2.2 kW
Steam generator	1.4 kW
Floor heater	-
Top heat	1.2 kW
Bottom heat	1.25 kW
Grill	2.5 kW
Total output	3.7 kW

Electric supply

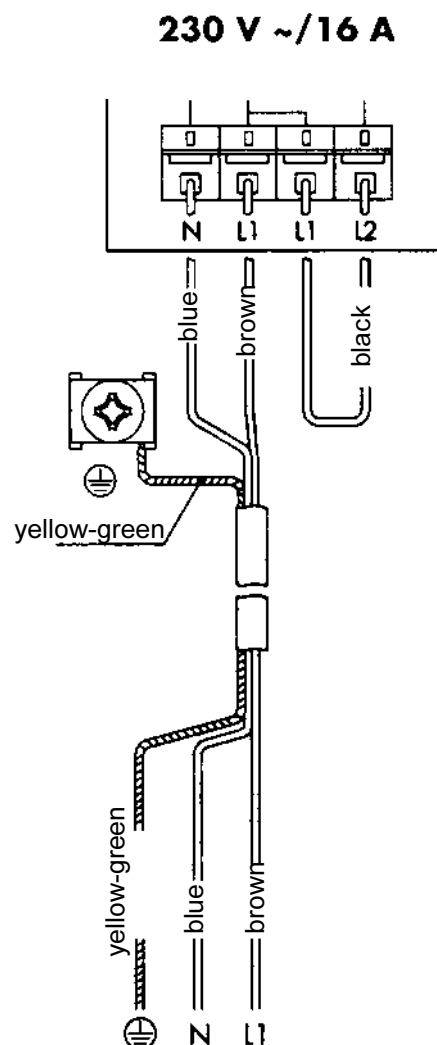
Connection voltage	230 V ~50 Hz or 400 V 2N ~50 Hz
Connected load	3.5 kW (230 V) / 2.2 kW
Output	Connected load 3.5 kW / 2.2 kW
Voltage	16 A (230 V) or 10 A (400 V)

Electric connection 230~/16 A with a single phase socket system (see illustration)

Due to the mains cable of 3.5 kW the appliance will need to be protected by a 16 A fuse. The appliance must be wiring as shown on the illustration.

New electronic system features

- Completely new computer component (not compatible with 756/EKDG 6800.0)
- No power monitor circuit (suitability for export)
- Brightness of the clock display improved
- No longer any phase for the exhaust fan (only relay)
- The boiler heater is activated by a relay instead of with a triac
- Completely new operating element (not compatible with 756/EKDG 6800.0)
- Completely new operating element and text display (not compatible with 756/EKDG 6800.0)
- New rotary encoder with a button (more stable and better)



Technical features

- Clear text display with a program indicator
- Climatic sensor
- Limestone sensor
- Permanent control of oven humidity
- External steam generator
- Electronic temperature control and display
- Electronic timer with programmable time of day, cooking time and end of cooking time
- Minute minder
- Roast thermometer with temperature programming and display
- Green displays
- Guide rack and oven door removable
- Oven lighting

Properties

Depressurised steam	40°C - 100°C
Hot air	30°C - 230°C
Regeneration	100°C - 130°C
Baking like professionals	100°C - 230°C
Hot air with steam vapours	30°C - 230°C
No water connection required	
Water tank for approx. 2 hours of uninterrupted steam operation at 100°C.	

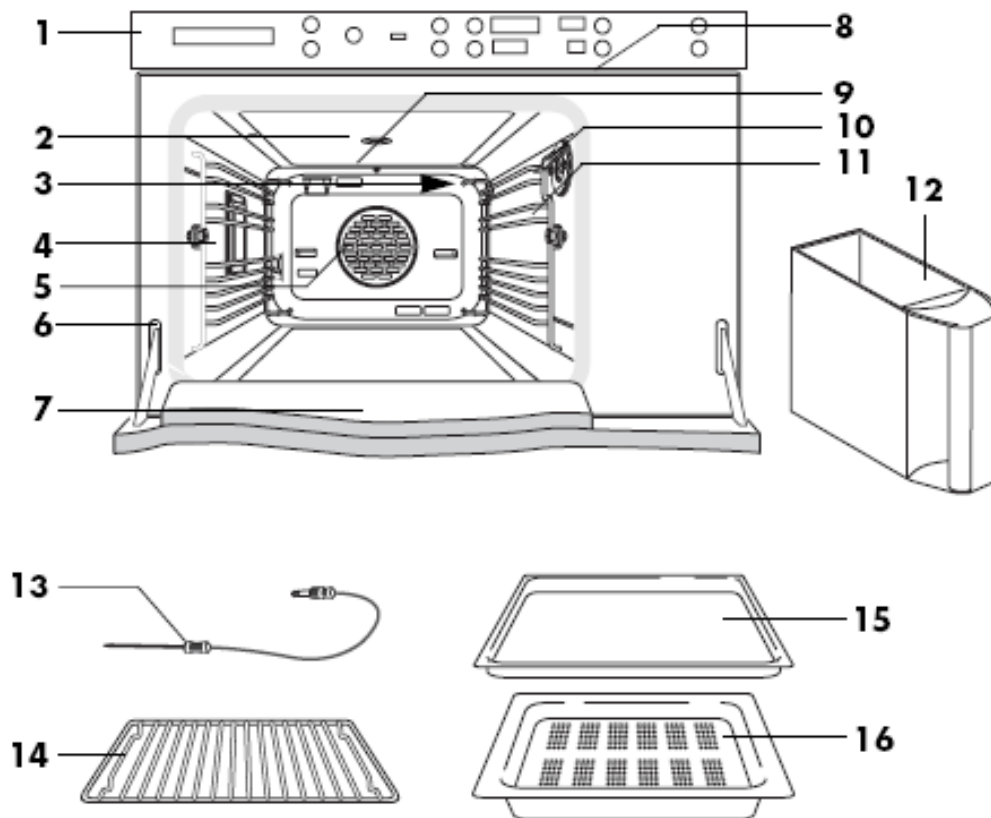
Safety concept

The appliance will be monitored by the electronic control system for as long as it is supplied with power. Any faults which occur will be shown in the clear text display.

Reference messages

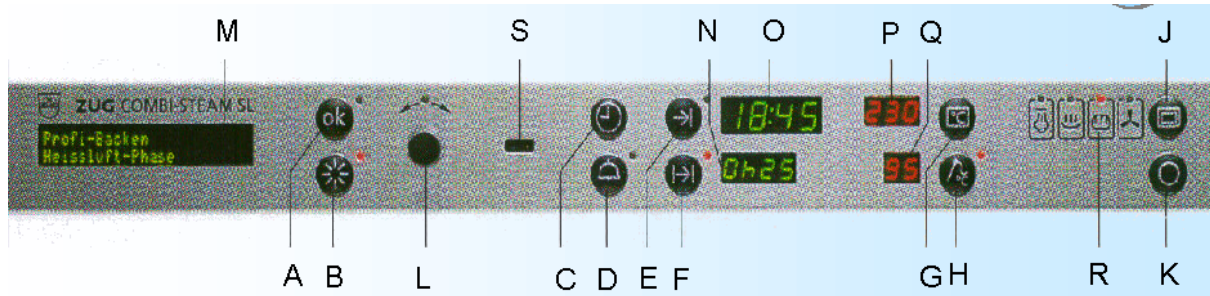
- Reference messages generally do **not** indicate that the appliance has a defect; they require that the user of the appliance carry out an activity. A process that is in operation should only be interrupted if this is essential. Reference messages are shown with a corresponding text on the display.

3.4 EKDG 6800.0



- | | | | |
|---|------------------------------|----|--|
| 1 | Control and display elements | 9 | Oven temperature sensor |
| 2 | Oven ventilating system | 10 | Female connector for the roast thermometer |
| 3 | Steam inlet | 11 | Rack levels |
| 4 | Illumination | 12 | Water tank |
| 5 | Hot air blower | 13 | Roast thermometer |
| 6 | Door seal | 14 | Roasting grid (2 grids) |
| 7 | Appliance door | 15 | Original baking tray made of stainless steel |
| 8 | Air vent slit | 16 | Perforated cooking pan |

3.4.1 Control elements



Buttons

A	ok	with a control light
B	Illumination	with a control light
C	Time	
D	Timer	with a control light
E	Switch-off time	with a control light
F	Operating time	with a control light
G	Oven temperature	
H	Food probe temperature	with a control light
J	Operating mode	
K	Switching off	
L	Adjusting knob	with a control light

Displays

M	Clear text display	
N	Operating time / Timer	
O	Time / Switch-off time	
P	Oven display	
Q	Food probe temperature	
R	Operating mode symbol	
S	Draught eye	

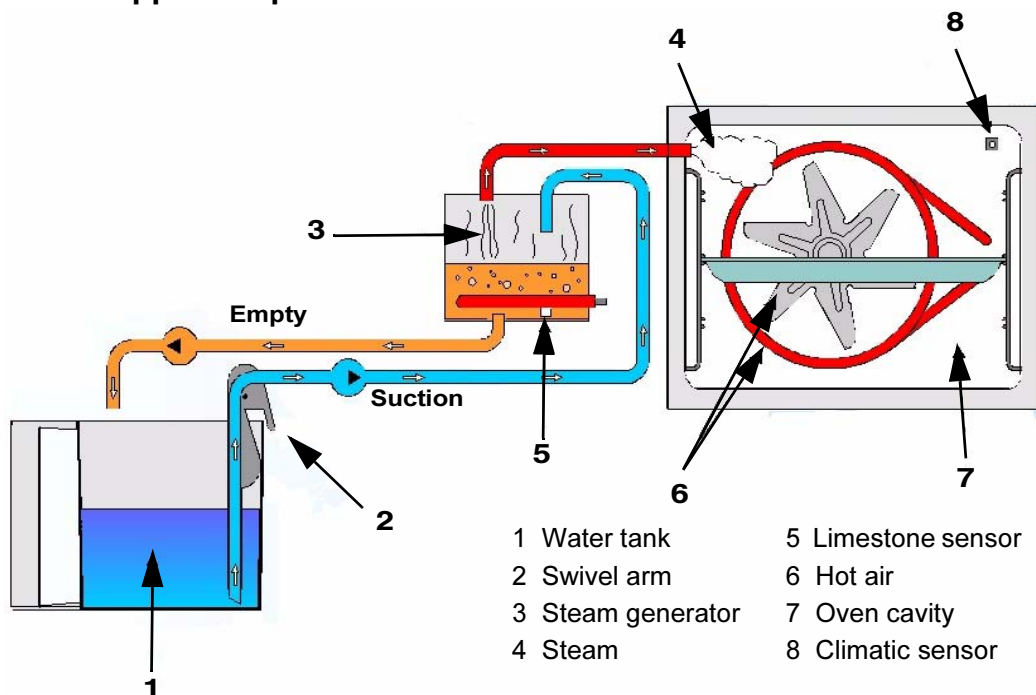
General information on operation

Settings can be made with the knob after the button for the respective mode of operation has been pressed.

Once the button has been pressed settings can be changed for a short time.

The selected mode can also be started up immediately with the button if you do not wish to wait until the setting time has lapsed after making the previous setting.

3.4.2 Appliance parts



3.4.3 Technical data

	Appliance dimensions	Oven dimensions	Niche dimensions
Height	37.8 cm	25.0 cm	38.0 cm
Width	59.6 cm	35.9 cm	at least 58.0 cm
Depth	56.7 cm	39.0 cm	at least 55.0 cm
Weight		35 kg	
Maximum load		2kg	
Electrical connection			
Connection voltage		230V ~50 Hz	
Power		Connected wattage 3.5 kW	
Electrical voltage		16 A	
Heating power			
Hot air power		2.2 kW	
Steam generator		1.2 kW	
Floor heater		0.14 kW	

Safety concept

The appliance will be monitored by the electronic control system for as long as it is supplied with power. Any faults which occur will be shown in the clear text display.

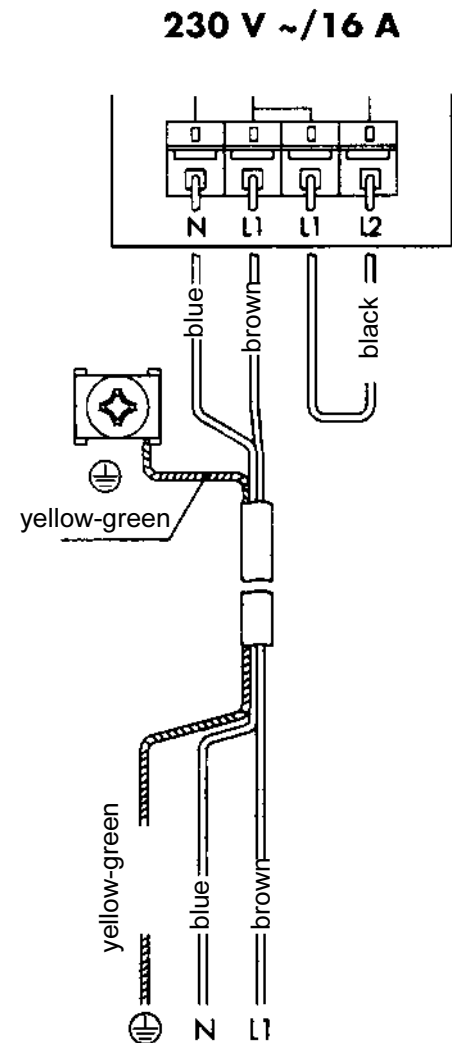
For EKDG 6800.0-75

Electric connection 230~/16 A with a single phase socket system (see illustration).

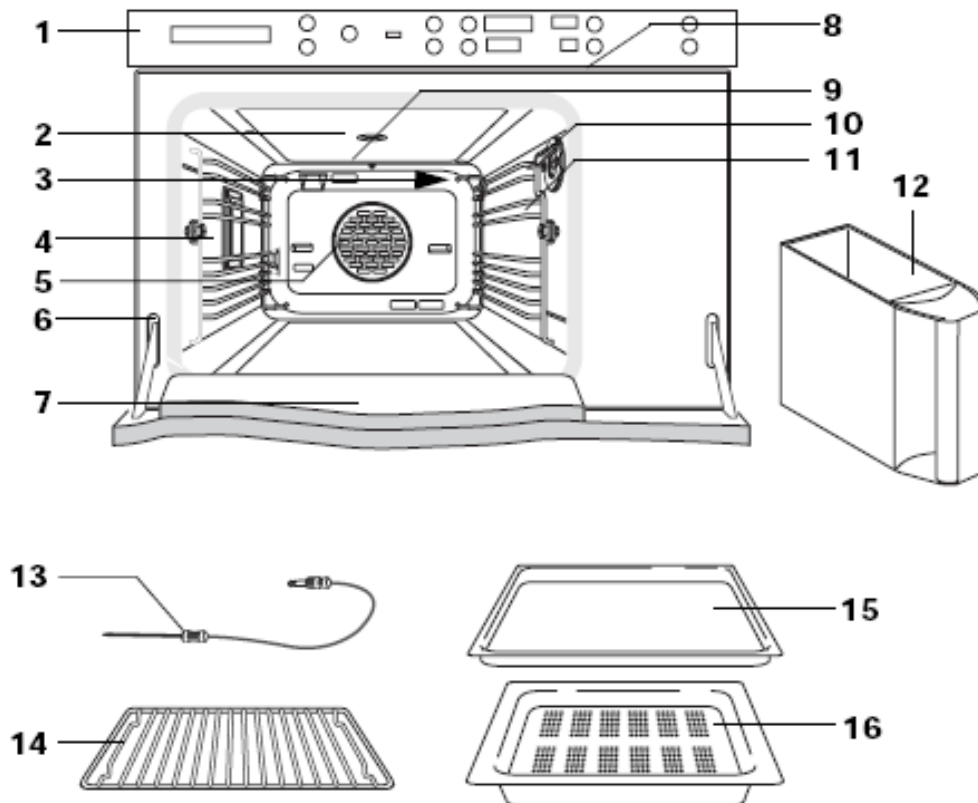
Due to the mains cable of 3.5 kW the appliance will need to be protected by a 16 A fuse. The appliance must be wired as shown on the illustration.

New electronic system features

- Completely new computer component (not compatible with 756/EKDG 6800.0)
- No power monitor circuit (suitability for export)
- Brightness of the clock display improved
- No longer any phase for the exhaust fan (only relay)
- The boiler heater is activated by a relay instead of with a triac
- Completely new operating element (not compatible with 756/EKDG 6800.0)
- Completely new operating element and text display (not compatible with 756/EKDG 6800.0)
- New rotary encoder with a button (more stable and better)

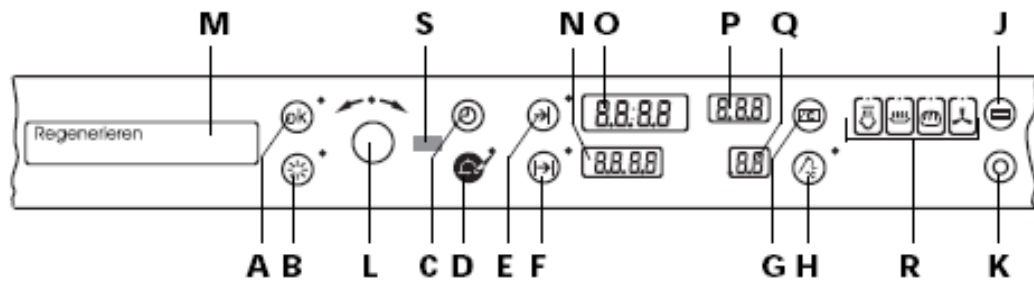


3.5 EKDG 6800.1 / EKDG 6800.2



- | | | | |
|---|------------------------------|----|--|
| 1 | Control and display elements | 9 | Steam inlet |
| 2 | Oven ventilating system | 10 | Female connector for the roast thermometer |
| 3 | Illumination | 11 | Supporting grids |
| 4 | Hot air blower | 12 | Water tank |
| 5 | Door seal | 13 | Food probe |
| 6 | Appliance door | 14 | Roasting grid (2 grids) |
| 7 | Air vent slit | 15 | Stainless steel baking tray |
| 8 | Oven temperature sensor | 16 | Perforated cooking pan |
| | | 17 | Water filters (3 filters) |

3.5.1 Control elements



Buttons / adjusting elements

- A Illumination
- B Oven/food probe temperature
- C Operating mode
- D Adjusting knob
- E Timer
- F Operating time / Switch-off time
- G Switching off

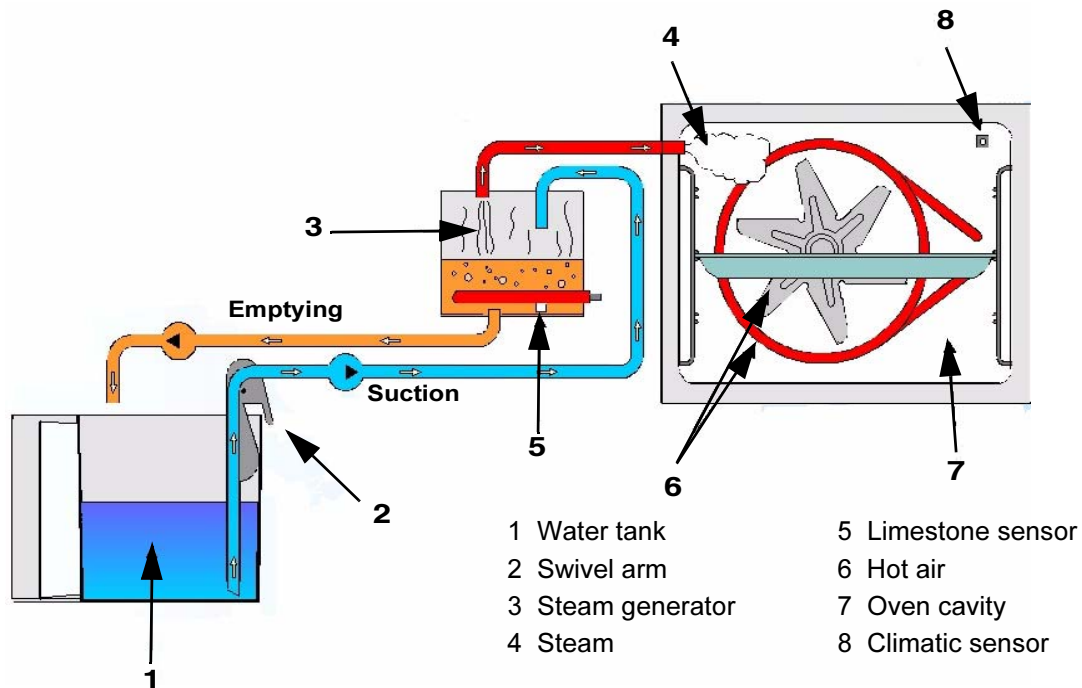
Displays

- O Clear text display
- P Temperature
- Q Time / cooking time and timer
- R Draught eye

Symbols

- H Oven temperature
- I Food probe temperature
- J Operating mode
- K Timer
- L Operating time
- M Switch-off time
- N Time

3.5.2 Appliance parts



3.5.3 Technical data

	Appliance dimensions	Oven dimensions	Niche dimensions
Height	37.8 cm	25.0 cm	38.0 cm
Width	59.6 cm	35.9 cm	58.0 cm min.
Depth	55.1 cm	39.0 cm	55.0 cm min.
Weight		47 kg	
Maximum load		2 kg	
Electrical connection			
Connection voltage		230V-240V ~50 Hz	
Power		Connected wattage 3,5 kW	
Electrical voltage		16A	
Heating power			
Hot air power		1.9 kW	
Steam generator		1.4 kW	
Floor heater		0.14 kW	

Safety concept

The appliance will be monitored by the electronic control system for as long as it is supplied with power. Any faults which occur will be shown in the clear text display.

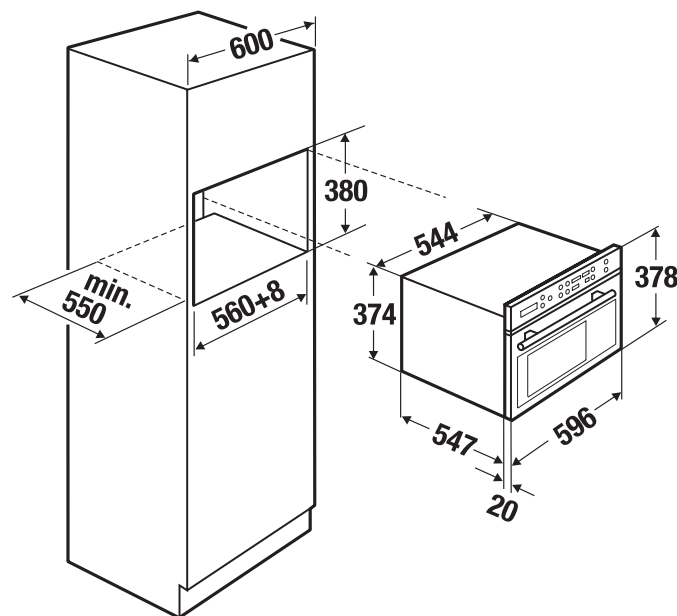
4. Installation

4.1 Safety instructions for technicians

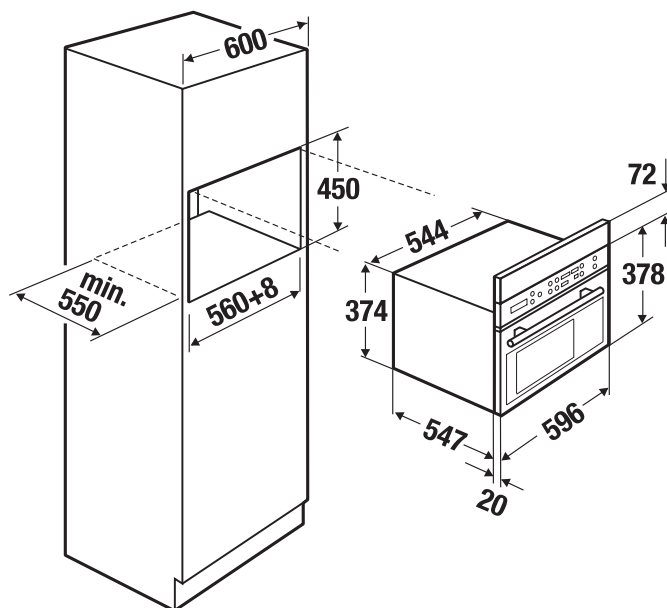
- Local electricity suppliers' statutory regulations and conditions for connection are to be fully observed.
- The appliance must be disconnected on being connected, on carrying out repairs and when changing a bulb. Disconnect the shock-proof plug or switch off the safety fuse.
- Full protection against accidental contact must be guaranteed on instalment.
- The appliance is ready to be plugged in and may only be connected to a shockproof socket which has been installed according to specifications. Plug installation, the exchanging of terminal wires and zero conductors or replacement of the connecting wire may only be carried out by a qualified electrician under observance of the relevant regulations.
- Should the plug not be accessible subsequent to installation, a universal disconnection device with a contact clearance of at least 3 mm must be available at the installation point in order to fulfil relevant safety regulations.
- The built-in cupboard for the combi-steam cooker must be heat resistant up to 100 °C. This applies in particular to veneers, overlapping edge bands, plastic surfaces, adhesives and varnishes. Adjacent kitchen unit front panels must be heat resistant up to at least 70 °C.
- It is essential to instal the appliance horizontally on a board which is level and stable. The board may not bend.
- Should the kitchen unit not be attached to the wall it must be screwed on with a standard commercial angle.

4.2 Installation EDG / EKDG

4.2.1 in a suitable niche



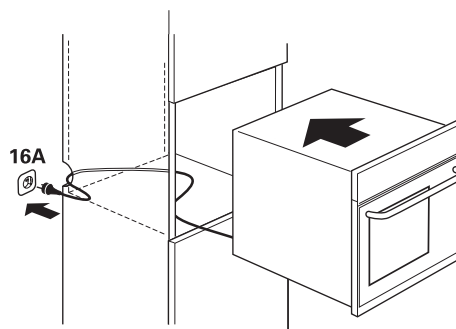
in a standard niche (with a levelling panel, ZUB. 736 (in preparation))



4.2.2 in kitchen units

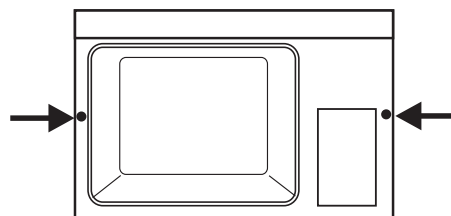
Installing the appliance

- Put the plug into the socket.
- If “U2” is indicated on the display, the plug must be turned. Should this not be possible, a qualified electrician must exchange the zero conductor and the terminal wire in the socket.
- Push the appliance right into the unit niche. On doing so, make sure that the appliance connection is not squeezed!



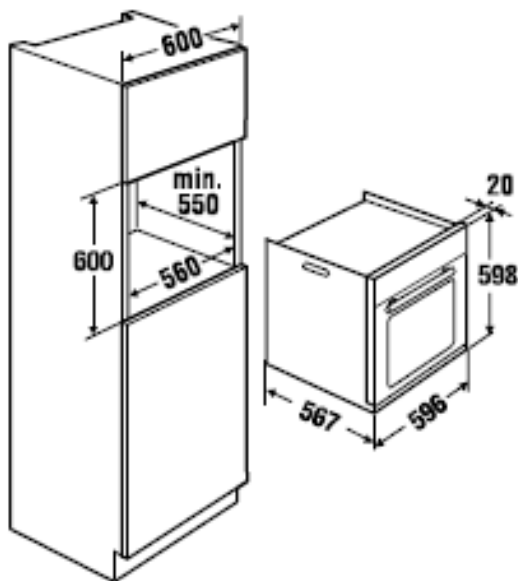
Attaching the appliance

- Open the oven door and screw the appliance to the kitchen unit with the screws supplied – screw them in at an angle – from the inside to the outside.

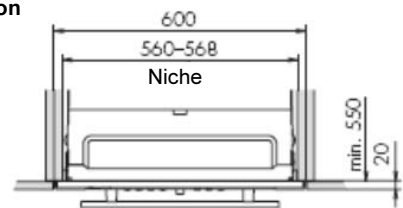


4.3 Installation **EEBD 6600.0**

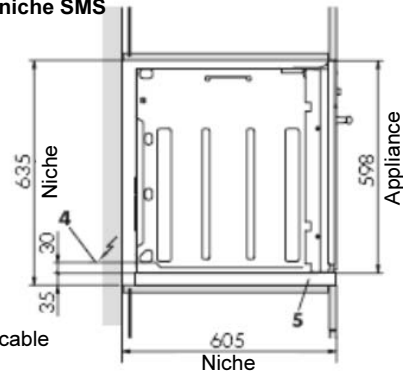
4.3.1 in a suitable niche



Fitted installation



Installation 5/6 niche SMS

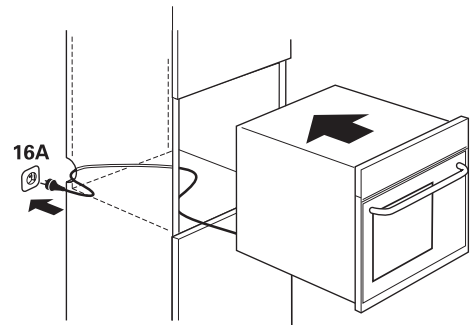


4 Electric connection cable
5 Adapter frame

4.3.2 in kitchen units

Installing the appliance

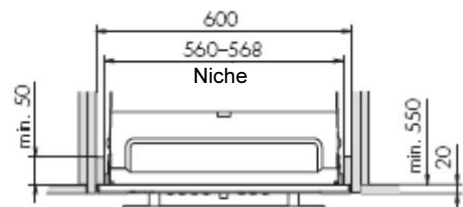
- Put the plug into the socket.
- If "U2" is indicated on the display, the plug must be turned. Should this not be possible, a qualified electrician must exchange the zero conductor and the terminal wire in the socket.
- Push the appliance right into the unit niche. On doing so, make sure that the appliance connection is not squeezed!



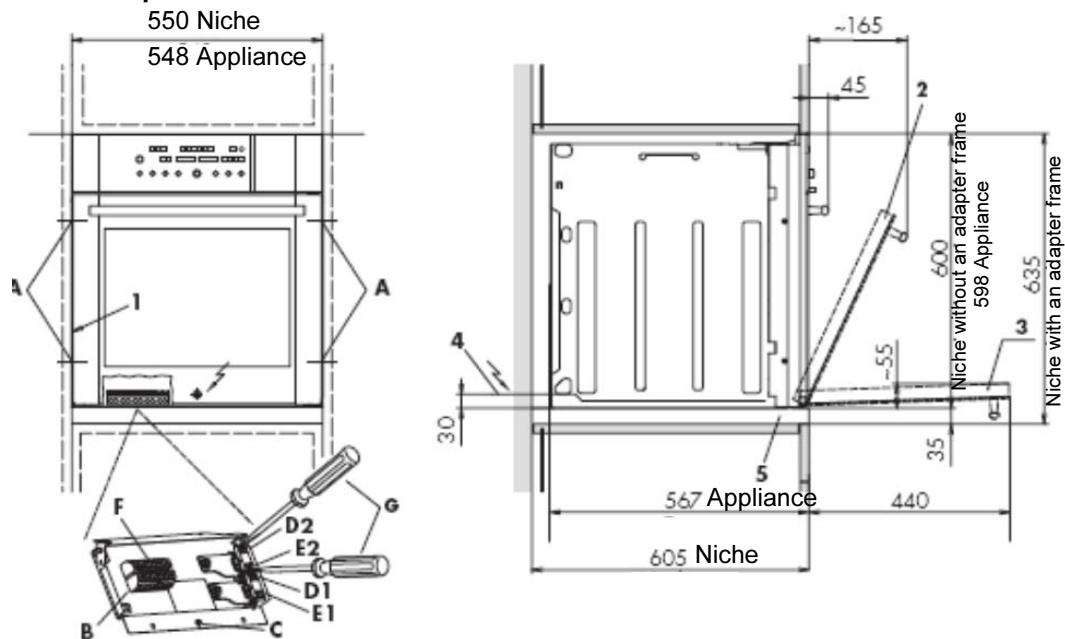
Attaching the appliance

- Open the oven door and screw the appliance to the kitchen unit with the screws supplied – screw them in at an angle – from the inside to the outside.

Sunken installation



Open the snap fastener of the strain relief with a screwdriver.



1 Model identification plate

2 Exhaust air position

3 Appliance door open

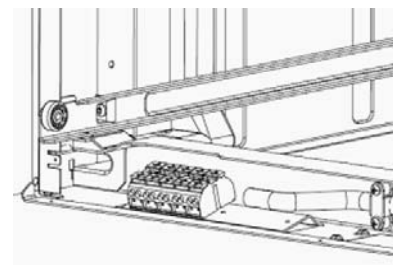
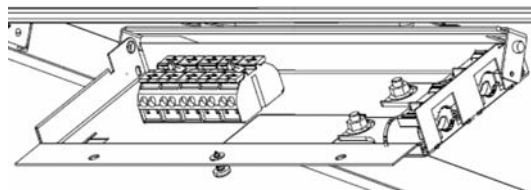
4 Electric connection cable

5 Adapter frame

1. Push the appliance up to approx. 19 cm into the niche. Caution! Risk of tipping over!
2. Open the terminal box with the screw and swing it down.
3. Pull the connection cable from where it protrudes from the wall through hole **D1**. Ensure strain relief by fastening the snap fastener. Connect to the terminal in accordance with connection regulations.
4. Swing up the terminal box again and fasten with the screw.
5. Push the appliance into the niche until the front is flush and fasten it on the sides with the four chip boards enclosed.

4.3.3 in a bottom unit

Connection direct to the appliance (pat. pend.)



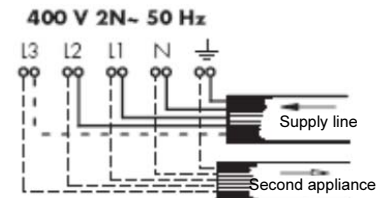
4.3.4 Combined connection



Important!

When connecting a second appliance (e.g. a cooking zone) the electrical supply line must be dimensioned accordingly and protected by fuse. Observe installation norm DIN!

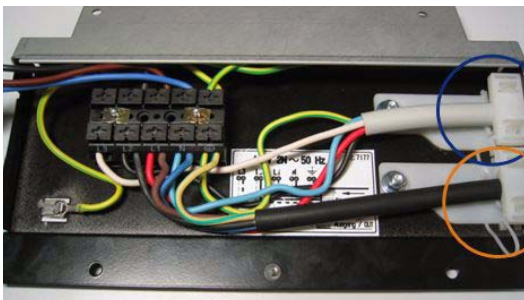
When connecting a second appliance the connection cable of this appliance must be guided separately into the opening **D2** and must be secured with strain relief **E2**. The connection cable of the second appliance must be guided direct along the rear wall of the niche and then to the combined connection (excessive cable lengths may not be laid between the appliances).



Version 6/6 appliance



Version: short appliance



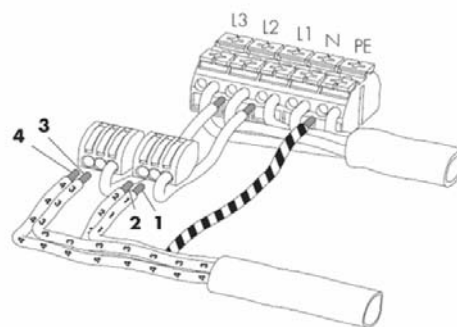
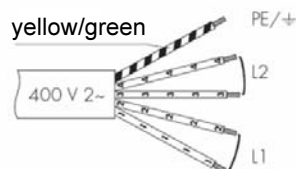
Separate duct and separate strain relief at the front

Mains connection cable

Connection cable for the second appliance

Electric connections

400 V 2~



Error messages

Power supply faults are shown as follows

U1 PE mains connection faulty

U2 N mains connection faulty

U3 L1 mains connection faulty

U4 L2 mains connection faulty

U5 L2 mains connection faulty (L1 and L2 identical)

5. EDG / EKDG appliance components

5.1 Limestone sensor

Limestone sensor and heat protection NTC 25°C/10 kW



Heater installed



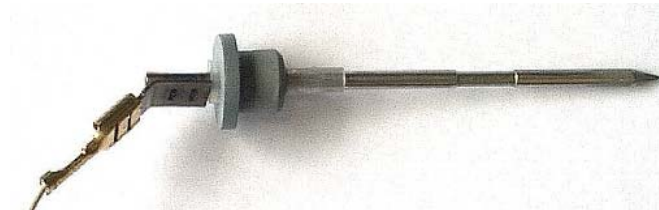
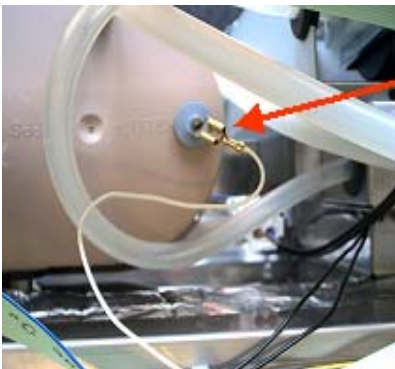
Heater with limestone



Heater dismantled

The amount of scaling is determined as two measured variables, namely the temperature of the heating spiral and the conductance of the level sensor. Scaling on the tubular heating element of the evaporator increases the readings taken on the heating spiral temperature sensor. Scaling is tolerated up to a maximum degree with some difference above the boiling temperature of the water. Until the clear text display gives an indication the permissible maximum degree of scaling must have been exceeded for some time (5 times or approx. 200 operating hours).

5.2 Level sensor (point gauge)



Scaling, initially primarily at the top of the level sensor, lowers the gauged conductance level of the water. Scaling is tolerated up to a maximum degree of conductance. Until the clear text display gives an indication, the permissible maximum degree of scaling must have been exceeded for some time (5 times or approx. 200 operating hours).

If one of the measured variables exceeds the maximum permissible reading, the clear text display will indicate "descale".

Once the indication has appeared the appliance can continue to operate with steam. However, the effect of the evaporator is minimized when scaling increases.

Since soft water or a domestic descaling device may result in the limestone sensor not actuating, after a certain number of hours of operation and for reasons of hygiene the clear text display will require the user to descale the system.

In order to be able to recognise the water level in the evaporator by means of the level sensor, the average result of 80 readings during a period of 2 sec. (software) is deducted.

5.3 Water system



Water tank, 1.25 litres

Ignition solenoid



5.3.1 Water inlet

If, during a certain period, no water is recognised in the evaporator on filling, the supply of water is discontinued and the clear text display will indicate “Fill up with water”. The following may be the cause of a faulty water supply:

- no water or too little water in the water tank
- a faulty supply pump or hoses which are kinked or defect
- a defect or scaled level sensor

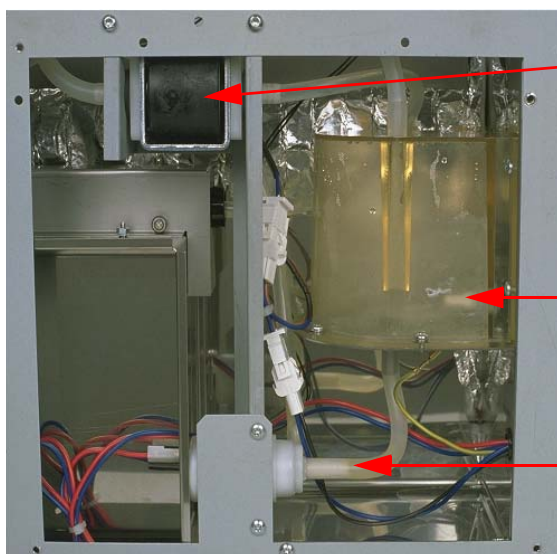
5.3.2 Emptying

In the case of all of the operating modes, emptying is carried out automatically after the OFF button has been pressed or after the cooking time has expired or after completion of steam dissipation, apart from during pure hot air operation.

Firstly the water temperature in the evaporator is determined, and if this exceeds a certain level, water is then pumped out of the water tank into the evaporator by means of the supply pump, up to level recognition by the level sensor, plus a certain follow-on time. This procedure is carried out for the purpose of thermal protection of the discharge pump. Pumping off the water with the discharge pump is also regulated by means of level recognition by the level sensor and a certain follow-on time. Should emptying of the evaporator not be carried out within this maximum period of time, two more attempts will be made. Should it still not be possible to pump off water, the clear text display will indicate “contact F8 service” (emptying faulty).

An essential marginal condition for pumping off the water in the evaporator is a water temperature below a certain level. Should it not be possible to cool the water in the evaporator down to this temperature – because there is insufficient water in the water tank or because the water in the water tank is too warm – the water will not be pumped off. It will only be pumped off when it has cooled itself down to this temperature (this may well take more than 30 minutes!). The appliance is still ready for operation during this period. During this cooling-down process, the clear text display will indicate “water is being pumped off”.

Should, shortly before completion of steam operation, a completely full water tank be supplied with more water, the water tank may become overfilled on pumping off.



Water pump “Cotec” 230 V~ (lighting)

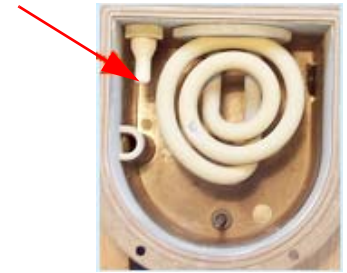
Sensor for altitude adjustment and water
NTC 25°C/100 kΩ

Water pump “Hella” 12 V = (empty)

5.4 Automatic altitude adjustment



Sensor for altitude adjustment and water NTC 25°C/100 kΩ



Altitude adjustment is carried out automatically for the steaming, regenerating, baking like professionals and hot air with steam vapour modes. Automatic altitude adjustment enables the hot air temperature to be regulated with some difference in temperature below the maximum possible steaming temperature. This ensures that the air in the oven is always sufficiently moist and that there are no drying effects on the food.

This maximum possible steam temperature is contingent on the ambient pressure of the appliance. The ambient pressure is primarily affected by the altitude above sea level and by atmospheric pressure and therefore by the weather.

Altitude adjustment is carried out in the following steps:

- The water in the evaporator is heated up with the evaporator heater operating at full power.
- If, during a certain period of time and for the purpose of measuring the temperature in the steam generator, the temperature sensor does not register any change in temperature, this temperature will be taken as the maximum possible water temperature and therefore also as the maximum possible steam temperature.
- Should, during the process of altitude adjustment and within a certain period of time, the water temperature not rise above a certain level, the clear text display will indicate "F7: call service" (evaporator heater defect).

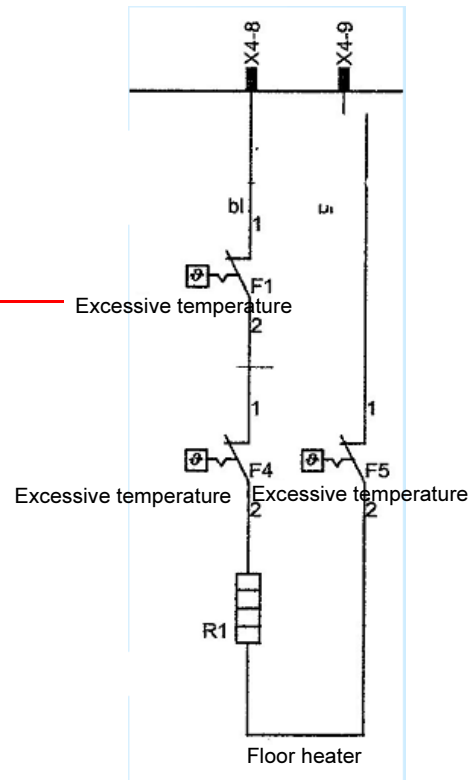
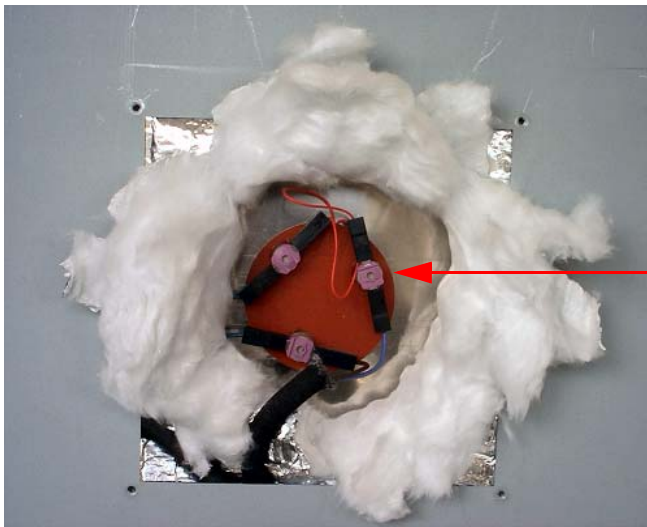
Sensor for altitude adjustment and water NTC 25°C/100 kΩ

Evaporator heater with protection against an excessive rise in temperature

Limestone sensor and heater protector NTC 25°C/10kΩ



5.5 Floor heater 140 W with protection against an excessive rise in temperature



The floor heater serves the purpose of reducing the quantity of condensate on the floor of the oven. The quantity of water required during the cooking process can also be reduced by means of repeated evaporation.

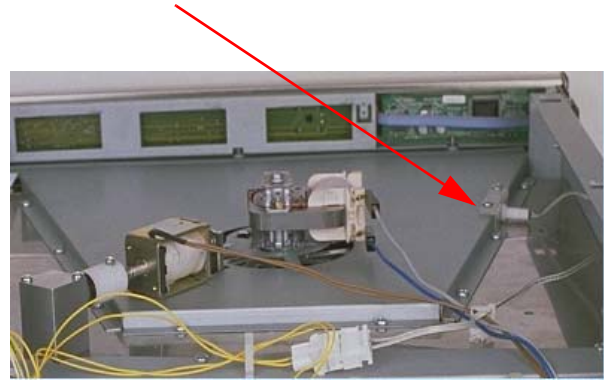
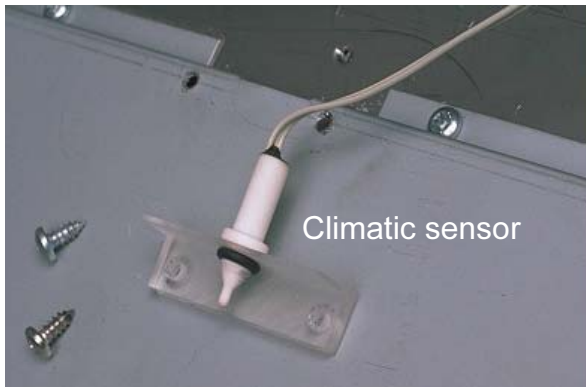
The floor heater is only activated in the steam cooking mode.

After completion of altitude adjustment, the floor heater is clocked at reduced power. On initial actuation of the climatic sensor, the floor heater is switched on at full power after a certain delay.

Should the door of the oven be opened during a cooking mode, the floor heater will commence heating at a reduced rate. The heater only works at full power again after a certain delay subsequent to initial actuation of the climatic sensor.

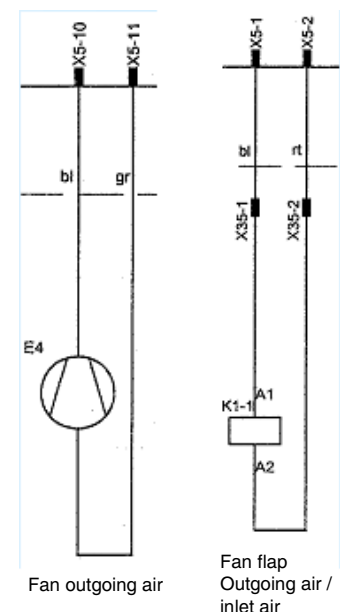
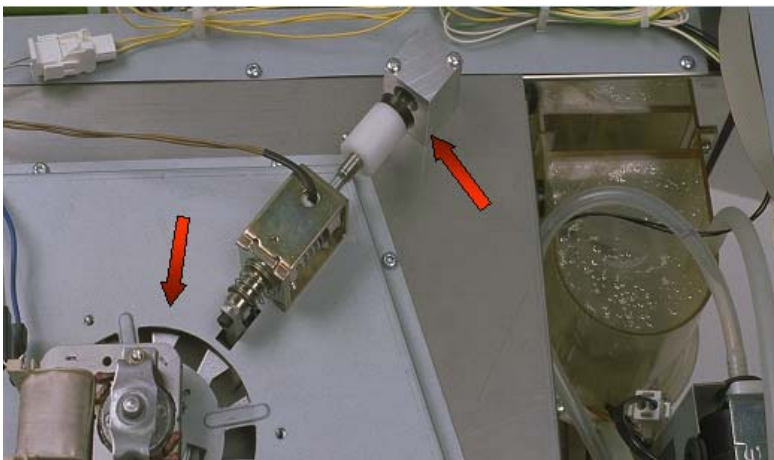
The floor heater is equipped with a cutoff time lag which reacts to non-actuation of the climatic sensor by switching off the floor heater. This occurs with some delay. The following switch-on of the evaporator or the resulting actuation of the climatic sensor means that the floor heater is switched on again, initially with reduced power and then, as described above, at full power.

5.6 Recognising a steam leak with the climatic sensor



Leaks, such as those caused by damaged or dirty door sealing, insufficient sealing of the hot air motor shaft, open vent flaps, blocked steam emissions, climatic sensors which are full of water or anything similar, will distort the temperature reading of the climatic sensor. A possible distortion of this nature is determined by monitoring the measurement of the temperature on the climatic sensor. Should, over a certain period, the steam temperature fall below the threshold value for the climatic sensor, the difference between the maximum and minimum temperature of the climatic sensor is determined. Should this reading fall below a certain reading, the F9 fault indication: "contact service" (steam leakage monitor actuated) will be shown on the clear text display.

5.7 Fan, follow-on time and steam dissipation



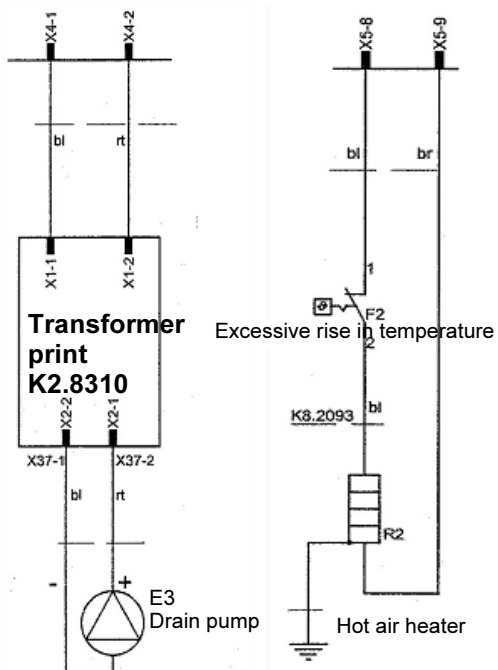
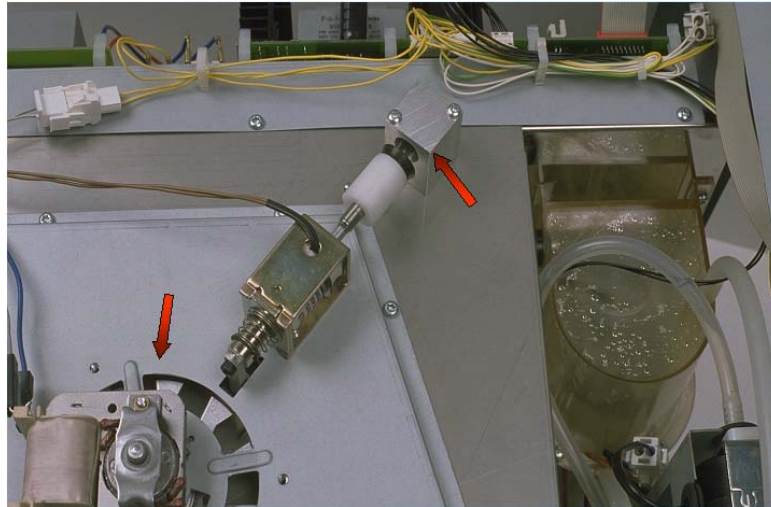
By means of air circulation, the temperature-regulated follow-on time of the ventilator fan serves the purpose of achieving a certain drying effect in the oven and on the ventilating system.

This involves the ventilator fan and the hot air fan being operated with opened inlet air flaps and vent flaps at a certain setting until the oven temperature has fallen below a certain level.

During the operating modes steaming, regenerating and, if so required, hot air with steam vapours, an additional active process of steam dissipation takes place.

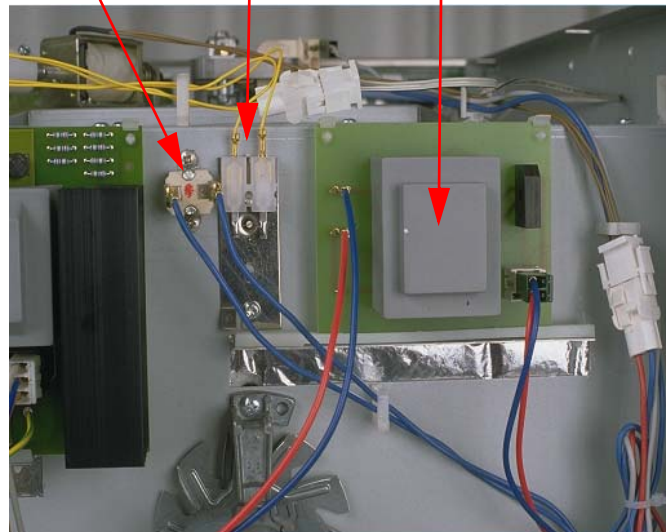
5.8 Slide with a magnetic lifting cylinder

Please note! On steaming, inlet air and outgoing air of the oven are closed.

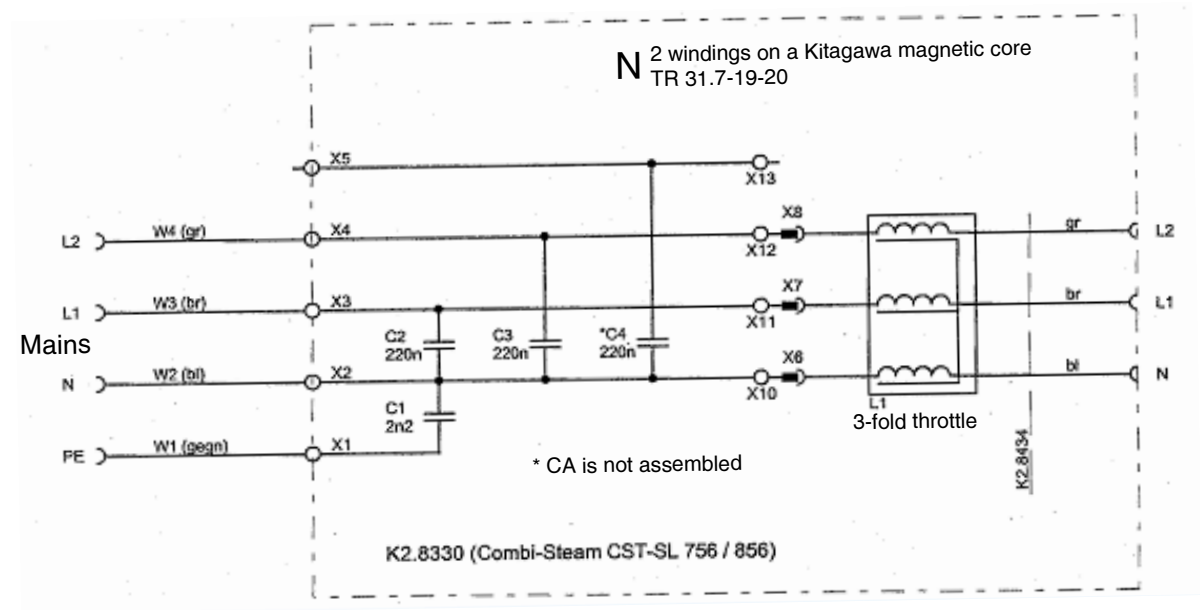


Protection against an excessive rise in oven temperature PT 500

12 V transformer for the water pump (return)



5.9 Electric connecting box

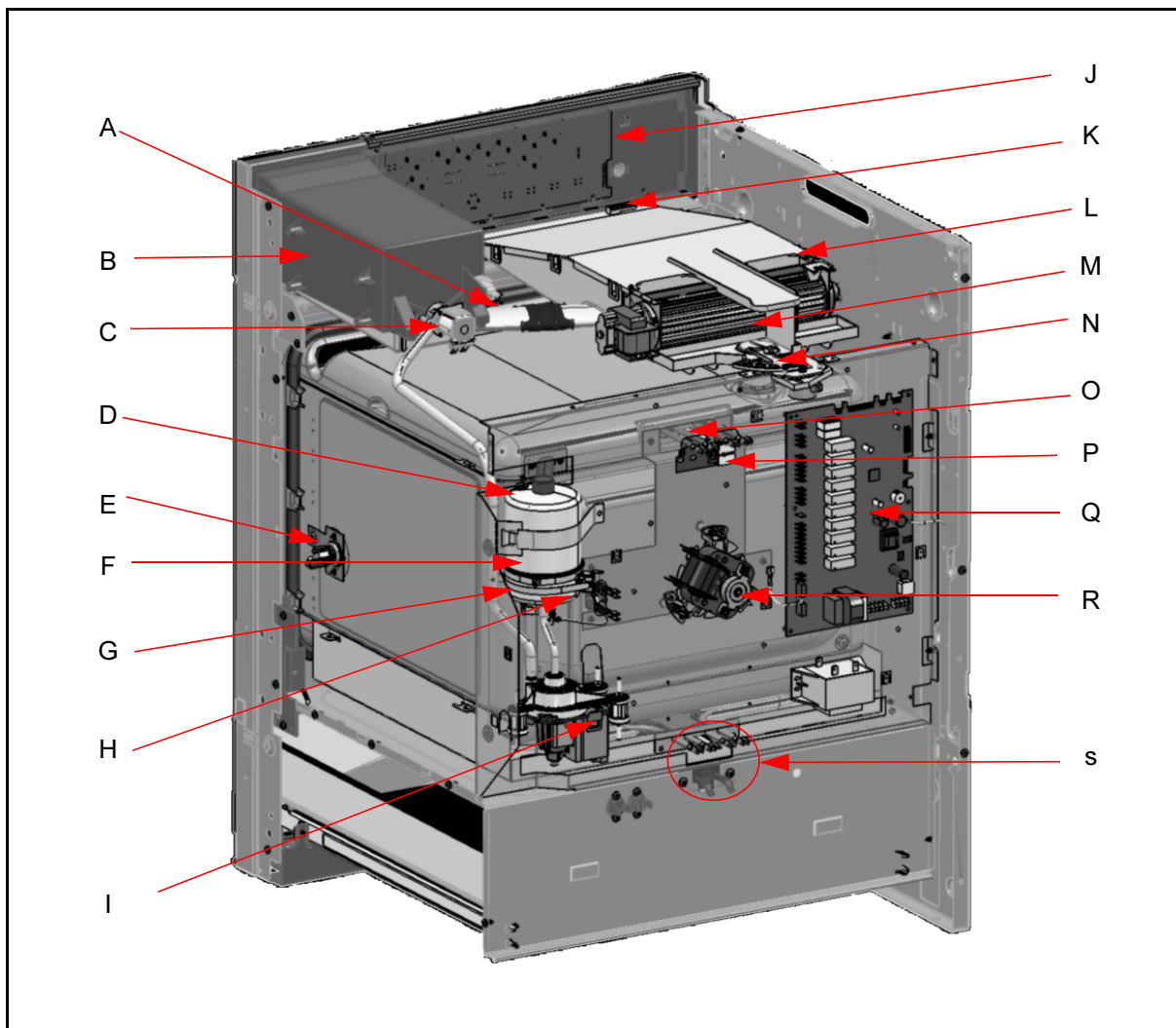


Breakdown

In the event of a breakdown, for example, on opening the door, settings such as operational mode, oven temperature and core temperature, operating time and switch-off time are maintained. Timing comes to a halt.

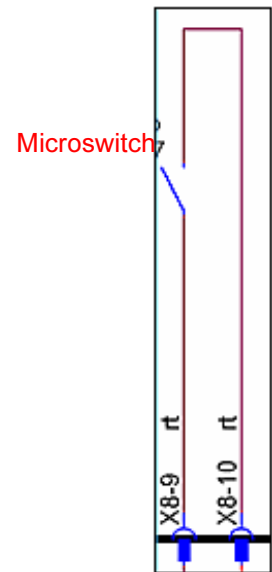
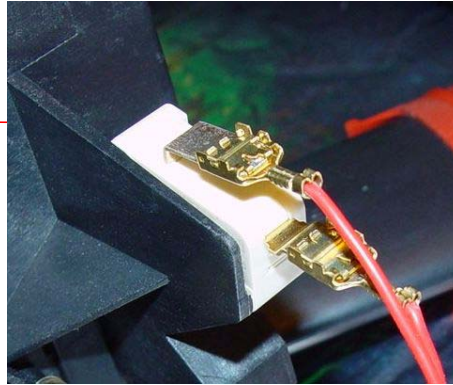
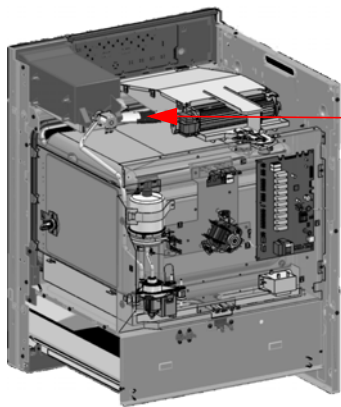
Breakdown	Symptom	Baking like professionals	Regenerating	Hot air	Hot air with steam vapours
on opening the door the water tank must be filled up	all heaters off, hot air fan off	steam phase: all heaters off, hot air fan on; hot air phase: hot air heater; and fan off	all heaters off, hot air fan off	hot air heaters and hot air fan off should $T_{\text{required}} \geq 100^{\circ}\text{C}$	all heaters off, hot air fan off, flaps open

6. Appliance components: **EEBD 6600.0**

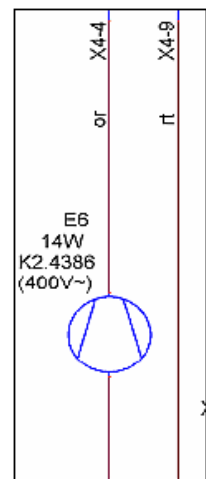
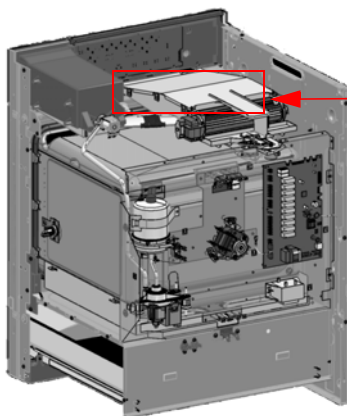


A	Water tank switch	J	Operating element
B	Water tank	K	Reed switch for the door
C	Inlet valve	L	Climatic sensor
D	Water level pin	M	Cross-current fan
E	Food probe	N	Exhaust air slide
F	Evaporator	O	Top heat / grill
G	NTC water temperature	P	Pt 500 thermostat
H	Evaporator heater	Q	Computer
I	Discharge pump	R	Hot air motor
		S	Bottom heat

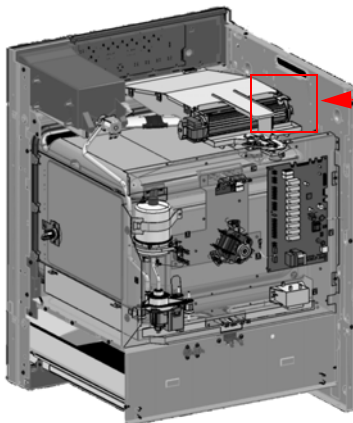
6.1 Water tank microswitch



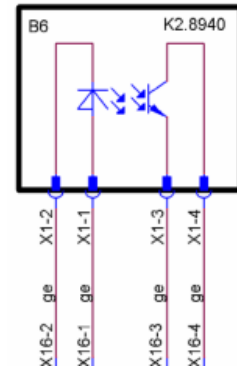
6.2 Cross-current fan for the cooling air



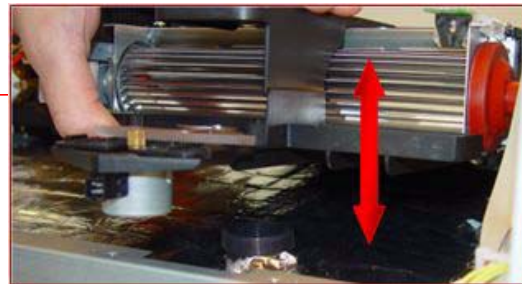
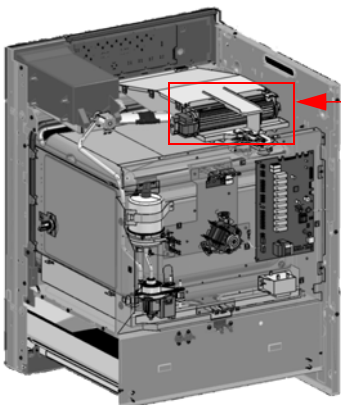
6.3 Revolution counter for the cross-current fan



Number of revolutions
Cooling air fan
(photo cell)

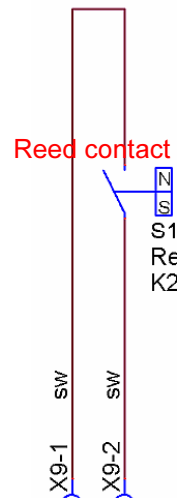
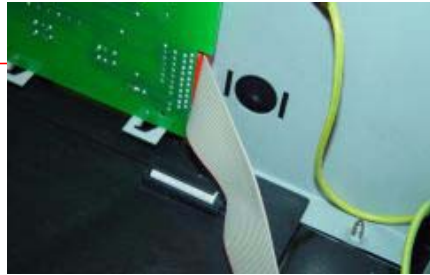
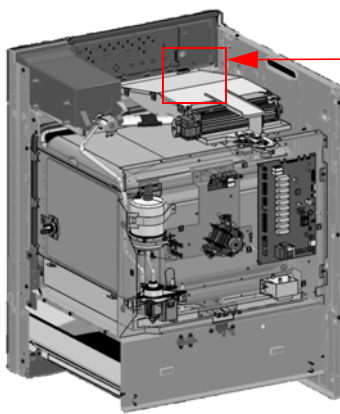


6.4 Removing the air system

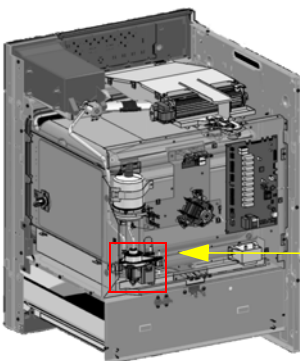


When mounting, care must be taken that the slide of the steam ascending pipe and the climatic sensor are retracted properly in order to avoid leaking steam.

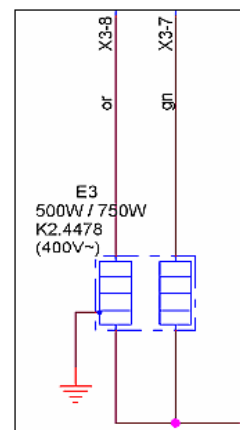
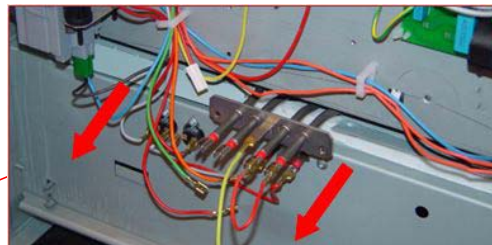
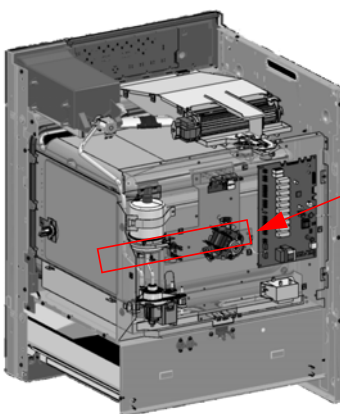
6.5 Door switch (reed contact)



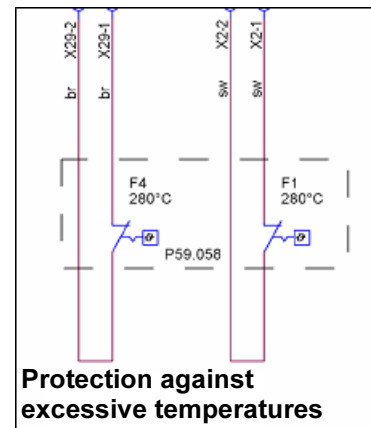
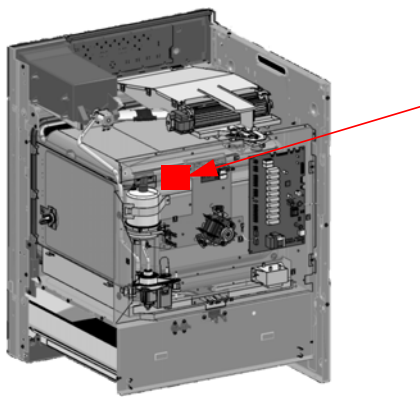
6.6 Discharge pump with a filter for “dynamic filtering”



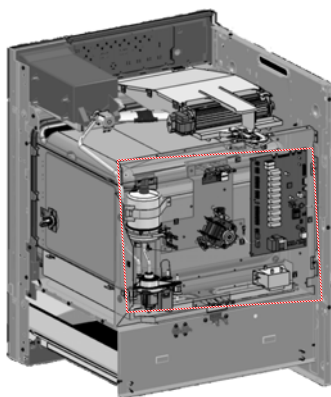
6.7 Bottom heat inner / outer circuit



6.8 Protection against excessive temperatures 2 x 280°C



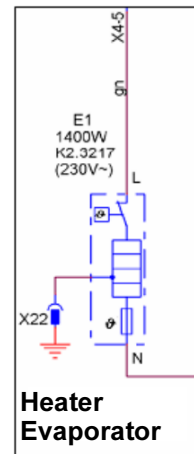
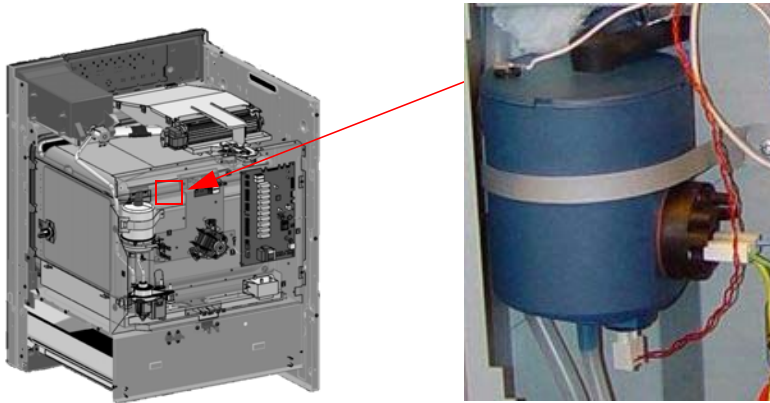
6.9 Replacing a Pt 500 sensor seal



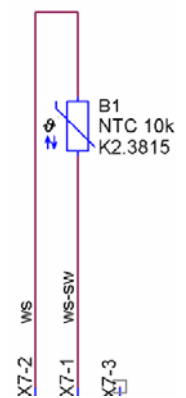
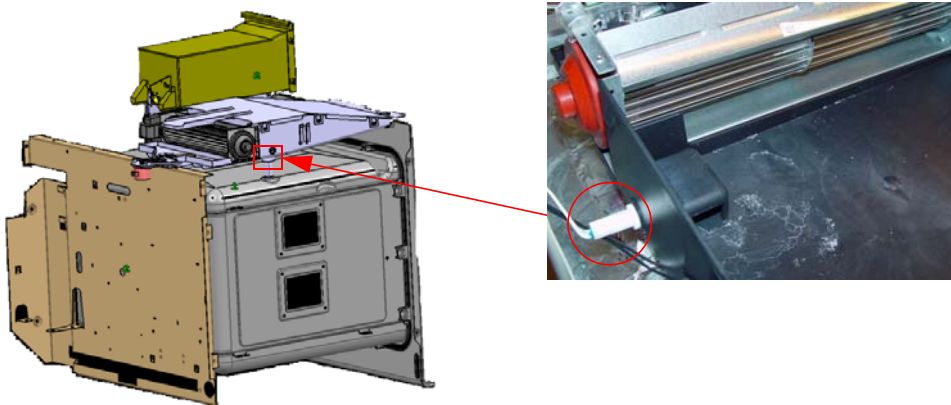
The Pt 500 sensor seal can be mounted very carefully from the front.
(caution: do not damage the seal).

If this is not carried out successfully, the entire rear wall support panel will need to be removed with the side wall.

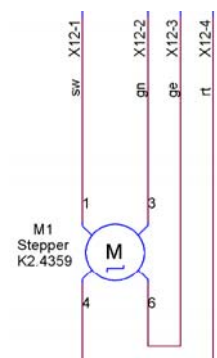
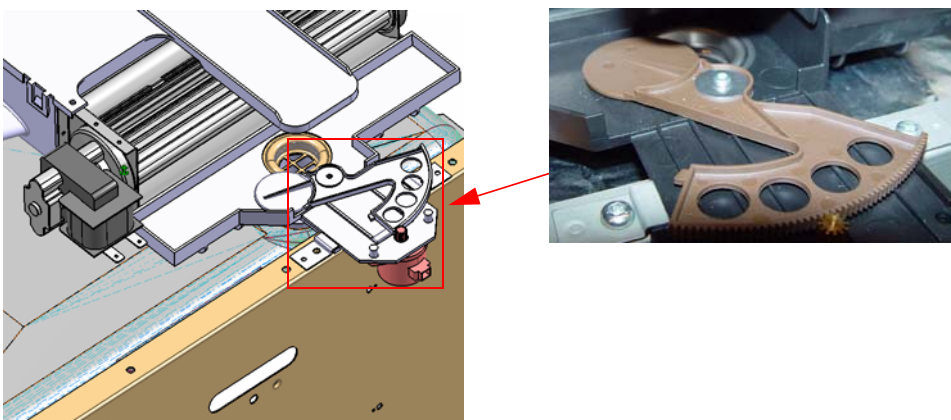
6.10 Complete evaporator 1400 W / 230 V



6.11 Climatic sensor

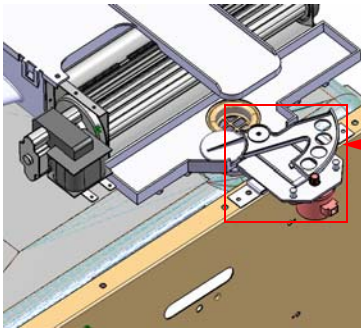


6.12 Drive (step motor) / exhaust air slide

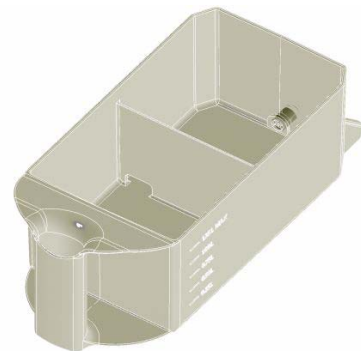


Drive Exhaust air slide

Extend the step motor with a gear wheel

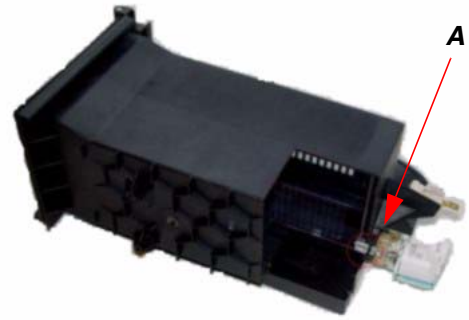


6.13 Water tank

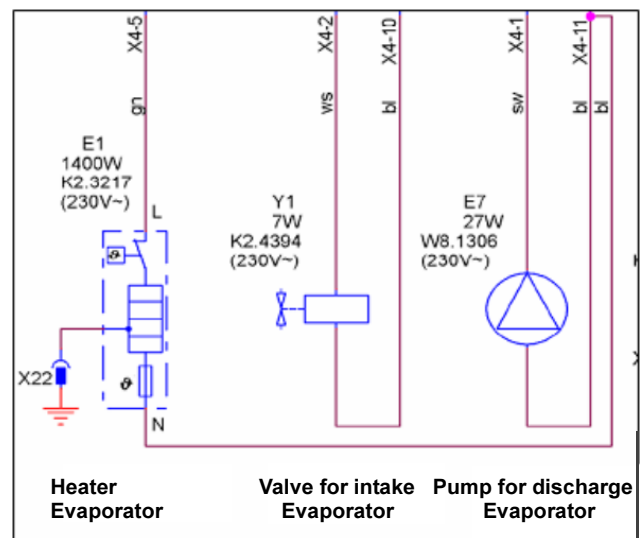
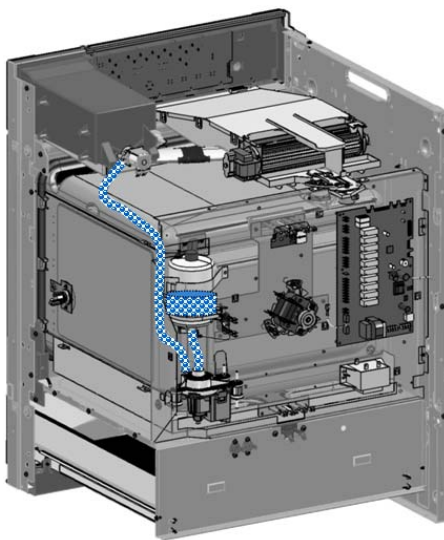


The water tank must be inserted until it stops (A)!

- The water tank is concealed behind the swivel door.
- 1.25 litre capacity („MAX 1.25 l“ marking for fresh cold tap water).
- Water is sufficient to steam for 2 hours.
- The water tank must be filled up for all the operation modes that use steam.
- The water tank may remain in the appliance without the baking results being negatively affected for operation modes without steam.

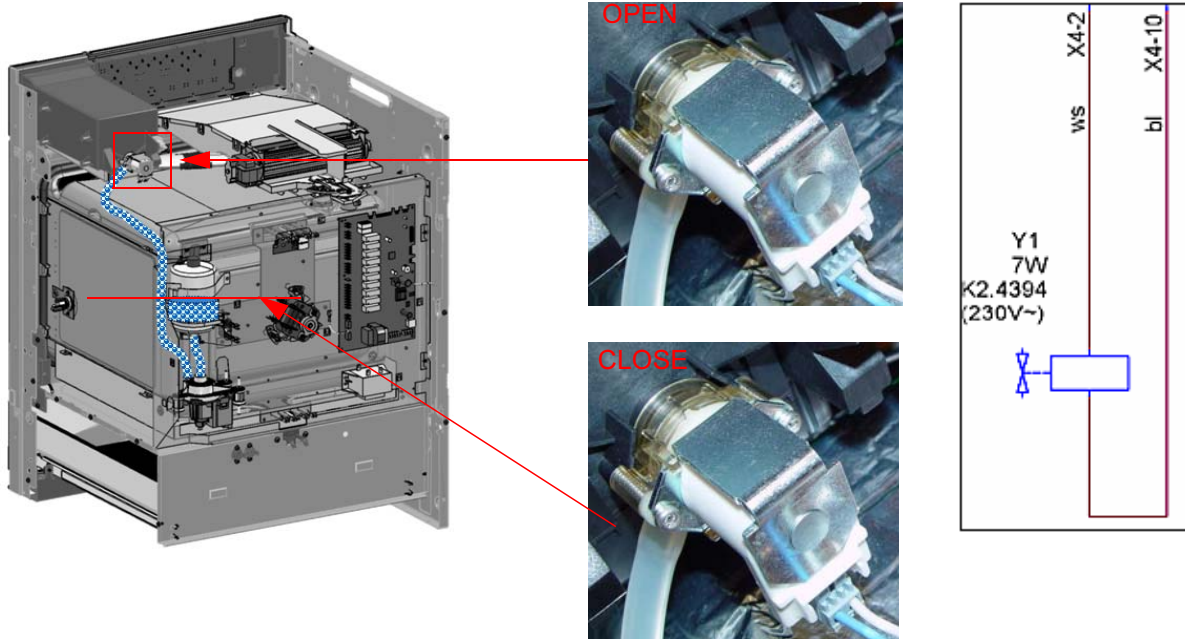


6.14 Water intake / water discharge

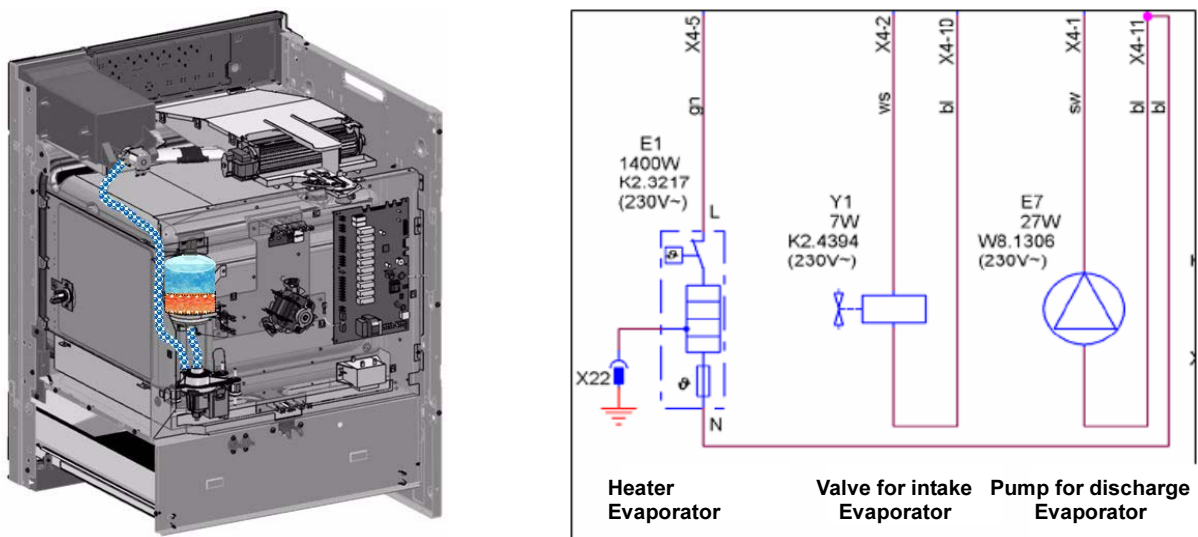


6.15 Solenoid valve

The force of gravity will cause the water to flow to the discharge pump.



6.16 Building up steam in the evaporator (heater activated)



Supplying steam to the oven



Water is filled up or fed into the steam tank!

Why this difference?

Feeding water in the steam tank: The amount of water is always maintained at the same level and the heater remains in operation!

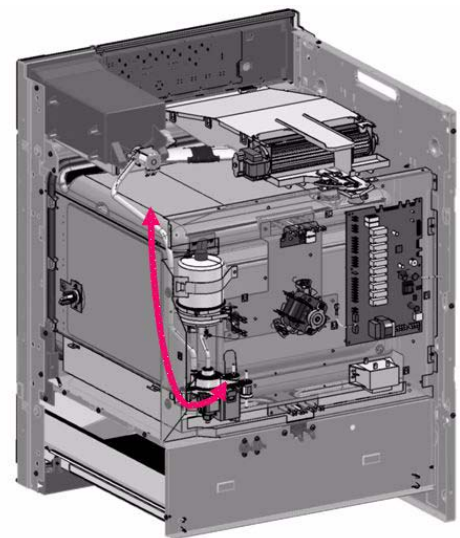
Filling the steam tank up with water:

The heater is switched off, the solenoid valve is opened, and the water is pumped off which means that water flows back into the water tank and the water system is vented.

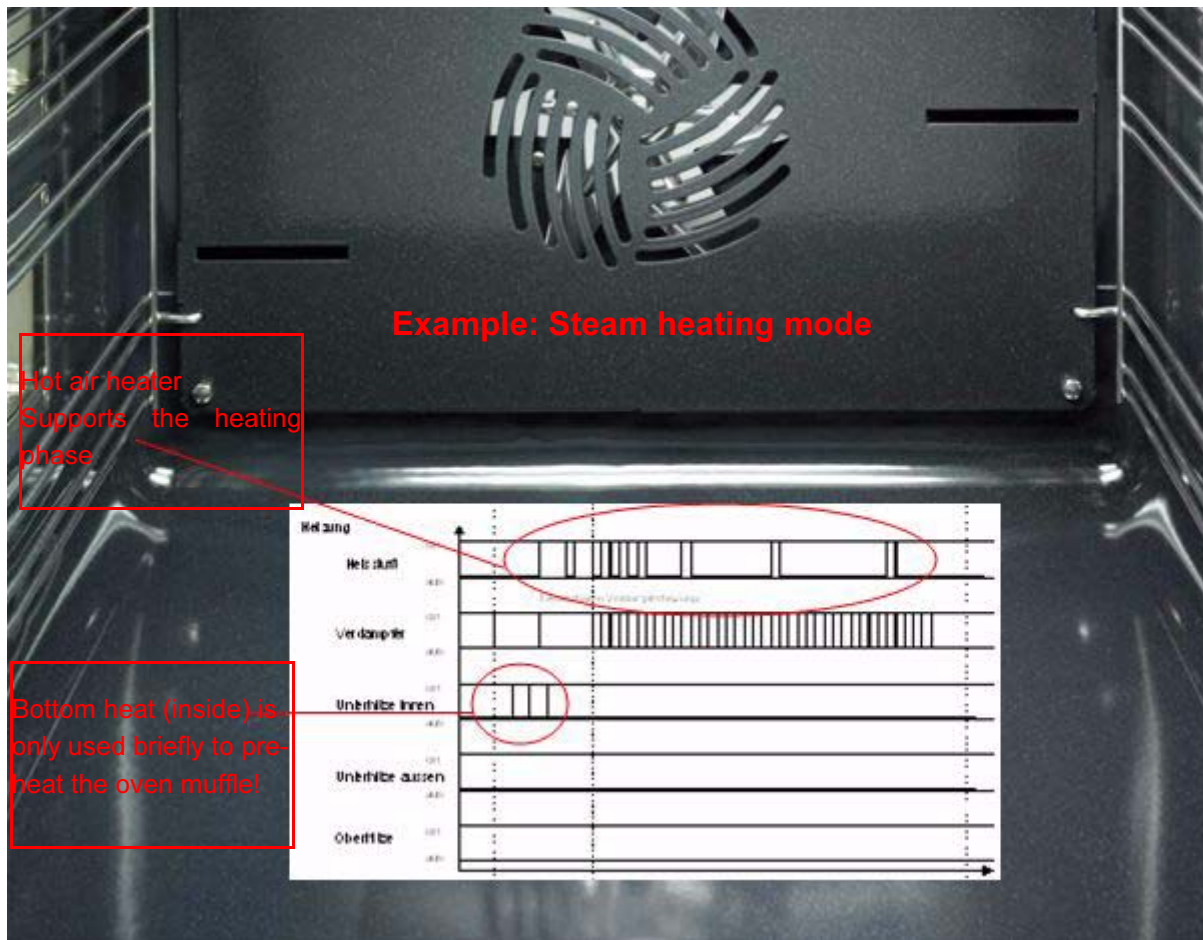


Important!

The water is kept in motion (swinging effect of the water column) so that solids such as limestone will not be easily deposited, for example in the pump filter, and in addition the system is always vented.



Important! *The hot air heater replaces the “floor heater” to protect the enamel!*



7. Operational modes

The operation modes are sub-divided into various procedures. Each procedure comprises several steps during which the functions are activated with one or several commands. The operating modes are distinguished as follows:

Procedure	Steaming	Regenerating	Baking like professionals	Hot air	Hot air with steam vapours	Pizza Plus	Grill	Slow cooking	Top/ bottom heat
Filling in water	X	X	X	—	X				
Altitude adjustment	X	X	X	—	X				
Steam heating	X	X	X	—	X				
Hot air heating	X	X	X	X	X	X			
Continued steam heating	X	X	X	—	(X)				
Continued hot air heating	—	X	X	X	X				
Steam dissipation	X	X	—	—	X (if required)				
Emptying	X	X	X	—	X				
Floor heating	X	—	—	—	—				
Bottom heat						X		X	X
Fan: hot air						X		X	
Fan: outgoing air						X	X	X	X
Exhaust air slide						X			X
Top heat / grill							X	X	X

Legend: — is not used
 X is executed
 (X) adjustable vaporisation

7.1 Steaming

Recommended oven temperature: 100 °C (equivalent to the maximum possible boiling temperature)

Area of application: 30 °C to 100 °C

During the steaming mode, steam flows into the oven from an external steam generator. At the same time hot air facilitates the heating up process of the appliance. The steam operational mode is suitable for:

- cooking any type of vegetable and meat
- with the addition of liquid (stock), for steaming rice,
- cereal products, pulses
- and fish at approx. 80°C

7.1.1 Program sequence

1. Filling in water
2. Altitude adjustment
3. Continued heating with hot air and steam
4. Continued heating with steam
5. Steam dissipation
6. Empty

1. Filling in water

The filling procedure is carried out in the following steps:

On commencement of the operational mode, the presence of the water tank is monitored by means of a Reed switch. If the Reed switch is not activated, operation is discontinued, an acoustic signal sounds and "insert water tank and press OK" is indicated in the clear text display.

Closing the door is also monitored by means of a Reed switch. If the Reed switch is not activated, operation is discontinued, an acoustic signal sounds and "close the door and press OK" is indicated in the clear text display.

The level of water in the evaporator is monitored by means of a level sensor (metal pin / "point gauge"), which measures the electrical susceptance of the water in the evaporator. The supply pump pumps water into the evaporator until the level sensor recognises water and then also for a certain follow-on time above the level of the level sensor. If the water content of the evaporator falls below a certain level, a topping up procedure is initiated by the level sensor. The water is filled up as described above.

On commencement of the filling up procedure, the ventilation fan is switched on at a certain setting. After the filling procedure the vent flap and the air inlet flap are closed and the hot air fan is activated.

2. Altitude adjustment

Automatic altitude adjustment enables the hot air temperature to be regulated with a certain difference in temperature below the maximum possible steaming temperature. This ensures that the condition of the air in the oven is always sufficiently moist and that there are no drying effects on the food. Altitude adjustment is carried out in the following steps:

- The water in the evaporator is heated up with the evaporator heater operating at full power.
- If, during a certain period of time, the temperature sensor, on measuring the water temperature in the steam generator, does not register any change in temperature, this temperature will be taken as the maximum possible water temperature and therefore also as the maximum possible steam temperature.

3. Heating with hot air and steam / continued steam heating

Subsequent to altitude adjustment, the hot air heater will be switched on. When the hot air heater is switched on, the power of the evaporator heater is reduced in order not to exceed the fuse-protected power supply of the single-phase appliance connection.

The hot air heater is regulated with a certain difference in temperature below the recommended or self-installed oven temperature by means of an oven temperature sensor. If the required temperature set is higher than the maximum temperature resulting from altitude adjustment, this temperature will be accepted. However, the hot air must not reach the oven temperature level.

Water will evaporate until the oven temperature sensor has reached the recommended oven temperature or the oven temperature set. If the required temperature set is higher than the maximum temperature resulting from altitude adjustment, this temperature will be accepted.

Exception: from a certain temperature setting on, steam production is only regulated by the steam outlet temperature of the climatic sensor and is thus detached from the oven temperature control. This ensures an optimal and sufficient supply of steam for cooking.

(A setting of 100°C would enable the proportion of hot air to become too high, since the steam only reaches a temperature of approx. 98°C.)

After completion of altitude adjustment, the floor heater is clocked at reduced power. On initial actuation of the climatic sensor, the floor heater is switched on at full power after a certain delay.

4. Continued steam heating

Once a slight degree of excessive pressure has been reached, the surplus steam exits the oven in a controlled manner through an opening. The temperature at the exit opening is measured with a climatic sensor (ceramic NTC temperature sensor). The production of steam is interrupted if the temperature of escaping steam exceeds an empirically deducted threshold value. If the temperature falls short of this threshold value, the evaporator heater will be re-activated.

The water in the evaporator is constantly monitored by the level sensor and if it falls below a certain level, water from the water tank is transported to the evaporator by means of the supply pump.

5. Steam dissipation

Steam dissipation is designed as a possibility for steam in the oven to be led to the surrounding areas in a controlled manner over a certain period. The procedure is carried out in the following steps:

- Subsequent to completion of a steaming process by means of the OFF button, the hot air fan and the ventilator fan remain switched on for a certain period. If the door is opened immediately, the steam dissipation time is greatly reduced.
- At the same time the supply air flap and the vent flap are opened. This extracts the steam from the oven, mixes it with air and transports it through an air duct into the room.
- The process of emptying commences after steam has been dissipated.

6. Emptying

Emptying the evaporator is carried out in the following steps:

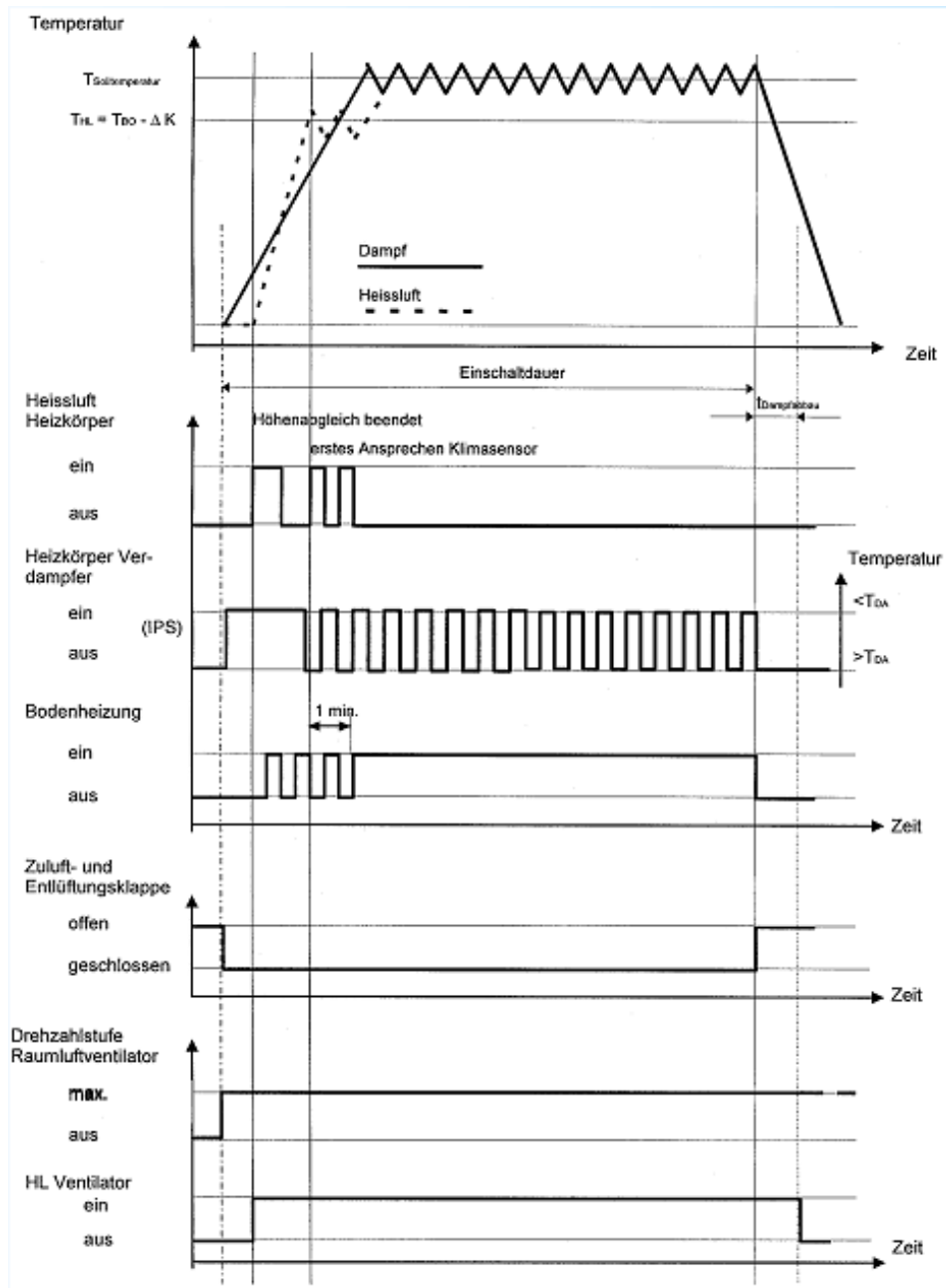
- Firstly a check is made to ensure that the water tank has been installed. The process of emptying will not be carried out should this not be the case.
- During this process, the clear text display indicates "water is being pumped off".
- Irrespective of the level, the supply pump transports water to the evaporator until the temperature of the water has reached a certain level; however, this occurs with a limit in time. This addition of cold water serves the purpose of lowering the temperature of the water in the evaporator, thus reducing the thermal load in the drain pump and ensuring safety for the user from a thermal point of view.
- The drain pump pumps water in the evaporator back into the water tank at a temperature of 70 °C.

Emptying is carried out with a maximum time limit from water level recognition on, plus a certain follow-on time.

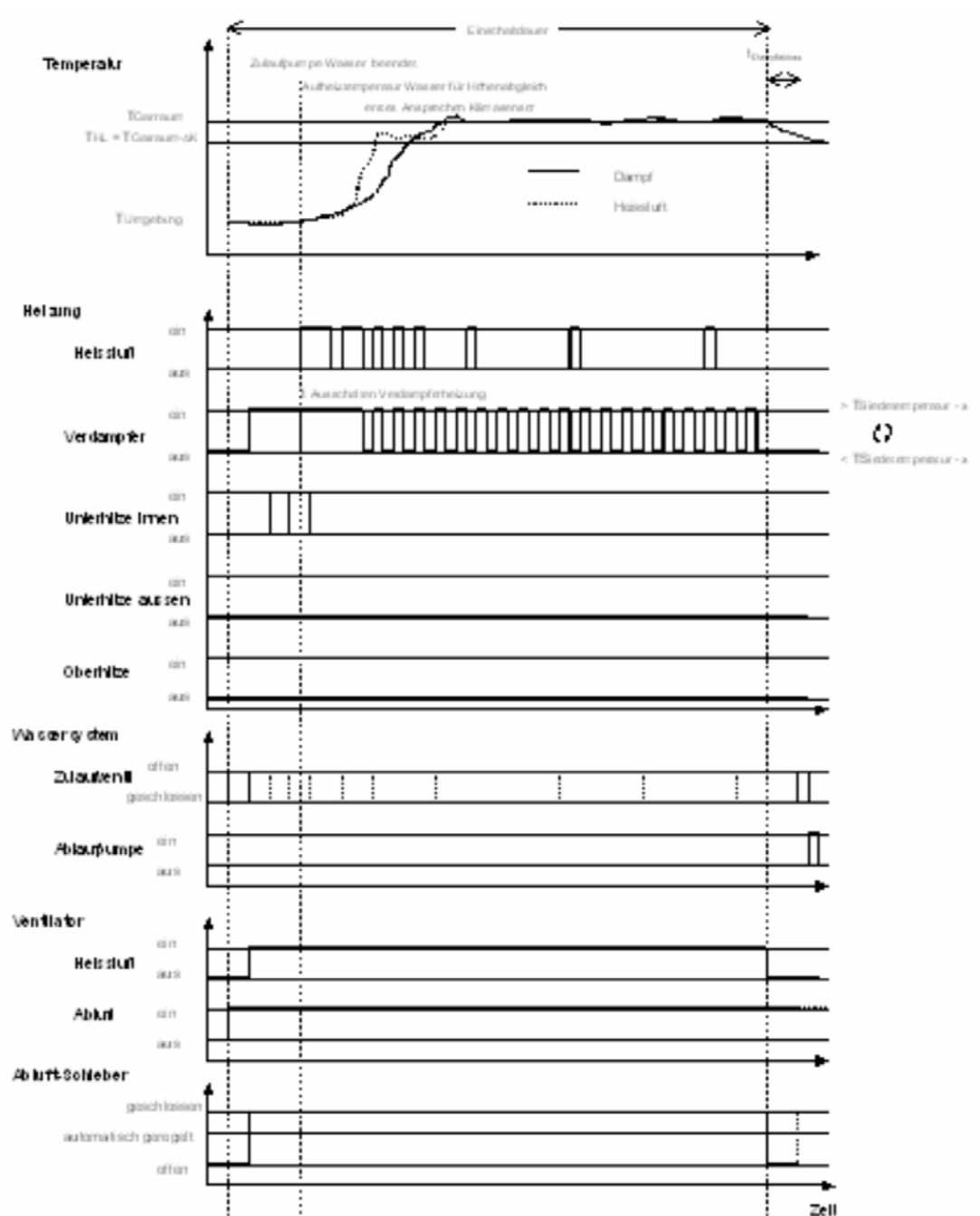
- Subsequent to emptying “residual heat” is indicated in the clear text display above a certain oven temperature.

For the legend, see page 68

7.1.2 Sequence diagram: Steaming (EDG - EKDG)



7.1.3 Sequence diagram: Steaming (EEBD 6600.0)



7.2 Regenerating

Recommended oven temperature: 130°C

Area of application: 100°C to 150°C

On regeneration, the oven is heated with steam and hot air. This ensures fast, consistent heating up of the food without any drying out.

The regeneration operational mode is suitable for:

- semi-cooked or pre-cooked products
- re-heating food on a plate
- gently defrosting frozen food

7.2.1 Program sequence

1. Filling in water
2. Altitude adjustment
3. Heating up and continued heating, hot air and steam
4. Steam dissipation
5. Emptying

1. Filling in water

See "1. Filling in water" on page 48.

2. Altitude adjustment

See "2. Altitude adjustment" on page 48.

3. Heating up and continued heating, hot air and steam

Heating up is carried out in the following steps:

- The hot air heater is switched on at full power.
- The recommended oven temperature or the self-set oven temperature mean that the hot air heater is regulated by an oven temperature sensor (range: 100°C to 150°C).
- During the heating process with hot air the evaporator heater is also operated. However, due to fuse protection 16 A, 230 V, it heats at a reduced power level.
- The climatic sensor interrupts the production of steam if the steam temperature at the outlet exceeds the threshold value. If the temperature falls short of this threshold value the evaporator heater will be re-activated. However, the power output of the steam generator remains reduced in the case of simultaneous operation of the hot air heater.
- The floor heater is not activated on regeneration due to the fact that operation time is normally shorter.
- At the same time the level of water in the evaporator is monitored and water is transported by means of the supply pump.

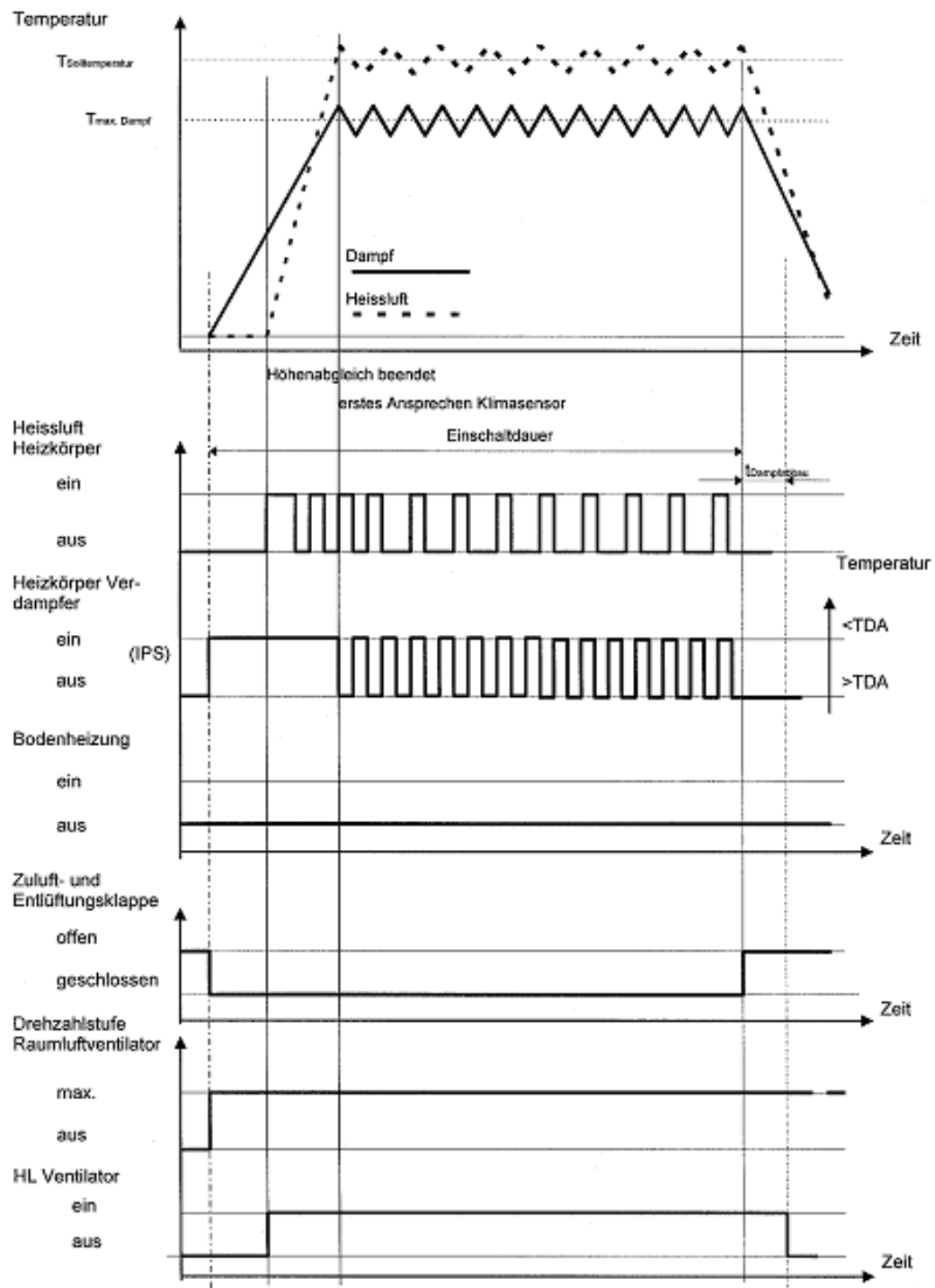
4. Steam dissipation

See "5. Steam dissipation" on page 49.

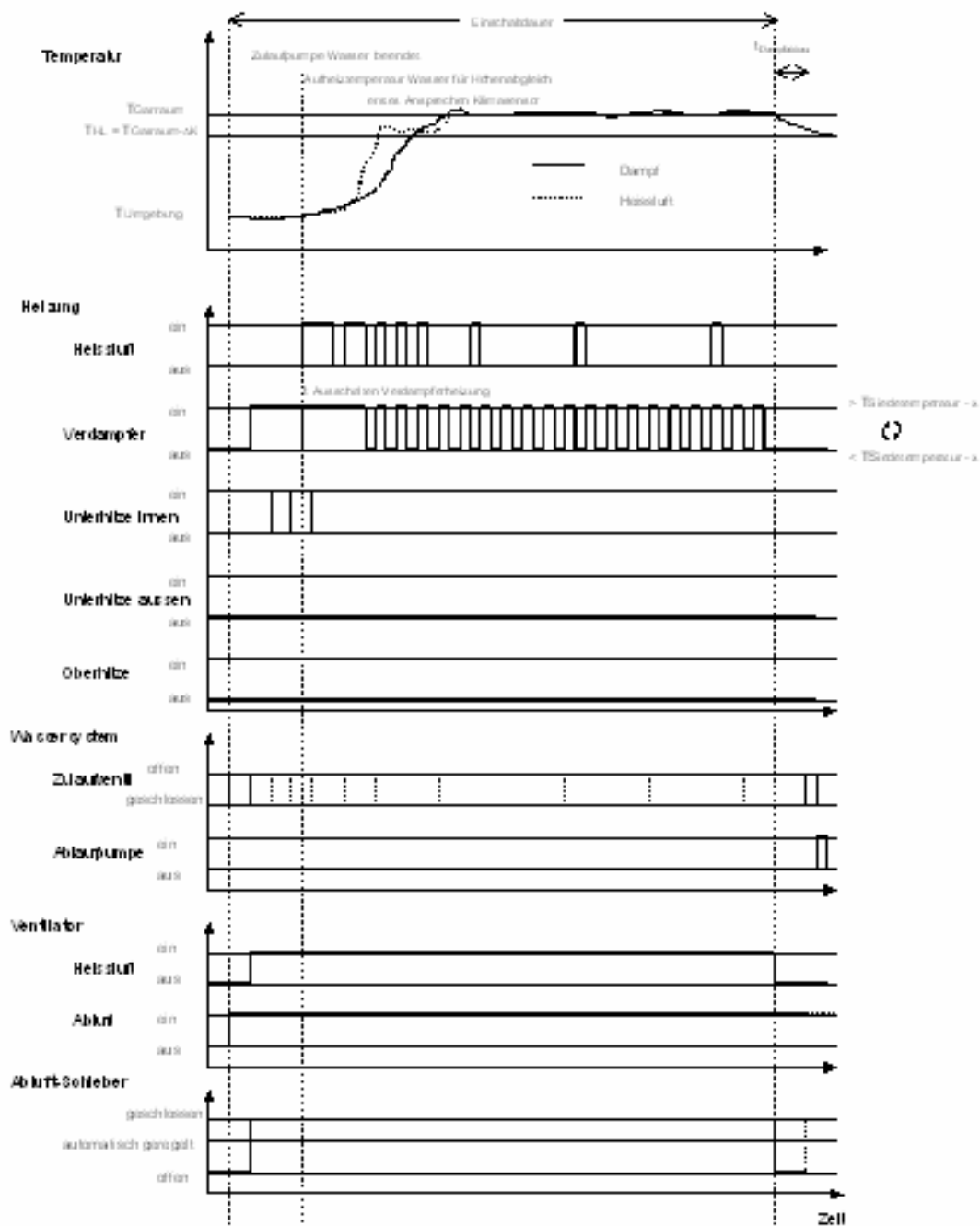
5. Emptying

See "6. Emptying" on page 49.

Sequence diagram: Regenerating (EDG - EKDG)



7.2.2 Sequence diagram: Regenerating (EEBD 6600.0)



7.3 Baking like professionals

Recommended oven temperature: 210°C

Area of application: 100°C to 230°C

During the baking like professionals mode the food is firstly vaporised in an initial phase and operation is then automatically adjusted for the second "hot air phase" subsequent to a steaming period which depends on the quantity of food in the oven. The baking like professionals operating mode is suitable for:

- any kind of baked products made from yeast dough or sour dough,
- wholegrain bread, rolls made with white flour and yeast gugelhupf as well as
- flaky pastry products

For the baking like professionals operating mode only the stainless steel baking sheet supplied or baking tins made of glass or porcelain should be used.

7.3.1 Program sequence

1. Filling in water
2. Altitude adjustment
3. Heating with hot air and steam / continued steam heating (steam phase)
4. Continued heating with hot air (hot air phase)
5. Emptying

1. Filling in water

See "1. Filling in water" on page 48.

2. Altitude adjustment

See "2. Altitude adjustment" on page 48.

3. Heating with hot air and steam / continued steam heating (steam phase)

Subsequent to altitude adjustment, the hot air heater will be switched on at full power. When the hot air heater is switched on, the power of the evaporator heater is automatically reduced in order not to exceed the fuse-protected power supply of the single-phase appliance operation.

During the steam phase, the hot air heater heats up the oven to a certain temperature and the oven temperature is regulated by means of an oven temperature sensor.

The production of steam is interrupted if the temperature of steam at the outlet exceeds an empirically deducted threshold value. If the temperature falls short of this threshold value the evaporator heater will be re-activated.

The floor heater is not activated during the baking like professionals operating mode.

The water in the evaporator is constantly monitored by the level sensor and if it falls below a certain level water from the water tank is transported to the evaporator by means of the supply pump.

The period of operation of the steam phase is stipulated and commences after initial actuation of the climatic sensor. (In trial-and-error tests, this is the period of time in which the best results were achieved as far as volume, shape and gloss of the baked products is concerned.)

4. Continued heating with hot air (hot air phase)

The hot air phase commences after the steam phase. The heater in the evaporator is switched off. The heater remains switched on at full power until the T_{BO} pre-set oven temperature or given oven temperature is reached.

The recommended or pre-set oven temperature is maintained by means of a regulating cycle, which switches the hot air heater on and off respectively.

The supply air flap and the vent flap are opened when the T_{BO} is reached.

The hot air heater and the hot air fan are switched off once the baking like professionals operating mode has been completed by means of pressing the OFF button or when the operation time has expired.

Steam dissipation is not carried out, since the flaps are already opened during the process of continued heating with hot air.

5. Emptying

Emptying is carried out when the hot air phase has been completed.

Emptying the evaporator is carried out in the following steps:

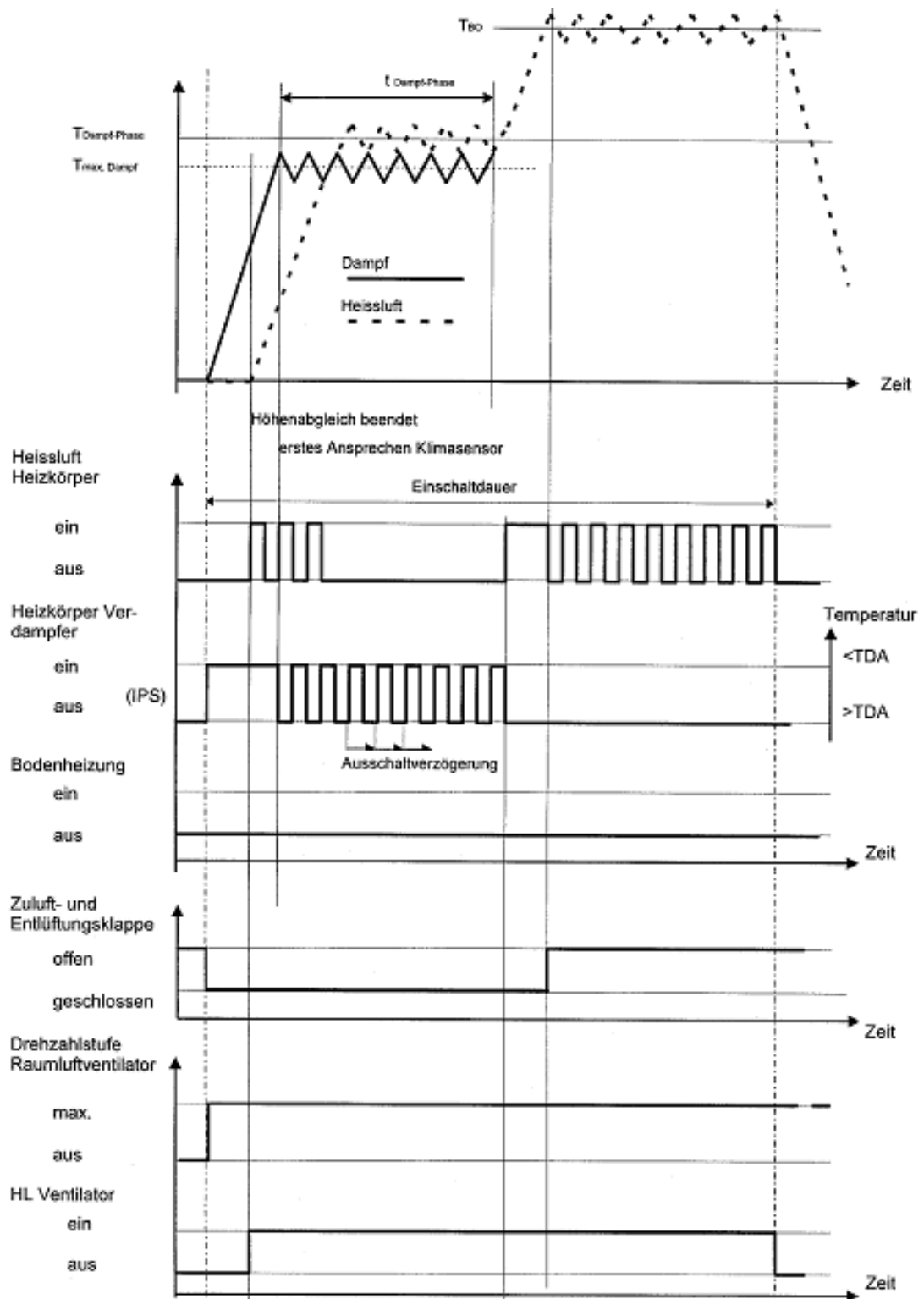
Firstly a check is made to ensure that the water tank has been installed. The process of emptying will not be carried out should this not be the case. During the process of emptying, the clear text display indicates "water is being pumped off".

Irrespective of the water level, the supply pump transports water to the evaporator until the temperature of the water has reached a certain level; however, this occurs with a limit in time. This addition of cold water serves the purpose of lowering the temperature of the water in the evaporator, thus reducing the thermal load in the drain pump and ensuring safety for the user from a thermal point of view.

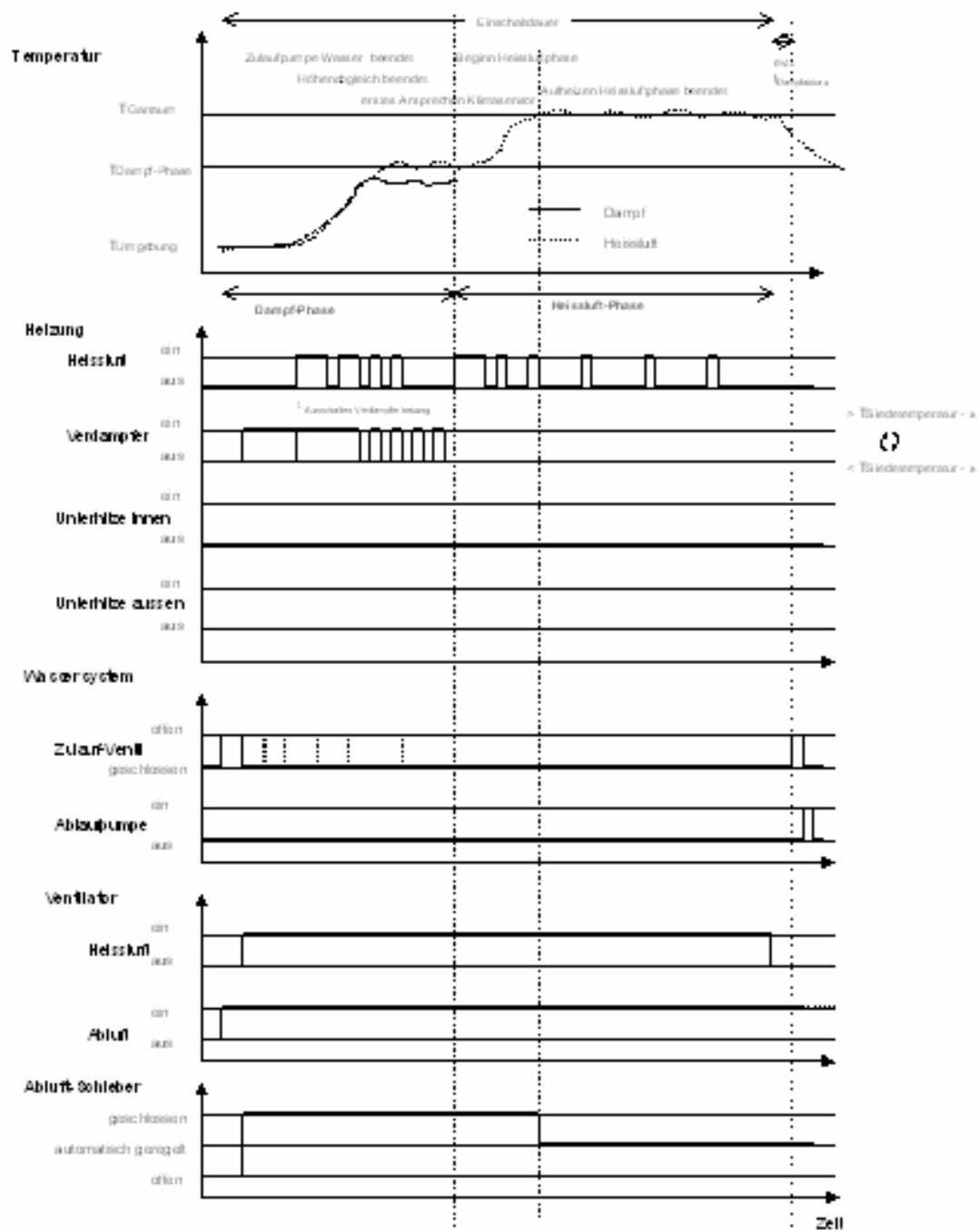
The drain pump pumps water in the evaporator back into the water tank at a temperature of 70°C. Emptying is carrying out from water level recognition plus a certain follow-on time with a maximum time limit.

Subsequent to emptying "residual heat" is indicated in the clear text display above a certain oven temperature.

Sequence diagram: Baking like professionals (EDG - EKDG)



7.3.2 Sequence diagram: Baking like professionals (EEBD 6600.0)



7.4 Hot air

Recommended oven temperature: 180°C

Area of application: 30°C to 230°C

On heating with hot air, the air in the oven is heated up by a heater located behind the back wall of the oven and is then circulated evenly throughout the oven by means of the hot air fan. The baked products are therefore heated up from all sides, enabling simultaneous baking at two or three levels. Baking with hot air is suitable for:

- cake mixtures and sponges as well as for meringues.

7.4.1 Program sequence

1. Heating up with hot air
2. Continued hot air heating

1. Hot air heating

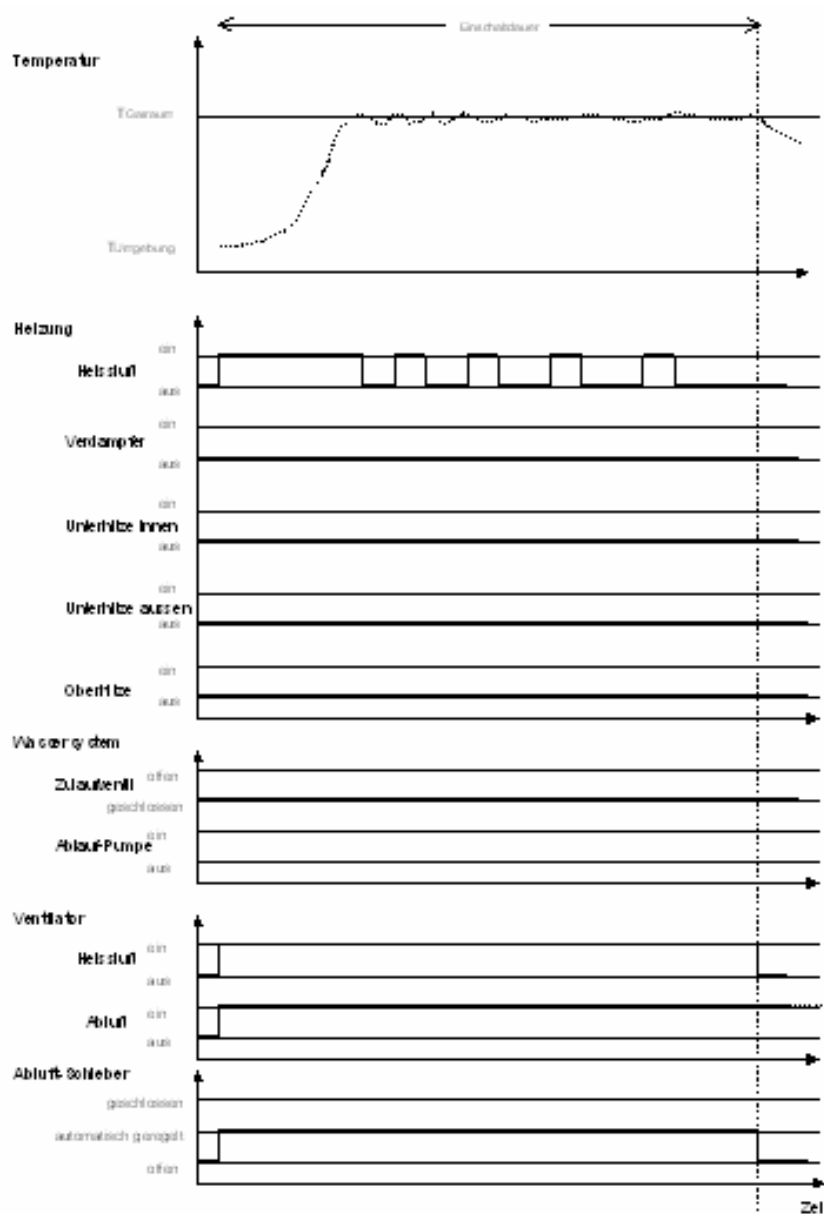
The vent flap and the supply air flap remain open. This ensures a sufficient flow of fresh air (approx. 0.7 m/s).

The hot air fan and the hot air heater remain switched on until the pre-set oven temperature has been reached. The ventilator fan is switched on. The clear text display indicates "oven is being heated up".

2. Continued hot air heating

The pre-set oven temperature is maintained by means of a regulating cycle, which switches the hot air heater on and off respectively. The hot air heater and the hot air fan are switched off once the OFF button has been pressed or when the operation time has expired. The clear text display indicates "residual heat" until the temperature falls below a certain level. The ventilator fan also runs for this period of time.

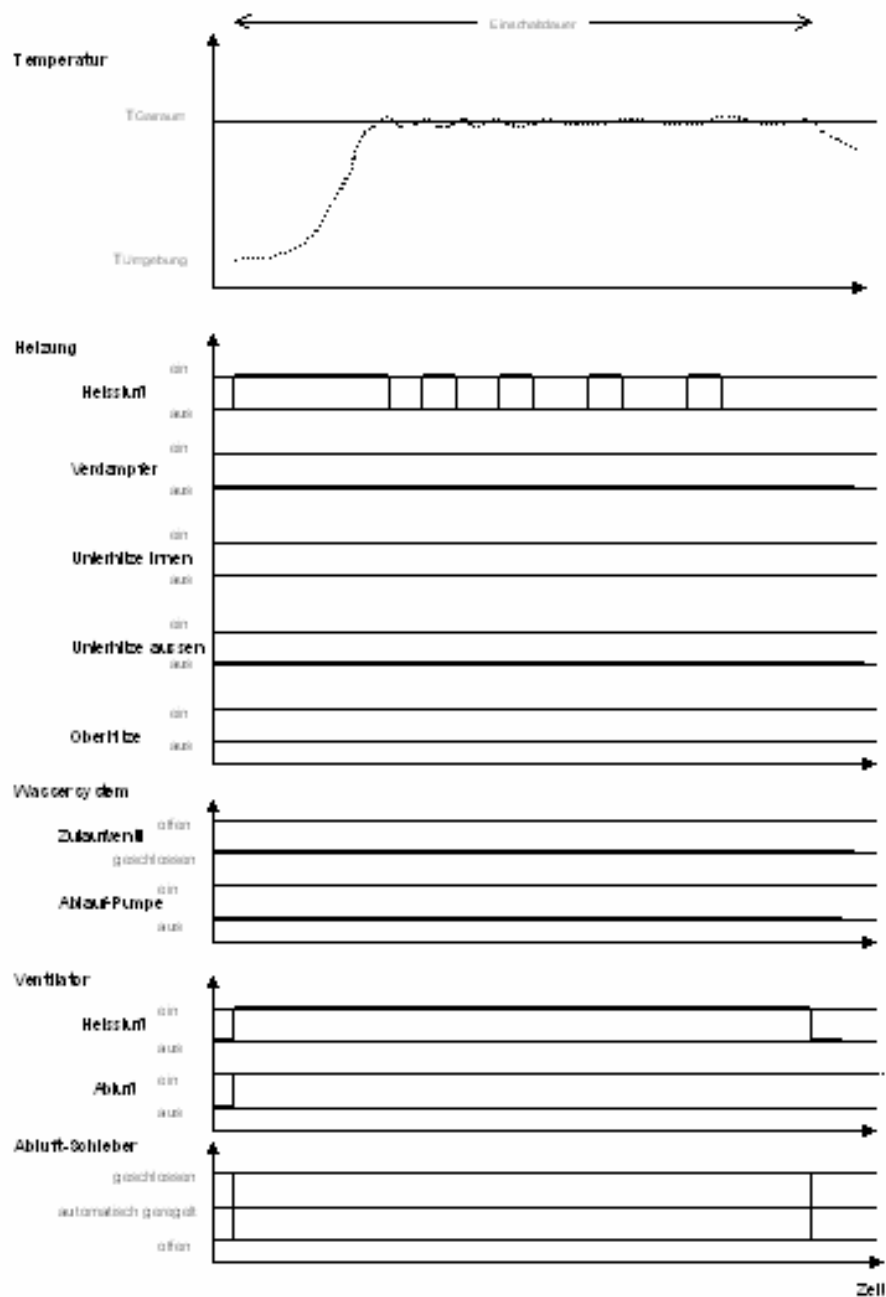
7.4.2 Sequence diagram: hot air (EEBD 6600.0)



Proposed oven temperature: 180°C
 Application: 30°C to 230°C

The distribution of hot air is "less sensitive" if an unsuitable rack level is selected.

7.4.3 Sequence diagram: hot air moist (EEBD 6600.0)



Proposed oven temperature:

180°C

Application:

30°C to 230°C

Suitable for:

gratins, oven bakes and yeast dough products

7.5 Hot air with steam vapours (EEBD 6600.0)

Recommended oven temperature: 180°C

Area of application: 30°C to 230°C

On heating with hot air, the air in the oven is heated up by a heater located behind the back wall of the oven and is then circulated evenly throughout the oven by means of the hot air fan.

The hot air with steam vapour mode is suitable for:

- meat, which remains tender and juicy by means of an initial process of steam vapourisation.

Subsequent to the heating-up phase it is possible to feed additional steam into the oven at any time.

7.5.1 Program sequence

1. Filling in water and hot air heating
2. Altitude adjustment at the same time as heating up with hot air
3. Continued heating with hot air (hot air with vapourisation possible)
4. Steam dissipation
5. Emptying

Filling and heating with hot air

See “1. Filling in water” on page 13 and then as follows: simultaneously with activating the supply pump, the hot air fan and the ventilator fan are switched on at a certain setting and the hot-air heater is activated at full power.

As soon as the filling procedure has been completed, the heater in the evaporator is activated at a reduced power due to the safety fuse 16 A, 230 V.

The vent flap and the supply air flap remain open.

2. Altitude adjustment during the procedure of heating up with hot air

Altitude adjustment is carried out during the further procedure of heating up the oven with the hot air heater to the oven temperature set (see “2. Altitude adjustment” on page 48).

A single acoustic sound can be heard once the pre-set oven temperature has been reached. The clear text display indication then changes from

hot air + steam vapours	to	hot air + steam vapours
oven heating up		steam ON and OK

3. Continued hot air heating

The pre-set oven temperature is maintained by means of a regulating cycle, which switches the hot air heater on and off respectively.

4. Steam vaporising

Steam vapours enable an individual supply of steam into the oven in order to improve cooking and baking results. It is only possible to vaporise once the oven has been heated up to the pre-set temperature.

The process of vaporising can then be manually activated or inactivated by means of the OK button. When the process of vaporising is activated, the supply air flaps and the vent flaps are closed.

During the process of vaporising, steam is supplied into the oven until the steam exit temperature (TDA) at the outlet is higher than a certain threshold value. If the temperature falls short of this threshold value the evaporator heater will be re-activated.

Should vapourisation not be activated, the heater in the evaporator will be switched off. The heater will only be switched on again once the water in the evaporator has fallen below a certain temperature. The water temperature in the evaporator is then maintained at this standby level.

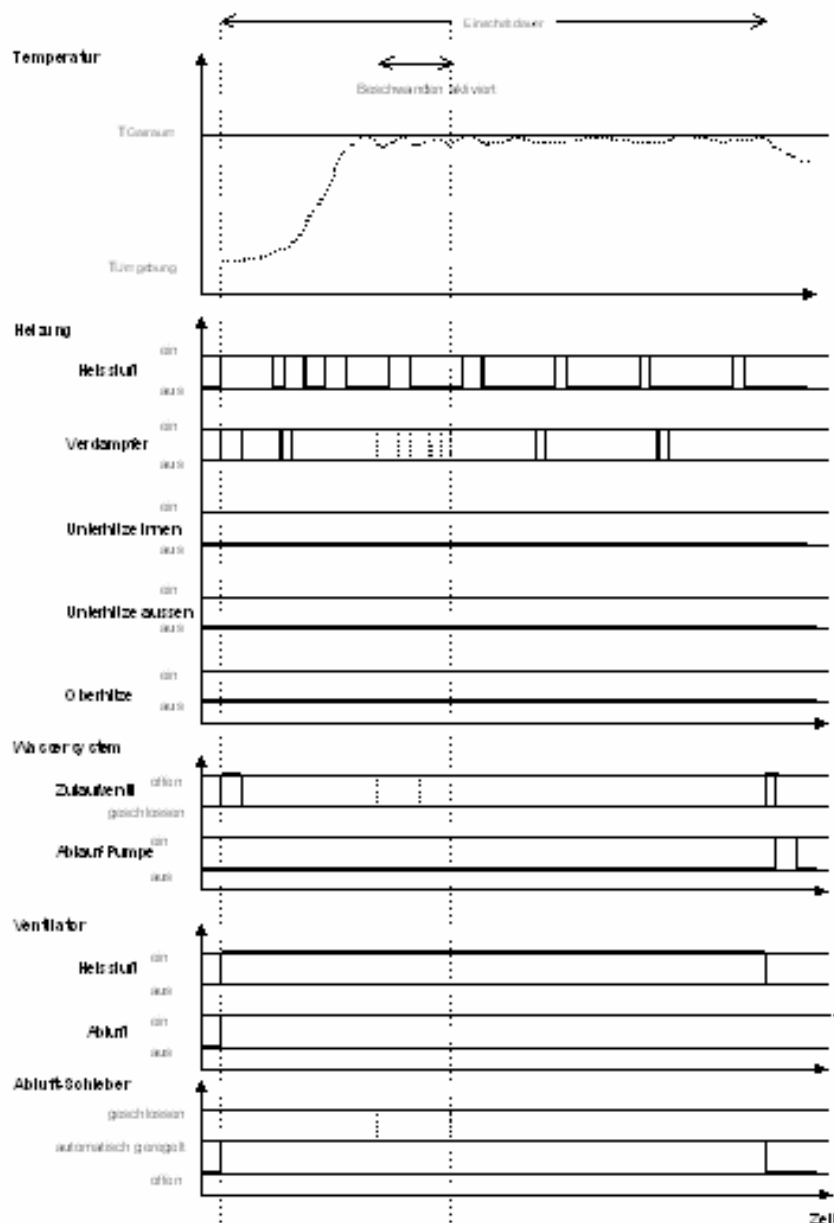
5. Steam dissipation

Steam dissipation is only carried out if the climatic sensor has been actuated at a certain point in time prior to completion of cooking (see “5. Steam dissipation” on page 49).

6. Emptying

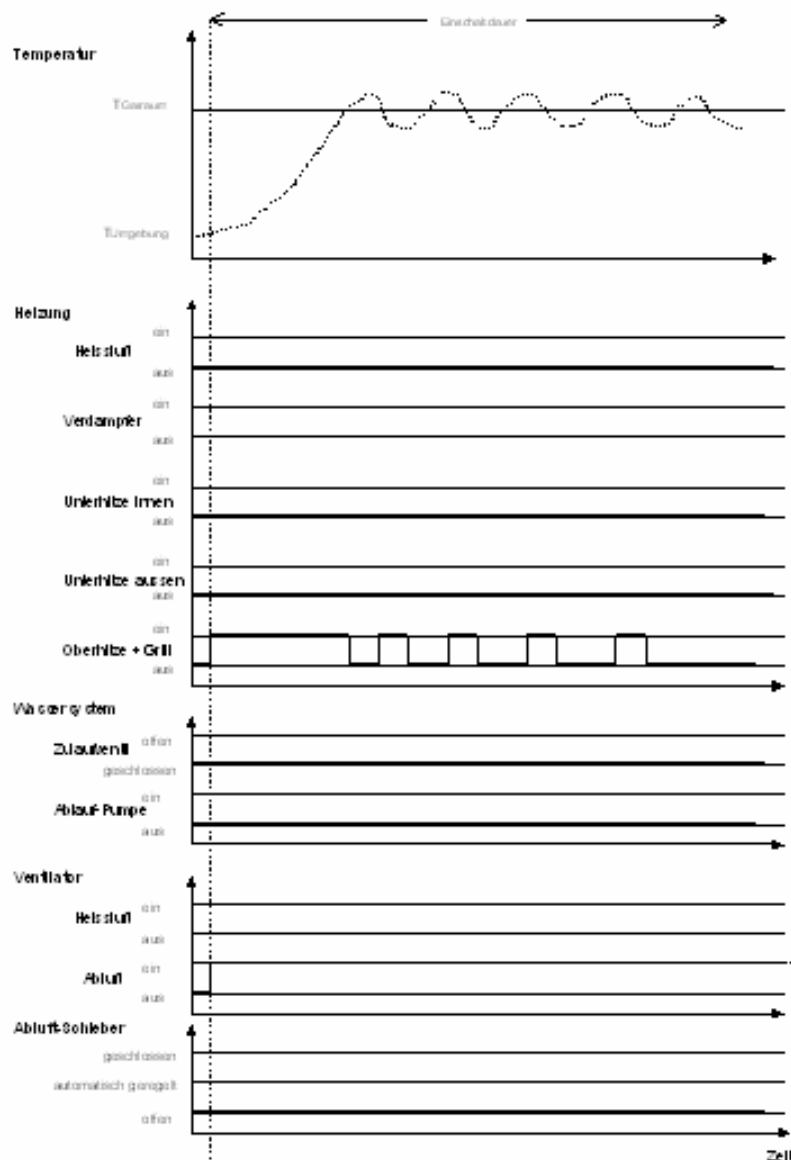
See “6. Emptying” on page 49.

7.5.2 Sequence diagram: hot air + steaming (EEBD 6600.0)



7.6 Grill (EEBD 6600.0)

7.6.1 Sequence diagram: Grill



Large-surface grill

Proposed oven temperature:

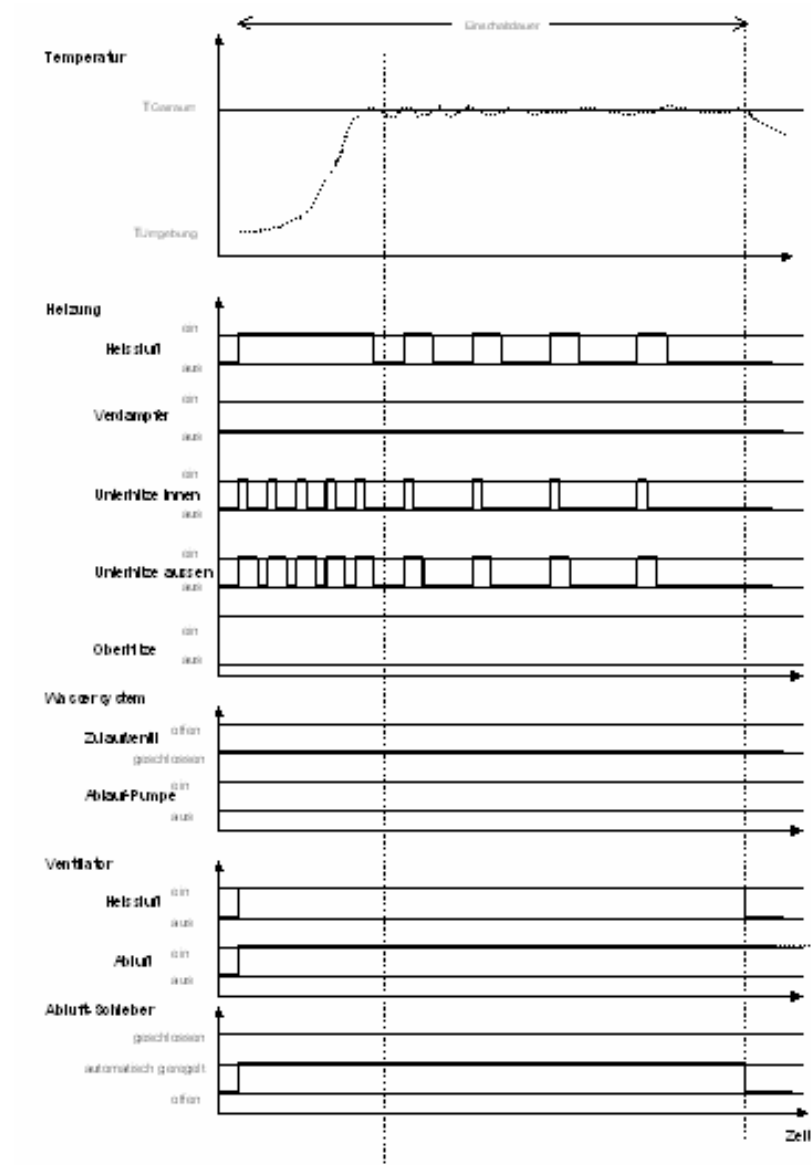
230°C

Application:

200°C to 230°C

7.7 Pizza Plus (EEBD 6600.0)

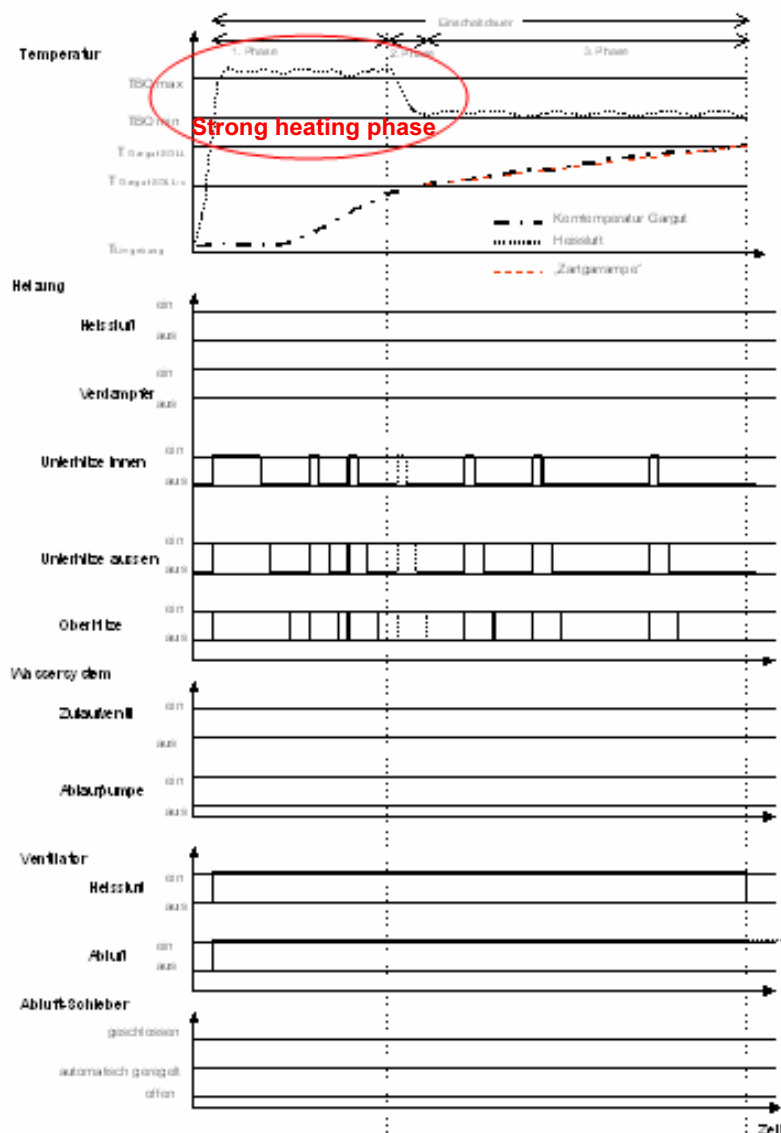
7.7.1 Sequence diagram: Pizza Plus



Proposed oven temperature: 180°C
 Application: 30°C to 230°C

7.8 Slow cooking (EEBD 6600.0)

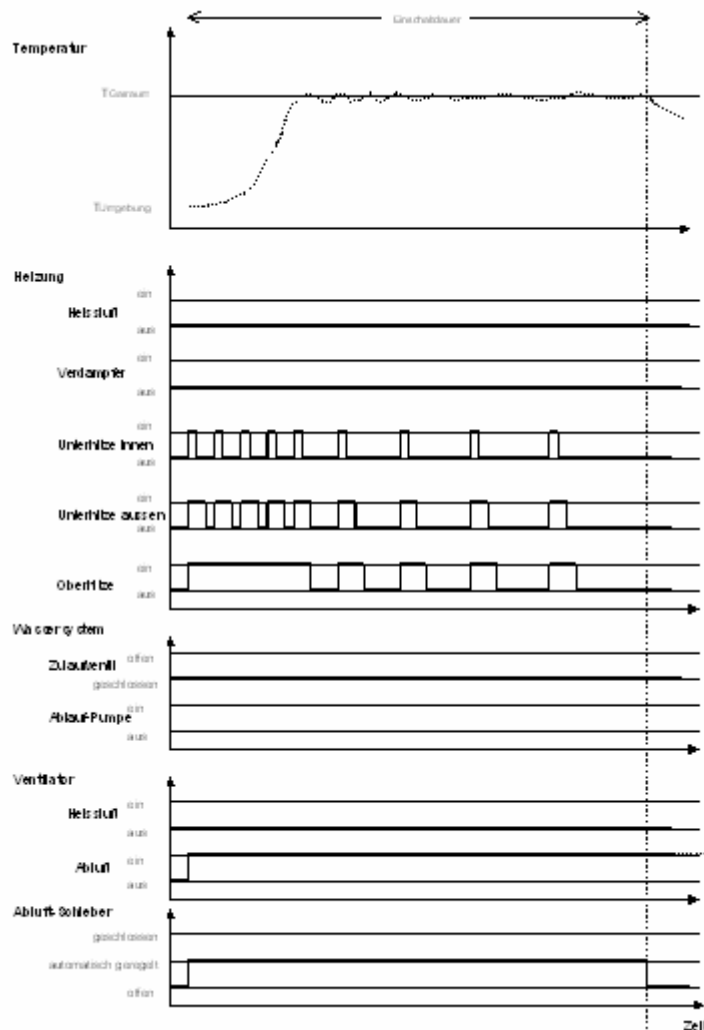
7.8.1 Sequence diagram: slow cooking (gently roasted)



Proposed core temperature: 70°C
Adjustable duration: 2.5 – 4.5 hours

7.9 Top / bottom heat (EEBD 6600.0)

7.9.1 Sequence diagram: Top / bottom heat



Proposed oven temperature: 180°C

Application: 30°C to 230°C

External bottom heat

- No influence on the baking time
- Slightly longer heating up time:
 - Rapid heating up in approx. 6 minutes
 - Normal heating up in approx. 11 minutes
- Protective foil may not be used on the floor of the oven



7.10 Legend

Ablaufpumpe	discharge pump
Abluft	exhaust air
Abluft-Schieber	exhaust air slide
aus	off
Bodenheizung	floor heater
Dampf	steam
Drehzahlstufe	speed level
ein	on
Einschaltdauer	operation time
Entkalken	descale
erstes Ansprechen Klimasensor	initial activation of the air sensor
geschlossen	closed
Heissluft	hot air
Heizkörper	heater
HL Ventilator	hot air fan
Höhenabgleich beendet	height adjustment completed
Oberhitze	top heat
Offen	open
Raumlüftventilator	ambient air fan
Spülen	rinse
Starke Heizphase	strong heating phase
Temperatur	temperature
Unterhitze aussen	bottom heat exterior
Unterhitze innen	bottom heat interior
Ventilator	fan
Verdampfer	evaporator
Wassersystem	water system
Zeit	time
Zulaufen	intake
Zuluft- und Entlüftungsklappe	inlet air and outgoing air flap

8. General information on operation and the demonstration mode

Operation: EEBD 6600.0

The operation modes, the oven temperature and the core temperature as well as the duration of cooking time and various other functions may be selected by touching the respective button once or several times.

- The symbol for the function selected will light up or blink.
- A proposal will blink in the corresponding display.
- Turning the adjusting knob  will change the proposed setting.
- If the adjusting knob is not pressed the appliance will start up automatically approx. 15 seconds after the last setting was made.
- Other settings or changes can be made at any time.
- The appliance will switch off when the  button is touched.

The selected mode can also be started up immediately with the button if you do not wish to wait until the setting time has lapsed after making the previous setting. You may adjust the appliance settings as you wish. The procedure for all of the user settings corresponds. The following chart gives an overview of possible user settings. See the instructions for use relating to the specific models here.

Discontinuing operation

Using the OFF button to discontinue with operation of the appliance will automatically delete the mode of operation, the oven and the core temperature, operation time and switch-off time and the emptying of the evaporator will be shown on the clear text display and will be carried out if the water temperature was cooled down to a specific temperature. At the end of the time-controlled operation the settings such as operation mode, oven temperature and core temperature will be maintained on standby for 3 minutes (software) so that it is possible to extend the cooking time as required. Only the hot-air phase will be extended for the baking like professionals mode. The appliance will automatically be emptied and switched off when the stand-by time has lapsed.

8.1 Demonstration mode (EDG 6600.0 and EDG 6600.1)

Requirement:	The appliance must be ready for operation before it is switched on or off, i.e. all of the displays are dark apart from the time of day display.
Switching the appliance on and off:	Keep the OPERATION MODE and OK and OFF buttons pressed for 10 seconds. The display will show "dEn0" (demonstration mode off) Press the OK button and adjust the blinking display with the adjusting knob to "dEn1" (demonstration mode on) Acknowledge the setting adjustment with the OK button. Use the OFF button to exit the adjusting mode.
Switching off:	Press the OPERATING MODE and OK and OFF buttons simultaneously. The display will show "dEn1" (demonstration mode on) Press the OK button and adjust the blinking display with the adjusting knob to "dEn0" (demonstration mode off) Acknowledge the setting adjustment with the OK button. Use the OFF button to exit the adjusting mode.

8.2 Demonstration mode (EKDG 6800.0 and EKD G 6800.0-75)

- Requirement:** The appliance must be ready for operation before it is switched on or off, i.e. all of the displays are dark apart from the time of day display.
- Switching the appliance on and off:** Keep the OVEN LIGHTING buttons pressed and then also press the TIME OF DAY, TIMER, OPERATING TIME and SWITCH-OFF TIME buttons. The display will show ****Demo mode on*** or ****Demo mode off*** for 3 seconds. The demonstration mode is stored in EEPROM so that it will not get lost and will not need to be re-set, even in the event of a power cut.
- If an appliance is connected to the mains with the demonstration mode activated, the display will show *** Demo mode *** as a reminder. This text can be acknowledged with any button.

8.3 Demonstration mode (EKDG 6800.1 and EKD G 6800.2)

- Requirement:** The appliance must be ready for operation before it is switched on or off, i.e. all of the displays are dark apart from the time of day display.
- Switching the appliance on and off:** Keep the LIGHTING and OK and OFF buttons pressed for 10 seconds. The display will show **** demonstration mode off****. Use the adjusting knob to set ****Demo mode on*** and acknowledge with the OK button.
- Switching off:** Press the LIGHTING and OK and OFF buttons simultaneously. Use the adjusting knob to set ****Demo mode off*** and acknowledge with the OK button.

8.4 Demonstration mode (EEBD 6600.0)

- Requirement:** The appliance must be ready for operation before it is switched on or off, i.e. all of the displays are dark apart from the time of day display.
- Switching the appliance on and off:** Keep the LIGHTING and OK and OFF buttons pressed for 10 seconds. The display will show "dEn0" (demonstration mode off). Press the OK button and adjust the blinking display with the adjusting knob to "dEn1" (demonstration mode on). Acknowledge the setting adjustment with the OK button. Use the OFF button to exit the adjusting mode.
- Switching off:** Press the LIGHTING and OK and OFF buttons simultaneously. The display will show "dEn1" (demonstration mode on). Press the OK button and adjust the blinking display with the adjusting knob to "dEn0" (demonstration mode off). Acknowledge the setting adjustment with the OK button. Use the OFF button to exit the adjusting mode.

9. Error and alarm messages

Should the control system have recognized a fault, it will firstly switch off all of the consumers and indicate a corresponding A-alarm message or F or U-fault message.

There are four groups of fault messages which, depending on the reason for the fault, can be rectified by users themselves or by skilled customer service staff only:

- **Reference messages**

are usually not an indication of a defect in the appliance; instead, they request that the user takes some kind of action. A procedure in operation is only interrupted if this becomes necessary. Reference messages are indicated by a respective test on the display, e.g. "fill up water", "close the door", etc.).

Acknowledging an A-alarm message

In the case of the "install the water tank", "fill up water" and "please close the door" messages, the current program will be discontinued until the fault has been rectified and the OK button has been pressed. The "water is being pumped off" message goes off by itself once the pumping procedure has been completed or a new program has been selected.

- **A-alarm messages**

are faults which users can rectify themselves and which would have a negative effect on the appliance or put it out of working order if not rectified. The EKDG 6800.0 only has one A-alarm message, which can only occur at the end of a procedure and which is indicated by means of the text "Boiler scaled. Please descale!" on the clear text display. An "A10" fault, unlike U and F fault messages, is not indicated.

Acknowledging an A-alarm message

A-alarm messages can always be acknowledged by pressing any button. Should the fault still occur, the next procedure will be followed by a renewed alarm message.

- **F-fault messages**

indicate defects which can usually only be rectified by the KÜPPERSBUSCH customer service and which would put the appliance out of working order if not rectified (defect sensors or actuators, etc.). They can occur at any time and will immediately interrupt any procedure which is in operation.

F-fault messages are shown in the clear text display as "call Fx Service", with "Fx" blinking and "x" being a number between 0 and 9.

- **Acknowledging F-fault messages**

F-fault messages are acknowledged by pressing any button. The acknowledgement will only be accepted when the fault no longer occurs. Otherwise the fault message will be indicated again, either immediately or during the next procedure.

- **U-fault messages**

indicate defects in the network which can usually only be rectified by customer service or by an electrical technician. They are only indicated when the controls have been reset (for example, a power cut or connection to the mains). Mains interruptions during operation are not indicated.

U-fault messages are shown in the clear text display as "Ux El. connection error", with "Ux" blinking and "x" being a number between 1 and 4.

- **Acknowledging U-fault messages**

U-fault messages cannot be acknowledged; they disappear by themselves as soon as the fault has been rectified.

Depending on the cause of the fault, there are two principle possibilities to reset:

resetable: Users can acknowledge the fault message by pressing a button. If there is still reason for the fault, there will be a renewed fault indication, either immediately or during the next program. The cause of the fault must be firstly be removed (F-fault messages / A-alarm messages).

self-resetting: The fault message will be independently reset by the appliance controls once there is no longer any reason for the fault to occur (U-fault messages, reference messages).

9.1 Overview of reference messages

Reference message on the display	Description
Insert the water tank	There is no water tank or it has been incorrectly inserted
Fill up with water	The water tank is empty
Please close the door	The door is open
Water is being pumped off	The boiler will be emptied as soon as the water temperature is below 70°C

9.2 Schedule of U-fault messages (power supply fault)

Fault	Description
U 1	PE faulty (no earthed conductor or one of a poor quality?)
U 2	Supply voltage too high (N-L1 mixed up?)
U 3	L1 voltage too low
U 4	L1 voltage too high

9.3 Schedule of H-fault messages (only EEBD and EDG)

Fault	Description EEBD	Description EDG
H 1	Water tank switching contact	Water tank switching contact
H 2	Level pin faulty	Level pin faulty
H 3	Door switching contact	Door switching contact
H 4	Food sensor switching contact	
H 5	No descale actuation acknowledgement	Filling time exceeded
H 6	Slow cooking discontinued	
H 10	Descaling instruction	

9.4 Fault schedule (EDG 6600.0 and EDG 6600.1)

Signal	Faulty diagnosis of the micro-controller	Possible causes of the fault
H1	Water tank contact is open	In addition to the fact that there is no water tank the following may be the cause: 1. Tank contact defect; poor magnet function 2. Faulty wiring (plug connections, interruption, loose contact, etc.)
H2	The level pin does not develop low resistance (when the inlet pump is activated the level pin does not conduct sufficiently).	In addition to a lack of water in the tank the following may be the cause: 1. Supply pump does not transport sufficiently (swivel arm/hose blocked or crushed). 2. Wiring to the level pin cut off 3. Earthing on the evaporator heater or the computer disconnected
H3	Door contact is open	In addition to the open doors the following may be the cause: 1. Door contact defect; poor magnet function 2. Faulty wiring (plug connections, interruption, loose contact, etc.)
H5	Filling time too long until the level pin develops a low resistance. Or the tank was pulled out for less than 5 seconds.	In addition to a lack of descaling agent in the tank the following may also be the cause: 1. Supply pump does not transport sufficiently (swivel arm/hose blocked or crushed). 2. Wiring to the level pin cut off 3. Earth wire on the evaporator heater or the computer disconnected
F0	Oven temperature gauge a) excessively low resistance b) excessively high resistance c) reference resistance excessively low d) reference resistance excessively high	1. For F0a: Water temperature sensor or corresponding wiring short circuited 2. For F0b: Oven temperature sensor or corresponding wiring has a loose contact 3. Computer defect, possibly as a result of moisture
F2	Water temperature gauge a) excessively low resistance b) excessively high resistance	1. For F2a: Water temperature sensor or corresponding wiring short circuited 2. For F2b: Oven temperature sensor or corresponding wiring has a loose contact 3. Computer defect, possibly as a result of moisture
F3	Air temperature gauge a) excessively low resistance b) excessively high resistance	1. For F3a: Air temperature sensor or corresponding wiring short circuited 2. For F3b: Air temperature sensor or corresponding wiring has a loose contact 3. Computer defect, possibly as a result of moisture
F5	Data backup faulty a) EEPROM check total faulty b) EEPROM process data faulty c) EEPROM read-in faulty d) EEPROM writing faulty e) ROM faulty (is not shown on the appliance)	1. Calculator defect (component faulty, EMC influences, moisture, dirt, etc.)
F7	Water temperature does not rise sufficiently (when the evaporator heater is activated the water temperature does not rise sufficiently)	1. Heater defect, interruption in the flange (overheating protection device), 2. Faulty wiring (interruption, loose contact, etc.) 3. Water temperature gauge does not react (probe plug dirty, etc.) 4. Calculator defect (relay, etc.)
F8	Emptying function faulty (the level pin does not develop sufficient high resistance when water is pumped out)	1. Discharge pump does not transport sufficiently (swivel arm/hose blocked or crushed). 2. Wiring to the level pin short circuited 3. Foam in the evaporator casing (unsuitable descaling agent) 4. Calculator defect, possibly as a result of moisture

F9	Rise in air temperature faulty (when the evaporator heater is activated the air temperature rises too slowly)	<ol style="list-style-type: none"> 1. Oven leaks (loss of steam, doors not properly closed?) 2. Air temperature sensor does not react. Probe dirty/wet 3. Too much cold food has been put into the oven (for steaming a max. 2 kg of food is permissible) 4. Calculator defect, possibly as a result of moisture
F 10	Button contact faulty closed for more than a minute	<ol style="list-style-type: none"> 1. Button that has got caught on the control panel 2. The computer will get damp in the area of the flat cable as a result of a lead in the red silicon bead 3. The operating element will become damp as a result of steam getting into the space behind the panel
dEno	Demonstration mode is activated (message only appears after a power cut)	The mode intended for exhibition purposes. No heaters are switched on and no error messages are given.

9.5 Fault schedule **EKDG 6800.0**

Signal	Faulty diagnosis of the micro-controller	Possible causes of the fault
Add water	Water resistance remains high although the pump is switched on (level pin does not conduct).	<p>Besides a lack of water in the tank, the following may also be the cause:</p> <ol style="list-style-type: none"> 1. The supply pump does not transport sufficiently (swivel arm/hose blocked or crushed). 2. Wiring to the level pin faulty (interruption, loose contact, etc.). 3. Earth circuit on the evaporation heater or on the calculator interrupted.
Boiler calcified	Water resistance only becomes low on additional pumping (level pin conduction delayed) or the maximum number of heating hours has been reached; or if the difference between the heating spiral and the maximum water temperature is too high.	<p>Besides calcification the following may also be the cause:</p> <ol style="list-style-type: none"> 1. The supply pump does not transport sufficiently (swivel arm/hose blocked or crushed). Note: signal only after 5 occurrences. 2. Water insufficiently conductive (demineralised water used?). 3. Insulation layer on the pin (unsuitable descaler used or residues?). 4. Insulation layer on the spiral (unsuitable descaling agent used or deposits?).
F0	Resistance of the oven temperature gauge (Pt500) beyond the permissible range	<ol style="list-style-type: none"> 1. Short in the oven temperature gauge, interruption. 2. Faulty wiring (interruption, short-circuit, loose contact, etc.). 3. Calculator defect, possibly as a result of moisture.
F1	Resistance of the food temperature gauge (NTC) beyond the permissible range.	<ol style="list-style-type: none"> 1. Food temperature gauge short-circuit, interruption, seeping in of moisture, etc., or the socket defect. 2. Socket faulty (moisture, warped contacts, loose contact, etc.). 3. Faulty wiring (interruption, short-circuit, loose contact, etc.). 4. Food sensor not set (sensor tip gets too hot) 5. Calculator defect, possibly as a result of moisture.
F2	Resistance of the water temperature gauge (NTC) beyond the permissible range.	<ol style="list-style-type: none"> 1. Water temperature gauge short circuit, interruption, seeping in of moisture, etc. 2. Faulty wiring (interruption, short-circuit, loose contact, etc.). 3. Calculator defect, possibly as a result of moisture.
F3	Resistance of the air temperature gauge (NTC) beyond the permissible range.	<ol style="list-style-type: none"> 1. Water temperature gauge short circuit, interruption. 2. Faulty wiring (interruption, short-circuit, loose contact, etc.). 3. Calculator defect, possibly as a result of moisture.
F4	Motor current of the exhaust air slider does not rise sufficiently in the final position.	<ol style="list-style-type: none"> 1. Short circuit in the heating spiral temperature sensor, interruption 2. Faulty wiring (interruption, short-circuit, loose contact, etc.). 3. Calculator defect, possibly as a result of moisture.

F5	Data backup faulty (EEPROM)	1. Calculator defect (component faulty, EMC influences, moisture, dirt, etc.).
F7	Water temperature does not rise sufficiently (when the evaporator heater is activated the water temperature does not rise sufficiently)	1. Evaporator heater defect (excessive temperature cut-off device) 2. Faulty wiring (plug connections, interruption, short circuit, loose contact, etc.) 3. Water temperature gauge does not react (plug of the water temperature sensor dirty, etc.). 4. Calculator defect (relay, etc.).
F8	Water resistance remains low although water is being pumped off (level pin remains conductive).	1. Discharge pump transports insufficiently (tube blocked or crushed) 2. Level pin wiring short circuit 3. Foam in the evaporator casing (unsuitable descaling agent) 4. Calculator defect, possibly as a result of moisture.
F9	Air temperature does not rise sufficiently , although the evaporator heater has been activated.	1. Coil of the inlet/outgoing air flap has been interrupted 2. Inlet/outgoing air flap is stuck, has come out or the steam hole is blocked 3. Inlet air plug porous, defect, dropped off, etc. 4. Oven leaks (loss of steam, doors not properly closed?) 5. Evaporator heater defect (excessive temperature cut-off device) 6. Air temperature sensor does not take accurate measurements. Sensor hole blocked 7. Too much cold food has been put into the oven (for steaming a max. 2 kg of food is permissible) 8. Calculator defect, possibly as a result of moisture.
U 1	No voltage or too little voltage measurable between the terminal conductor and the earthed conductor	1. Earthed conductor not connected 2. Faulty installation in the building (loose contact, interruption, etc.)
U 2	Excessive differential voltage between the earthed conductor and the neutral conductor.	1. Terminal conductor (P1) and neutral conductor (N) have been exchanged. 2. Faulty installation in the building (loose contact, interruption, etc.)
U 3	Under-voltage on the terminal conductor (P1) <147...198V	1. Voltage fluctuation 2. Faulty installation in the building (loose contact, interruption, etc.)
Ü...	Excessive voltage on the terminal conductor (P1) >244..313V	1. Voltage fluctuation 2. Faulty installation in the building (loose contact, interruption, etc.)
No signal	Heater for hot air does not heat up.	1. There is no supply on the L2 terminal of the calculator (instructions for installation observed?). 2. Hot-air heater faulty (plug connections, interruption, short circuit, loose contact). 3. Faulty wiring (interruption, short-circuit, loose contact, etc.). 4. Evaporator heater defect (excessive temperature cut-off device) 5. Automatic cut-off by F2 thermostat (the appliance will need to be replaced if there are signs of overheating on the muffle)
No message	At times unusual illegible signs on the text display	1. VFD module is damp as a result of steam getting in behind the panel 2. VFD module defect or computer possible defect.
dEno	Demonstration mode is activated (message only appears after a power cut)	The mode intended for exhibition purposes. No heaters are switched on and no error messages are given.

9.6 Fault schedule EKDG 6800.1

Signal	Faulty diagnosis of the micro-controller	Possible causes of the fault
Add water	Water resistance remains high although the pump is switched on (level pin does not conduct).	Besides a lack of water in the tank, the following may also be the cause: 1. The supply pump does not transport sufficiently (swivel arm/hose blocked or crushed). 2. Wiring to the level pin faulty (interruption, loose contact, etc.). 3. Earth circuit on the evaporation heater or on the calculator interrupted.
Evaporator calcified	Level pin only develops low resistance when the evaporator is filled up. (message appears only after the fault has occurred five times)	Besides calcification the following may also be the cause: 1. The supply pump does not transport sufficiently (swivel arm/hose blocked or crushed). 2. Water insufficiently conductive (demineralised water used?). 3. Insulation layer on the pin (unsuitable descaler used or residues?).
F0	Oven temperature gauge a) excessively low resistance b) excessively high resistance c) Reference resistance excessively low d) Reference resistance excessively high	1. For F0a: Oven temperature sensor or corresponding wiring short circuited 2. For F0b: Oven temperature sensor or corresponding wiring has a loose contact 3. Computer defect, possibly as a result of moisture
F2	Water temperature gauge a) excessively low resistance b) excessively high resistance	1. For F2a: Water temperature sensor or corresponding wiring short circuited 2. For F2b: Water temperature sensor or corresponding wiring has a loose contact 3. Computer defect, possibly as a result of moisture
F3	Air temperature gauge a) excessively low resistance b) excessively high resistance	1. For F3a: Air temperature sensor or corresponding wiring short circuited 2. For F3b: Air temperature sensor or corresponding wiring has a loose contact 3. Computer defect, possibly as a result of moisture
F4	Exhaust air slide motor power faulty (too much power during operation or too low in the final position)	1. Black speed limiter of the exhaust air slide motor deformed (used until approx. 8/2005). Always replace black speed limiters with natural coloured models, also as a precaution! The motor may need to be moved in order to mount the new speed limiter. Hint: Pull out the motor plug while the motor is running. 2. Exhaust air slide sticks due to deposits of grease 3. Motor jams or races (mechanical system defect) 4. Corresponding wiring faulty (interruption, short circuit, loose contact) 5. Computer defect, possibly as a result of moisture
F5	Data backup faulty a) EEPROM check total faulty b) EEPROM process data faulty c) EEPROM read-in faulty d) EEPROM writing faulty e) ROM faulty (is not shown on the appliance)	Computer defect (component error, EMV influences, moisture, dirt, etc.)
F7	Water temperature does not rise sufficiently (when the evaporator heater is activated the water temperature does not rise sufficiently)	1. Heater defect, interruption in the flange (overheating protection device), 2. Faulty wiring (interruption, loose contact, etc.) 3. Water temperature gauge does not react (probe plug dirty, etc.) 4. Calculator defect (relay, etc.)

F8	Emptying function faulty (the level pin does not develop sufficient high resistance when water is pumped out)	<ol style="list-style-type: none"> 1. Discharge pump does not transport sufficiently (swivel arm/ hose blocked or crushed). 2. Wiring to the level pin short circuited 3. Foam in the evaporator casing (unsuitable descaling agent) 4. Computer defect, possibly as a result of moisture
F9	Rise in air temperature faulty (when the evaporator heater is activated the air temperature rises too slowly)	<ol style="list-style-type: none"> 1. Exhaust air slide has come out or the steam hole is blocked 2. Oven leaks (loss of steam, doors not properly closed?) 3. Air temperature sensor does not react. Probe dirty/wet 4. Too much cold food has been put into the oven (for steaming a max. 2 kg of food is permissible) 5. Computer defect, possibly as a result of moisture
F 10	Button contact faulty closed for more than a minute	<ol style="list-style-type: none"> 1. Button that has got caught on the control panel 2. The computer will get damp in the area of the flat cable as a result of a lead in the red silicon bead 3. The operating element will become damp as a result of steam getting into the space behind the panel 4. Computer defect, possibly as a result of moisture
No signal	Heater for hot air does not heat up	<ol style="list-style-type: none"> 1. There is no supply on the L2 terminal of the calculator (instructions for installation observed?) 2. Hot-air heater faulty (plug connections, interruption, short circuit, loose contact). 3. Wiring faulty (interruption, short circuit, loose contact) 4. Calculator defect (relay, etc.) 5. Automatic cut-off by F6 thermostat (the appliance will need to be replaced if there are signs of overheating on the muffle)
No message	At times unusual illegible signs on the text display	<ol style="list-style-type: none"> 1. VFD module is damp as a result of steam getting in behind the panel 2. VFD module defect or computer possible defect.
dEno	Demonstration mode is activated (message only appears after a power cut)	The mode intended for exhibition purposes. No heaters are switched on and no error messages are given.

9.7 Fault schedule **EKDG 6800.2**

Signal	Faulty diagnosis of the micro-controller	Possible causes of the fault
Add water	Water resistance remains high although the pump is switched on (level pin does not conduct).	Besides a lack of water in the tank, the following may also be the cause: 1. The supply pump does not transport sufficiently (swivel arm/hose blocked or crushed). 2. Wiring to the level pin faulty (interruption, loose contact, etc.). 3. Earth circuit on the evaporation heater or on the calculator interrupted.
Evaporator calcified	Level pin only develops low resistance when the evaporator is filled up. (message appears only after the fault has occurred five times)	In addition to limestoning the following may be the cause: 1. The supply pump does not transport sufficiently (swivel arm/hose blocked or crushed). 2. Water insufficiently conductive (demineralised water used?). 3. Insulation layer on the pin (unsuitable descaler used or residues?).
	Level pin develops too little resistance during the emptying process. (message only appears after several discharge operations as soon as the level pin develops resistance again).	Besides calcification the following may also be the cause: 1. Discharge pump does not transport sufficiently (swivel arm/hose blocked or crushed). 2. Wiring to the level pin has a loose contact 3. Foam in the evaporator casing (unsuitable descaling agent)
F0	Oven temperature gauge a) excessively low resistance b) excessively high resistance c) Reference resistance excessively low d) Reference resistance excessively high	1. For F0a: Oven temperature sensor or corresponding wiring short circuited 2. For F0b: Oven temperature sensor or corresponding wiring has a loose contact
F1	Food temperature gauge a) excessively low resistance b) excessively high resistance	1. For F1a: Food sensor or the corresponding wiring short circuited 2. For F1b: Food sensor or corresponding wiring has a loose contact; socket has a loose contact (deformed contacts?) 3. For F1a: Food sensor not inserted into the food for the hot-air mode (sensor tip gets too hot)
F2	Water temperature gauge a) excessively low resistance b) excessively high resistance	1. For F2a: Water temperature sensor or corresponding wiring short circuited 2. For F2b: Water temperature sensor or corresponding wiring has a loose contact
F3	Air temperature gauge a) excessively low resistance b) excessively high resistance	1. For F3a: Air temperature sensor or corresponding wiring short circuited 2. For F3b: Air temperature sensor or corresponding wiring has a loose contact
F4	Exhaust air slide motor power faulty (too much power during operation or too low in the final position)	1. Exhaust air slide sticks due to deposits of grease 2. Motor jams or races (mechanical system defect) 3. Corresponding wiring faulty (interruption, short circuit, loose contact)
F5	Data backup faulty a) EEPROM check total faulty b) EEPROM process data faulty c) EEPROM read-in faulty d) EEPROM writing faulty e) ROM faulty (is not shown on the appliance)	Computer defect (component error, EMV influences, moisture, dirt, etc.)

F7	Water temperature does not rise sufficiently (the water temperature does not rise sufficiently when the evaporator heater is activated)	<ol style="list-style-type: none"> 1. Heater defect, flange interruption (protection against excessive temperatures) 2. Faulty wiring (plug connections, interruption, short circuit, loose contact, etc.) 3. Water temperature gauge does not react (plug of the water temperature sensor dirty, etc.). 4. Computer defect (relay, etc.)
F9	Rise in air temperature faulty (when the evaporator heater is activated the air temperature rises too slowly)	<ol style="list-style-type: none"> 1. Exhaust air slide has come out or the steam hole is blocked 2. Oven leaks (loss of steam, doors not properly closed?) 3. Air temperature sensor does not react. Probe dirty/wet 4. Too much cold food has been put into the oven (for steaming a max. 2 kg of food is permissible)
F 10	Button contact faulty closed for more than a minute	<ol style="list-style-type: none"> 1. Button that has got caught on the control panel 2. The computer will get damp in the area of the flat cable as a result of a lead in the red silicon bead 3. The operating element will become damp as a result of steam getting into the space behind the panel
F 17	Excessive air temperature	<ol style="list-style-type: none"> 1. Hairline crack on the plastic sensor
F 20	Level pin dirty The level pin becomes dirty soon after the appliance has been descaled	<ol style="list-style-type: none"> 1. Unsuitable descaling agent used (insulation layer on the pin?) 2. Water intake blocked or limescaled 3. Supply pump jams, hose crushed 4. Insufficient water conductivity (demineralised water used?)
No message	At times unusual illegible signs on the text display	<ol style="list-style-type: none"> 1. VFD module is damp as a result of steam getting in behind the panel 2. VFD module defect or computer possible defect.
No signal	Heater for hot air does not heat up.	<ol style="list-style-type: none"> 1. There is no supply on the L2 terminal of the calculator (instructions for installation observed?) 2. Hot-air heater faulty (plug connections, interruption, short circuit, loose contact). 3. Manual cut-out with thermostat F1 (or F2 if present): Manual re-setting required Possible causes <ul style="list-style-type: none"> • Heater has an earth fault • Relay contact welded on the computer • Hot-air fan defect/blocked • Thermostat F1 (or F2 when present) switches incorrectly • Oven temperature gauge measures incorrectly (excessively low readings) <p>Note: The appliance will need to be replaced if the muffle becomes brown.</p> <ol style="list-style-type: none"> 4. Calculator defect (relay, etc.) <ul style="list-style-type: none"> • (the appliance will need to be replaced if there are signs of overheating on the muffle)
dEno	Demonstration mode is activated (message only appears after a power cut)	The mode intended for exhibition purposes. No heaters are switched on and no error messages are given.

9.8 Fault schedule **EKDG 6800.0-75**

Signal	Faulty diagnosis of the micro-controller	Possible causes of the fault
Add water	Water resistance remains high although the pump is switched on (level pin does not conduct).	Besides a lack of water in the tank, the following may also be the cause: 1. The supply pump does not transport sufficiently (swivel arm/hose blocked or crushed). 2. Wiring to the level pin faulty (interruption, loose contact, etc.). 3. Earth circuit on the evaporation heater or on the calculator interrupted.
Evaporator calcified	Water resistance only becomes low on additional pumping (level pin conduction delayed) or the maximum number of heating hours has been reached.	Besides calcification the following may also be the cause: 1. The supply pump does not transport sufficiently (swivel arm/hose blocked or crushed). Note: signal only after 5 occurrences. 2. Water insufficiently conductive (demineralised water used?). 3. Insulation layer on the pin (unsuitable descaler used or residues?).
F0	Resistance of the oven temperature gauge (Pt500) beyond the permissible range.	1. Short in the oven temperature gauge, interruption. 2. Faulty wiring (interruption, short-circuit, loose contact, etc.). 3. Calculator defect, possibly as a result of moisture.
F1	Resistance of the food temperature gauge (NTC) beyond the permissible range.	1. Food temperature gauge short-circuit, interruption, seeping in of moisture, etc., or the socket defect. 2. Faulty wiring (interruption, short-circuit, loose contact, etc.). 3. Calculator defect, possibly as a result of moisture.
F2	Resistance of the water temperature gauge (NTC) beyond the permissible range.	1. Water temperature gauge short circuit, interruption, seeping in of moisture, etc. 2. Faulty wiring (interruption, short-circuit, loose contact, etc.). 3. Calculator defect, possibly as a result of moisture.
F3	Resistance of the air temperature gauge (NTC) beyond the permissible range.	1. Air temperature sensor short circuit, interruption. 2. Faulty wiring (interruption, short-circuit, loose contact, etc.). 3. Calculator defect, possibly as a result of moisture.
F4	Motor current of the exhaust air slider does not rise sufficiently in the final position.	1. The motor exhaust air slider races, mechanism defect. 2. Faulty wiring (interruption, loose contact, etc.). 3. Calculator defect, possibly as a result of moisture.
F5	Data backup faulty (EEPROM).	1. Calculator defect (component faulty, EMC influences, moisture, dirt, etc.).
F7	Water temperature does not rise sufficiently.	1. Heater defect, interruption in the Strix flange (overheating protection device), etc. 2. Faulty wiring (interruption, loose contact, etc.). 3. Water temperature gauge does not react (probe plug dirty, etc.). 4. Calculator defect (relay, etc.).
F8	Water resistance remains low although water is being pumped off (level pin remains conductive).	1. Discharge pump transports insufficiently (tube blocked or crushed). 2. Level pin wiring short circuit. 3. Foam in the evaporator casing (unsuitable descaling agent). 4. Calculator defect, possibly as a result of moisture.

Signal	Faulty diagnosis of the micro-controller	Possible causes of the fault
F9	Air temperature does not rise sufficiently.	<ol style="list-style-type: none"> 1. Too much cold food put into the oven (for steaming a max. of 2 kg frozen food allowed). 2. Exhaust air slider/motor stuck or defect (in the case of initial series appliances with a rated frequency of below 300, replace the calculator too; as of Feb. 2003 the calculators supply 110 mA instead of only 80 mA). 3. Steam hole blocked. 4. Oven has a leak (loss of steam, door not closed properly?). 5. Air temperature probe gauges temperature incorrectly, "gets stuck". 6. Faulty wiring (interruption, loose contact, etc.). 7. Calculator defect, possibly as a result of moisture.
No signal	Heater for hot air does not heat up.	<ol style="list-style-type: none"> 1. There is no supply on the L2 terminal of the calculator (instructions for installation observed?). 2. Heater defect, interruption. 3. Thermostat F6 activated (manual resetting). 4. Faulty wiring (interruption, short-circuit, loose contact, etc.). 5. Calculator defect (relay, etc.).
No message	Lighting does not work	<ol style="list-style-type: none"> 1. Lamp defect 2. Plug X2 on the computer displaced

9.9 Fault schedule: **EEBD 6600.0**

Signal	Faulty diagnosis of the micro-controller	Possible causes of the fault
H 1	Water tank switching contact is open	In addition to the fact that there is no water tank the following may be the cause: <ol style="list-style-type: none"> 1. Water tank is not in the end position or it is defect 2. Switch contact defect or plug connection loose
H 2	The level pin does not develop low resistance when the inlet valve is activated the level pin does not conduct sufficiently).	In addition to a lack of water in the tank the following may be the cause: <ol style="list-style-type: none"> 1. Water intake blocked or limescaled 2. Supply pump jams, hose crushed 3. Wiring to the level pin faulty (interruption, loose contact, etc.) 4. Earth wire on the evaporator heater or the computer disconnected
H 3	Door switching contact is open	In addition to open doors the following may be the cause: <ol style="list-style-type: none"> 1. Switching contact defect Door magnet or reed switch displaced 2. Faulty wiring (plug connections, interruption, loose contact, etc.)
H 4	Food sensor switching contact is open	In addition to a food sensor that has not been inserted the following may be the cause: Socket with a loose contact (deformed contacts?)
H 5	No descale actuation acknowledgement	After filling in the descaling agent, insert the water tank again and press the OK button to start descaling (see instructions for operation).
H 6	Slow cooking discontinued	Pressing the O button has caused slow cooking to be discontinued (continue with the OK button or completely end the process with the O button)

H 10	Descal instruction <ul style="list-style-type: none"> - Number of hours of operation of the evaporator heater reached - Level pin dirty: The pin only develops low resistance on filling up (appears after this has occurred five times) - Water intake faulty: pumping out several times within two hours in the standby or baking mode - Water intake faulty: no water fed in during steam operation 	<p>Besides normal scaling on the evaporator the following may be the cause:</p> <ol style="list-style-type: none"> 1. Water intake blocked or limescaled 2. Intake valve jammed Hose crushed 3. Insufficient water conductivity (demineralised water used?) 4. Insulation layer on the pin (unsuitable descaling agent or deposits?) 5. Intake valve leaks (valve leak, limestone chips in the gasket, etc.)
CAx	Descaling started	Complete the descaling procedure (see Page XXX). For safety reasons it is not possible to interrupt the descaling procedure once it has started.
F 0	Oven temperature gauge <ol style="list-style-type: none"> a) excessively low resistance b) excessively high resistance c) Reference resistance excessively low d) Reference resistance excessively high 	<ol style="list-style-type: none"> 1. For F0a: Oven temperature sensor or corresponding wiring short circuited 2. For F0b: Oven temperature sensor or corresponding wiring has a loose contact
F 1	Food temperature gauge <ol style="list-style-type: none"> a) excessively low resistance b) excessively high resistance 	<ol style="list-style-type: none"> 1. For F1a: Food sensor or the corresponding wiring short circuited 2. For F1b: Food sensor or corresponding wiring has a loose contact; socket has a loose contact (deformed contacts?) 3. For F1a: Food sensor not inserted into the food for the hot-air mode (sensor tip gets too hot)
F 2	Water temperature gauge <ol style="list-style-type: none"> a) excessively low resistance b) excessively high resistance 	<ol style="list-style-type: none"> 1. For F2a: Water temperature sensor or corresponding wiring short circuited 2. For F2b: Water temperature sensor or corresponding wiring has a loose contact
F 3	Air temperature gauge <ol style="list-style-type: none"> a) excessively low resistance b) excessively high resistance 	<ol style="list-style-type: none"> 1. For F3a: Air temperature sensor or corresponding wiring short circuited 2. For F3b: Air temperature sensor or corresponding wiring has a loose contact
F 4		3.
F 5	Data backup faulty <ol style="list-style-type: none"> a) EEPROM check total faulty b) EEPROM process data faulty c) EEPROM read-in faulty d) EEPROM writing faulty e) ROM faulty (is not shown on the appliance) 	<ol style="list-style-type: none"> 1. Process data loaded. Check the version and if necessary newly load the correct process data. 2. Computer defect (component error, EMV influences, moisture, dirt)
F 7	Water temperature does not rise sufficiently (the water temperature does not rise sufficiently when the evaporator heater is activated)	<ol style="list-style-type: none"> 1. Flange interruption (fastening screws have not been tightened enough, etc.) 2. Evaporator heater defect, excessive temperature cut-off device (caution: one of these re-sets automatically) 3. Water temperature gauge does not react (plug of the water temperature sensor dirty, etc.). 4. Evaporator may be badly scaled. Descale.
F 8	Emptying faulty When pumping water out the level pin does not develop a sufficiently high resistance	<ol style="list-style-type: none"> 1. Discharge pump does not transport sufficiently (hose crushed) 2. Foam in the evaporator casing (unsuitable descaling agent) 3. Evaporator may be badly scaled. Descale.

F 9	Rise in air temperature faulty (when the evaporator heater is activated the air temperature rises too slowly)	<ol style="list-style-type: none"> 1. Oven leaks (loss of steam, exhaust air slider leaks, food sensor socket defect, doors not closed properly?) 2. Air temperature sensor does not react. Probe dirty/wet 3. Too much cold food has been put into the oven (for steaming a max. 2 kg of food is permissible) 4. Gasket of the hot-air fan missing or defect. To check: Working from the oven, remove the hot-air panel and the rotor (caution: left-hand thread!)
F 10	Button contact faulty Closed for more than a minute Humidity sensor (uncovered strip conductor) occupied for more than 20 seconds.	<ol style="list-style-type: none"> 1. For F1a: Operating element moist as a result of steam getting behind the panel. 2. For F1a: Button on the operating element jammed or moisture on the operating element.
F 11	Button contact faulty Closed for more than a minute Humidity sensor (uncovered strip conductor) occupied for more than 20 seconds.	<ol style="list-style-type: none"> 1. No L2 terminal wire (e.g. fuse/automatic cut-out has tripped) 2. Cooling-air fan defect 3. Fan wheel jammed or the fins are dirty in the area of the sensor 4. Speed sensor displaced or sensor defect
F12	Computer temperature gauge a) excessively low resistance b) excessively high resistance	<ol style="list-style-type: none"> 1. ei F2a: Computer temperature gauge on the computer has short circuited 2. For F2b: Computer temperature gauge on the computer has been interrupted
F 13	Computer excessive temperature Computer temperature gauge measures a temperature in excess of 80°C	<ol style="list-style-type: none"> 1. Niche temperature too high (caused by a second appliance?)
F 14	Excessive oven temperature Oven temperature gauge measures a temperature in excess of 260°C	<ol style="list-style-type: none"> 1. Oven temperature sensor (PT500) defect or probe wet/dirty 2. Hot-air fan defect (for oven temperature settings of more than 200°C)
F 15		
F 16	Excessive evaporator temperature Water temperature gauge measures a temperature in excess of 102°C	<ol style="list-style-type: none"> 1. Evaporator leaks. Probe dirty/wet 2. Not enough water in the evaporator (check the level gauge)
F 17	Excessive air temperature Air temperature gauge measures a temperature in excess of 140°C	<ol style="list-style-type: none"> 1. For the 0 SW version: Excessively high temperature for "damp hot-air" or "hot air with vapours" (caution: this may occur during standard operation) 2. Hairline crack on the plastic sensor
F 18	Empty during descaling process faulty The level pin develops too little resistance when water is being pumped out (too little difference before and after pumping out)	<ol style="list-style-type: none"> 1. Foam in the evaporator casing (unsuitable descaling agent) 2. Discharge pump does not transport sufficiently (hose crushed) 3. Intake valve leaks (valve leak, limestone chips in the gasket, etc.)
F 19	Level faulty after descaling Level pin develops low resistance at the end of the descaling process (after rinsing)	<ol style="list-style-type: none"> 1. Foam in the evaporator casing (unsuitable descaling agent) 2. Intake valve leaks (valve leak, limestone chips in the gasket, etc.)
F 20	Level pin dirty The level pin becomes dirty soon after the appliance has been descaled	<ol style="list-style-type: none"> 1. Unsuitable descaling agent used (insulation layer on the pin?) 2. Water intake blocked or limescaled 3. Supply pump jams, hose crushed 4. Insufficient water conductivity (demineralised water used?)
F 21	Water intake faulty pumping out several times within two hours in the standby or baking mode	<ol style="list-style-type: none"> 1. Intake valve leaks (valve leak, limestone chips in the gasket, etc.) 2. Foam in the evaporator casing (particularly after descaling)

F 22	Water intake faulty No supply of water during steam operation (independent operation time of the evaporator heater within the filling time)	Intake valve leaks (valve leak, limestone chips in the gasket, etc.)
U 1	PE mains connection faulty Controls functioning, but the mains monitoring system does not recognise any voltage	On the PE terminal of the combined mains connection the PE earth wire or a terminal wire has been connected to terminal N (400V between L1 and N) Caution: Observe installation instructions!
U 2	N mains connection faulty N mains monitoring system recognises voltage	A terminal wire has been connected to terminal N of the combined mains connection (L1 and N exchanged) Caution: Observe installation instructions!
U 3	L1 mains connection faulty L1 mains monitoring system does not recognise any voltage	The L1 terminal wire is missing on the L1 terminal of the combined mains connection or the N zero conductor has been connected Caution: Observe installation instructions!
U 4	L2 mains connection faulty L2 mains monitoring system does not recognise any voltage	The L2 terminal wire is missing on the L2 terminal of the combined mains connection or the N zero conductor has been connected Caution: Observe installation instructions!
U 5	L2 mains connection faulty L2 mains monitoring system recognises the same voltage as for L1 (identical phase position)	The L2 terminal wire is missing on the L2 terminal of the combined mains connection or the N zero conductor has been connected Caution: Observe installation instructions!
No message	Heaters (top/bottom heat, hot-air, grill) do not heat up	<ol style="list-style-type: none"> 1. Heaters defect (interruption) 2. Automatic cut-off by F1 or F4 thermostat <ul style="list-style-type: none"> • With an F14 message: Computer defect (relay, contacts, moisture, dirt, etc.) • No F14 message: Oven temperature sensor (PT500) defect
dEno	Demonstration mode is activated (message only appears after a power cut)	The mode intended for exhibition purposes. No heaters are switched on and no error messages are given.

Error messages are acknowledged by pressing any button. Acknowledgment will only be accepted when the error has been rectified. Otherwise another fault message will appear immediately or during the next process.

10. Wrong behaviour

10.0.1 Oven temperature sensor PT 500

The oven temperature recording is monitored for short circuits and interruptions in the sensor and in the reference resistance. In the case of a malfunction, an error is indicated.



RESISTANCE DEPENDING ON THE TEMPERATURE

Temperature (°C)	Resistance (Ω)
0	500
20	539.7
40	579.2
100	696.15
200	886.4
250	979.35
280	1034.45
500	1422.45

Fault mechanisms

A meter is incremented every 200µs in order to calculate the discharge time.

If the time for discharging the reference resistance is lower than $400 \cdot 200\mu\text{s}$ (metre reading ≤ 400 is an indication of a resistance short circuit) or if it is higher than $1500 \cdot 200\mu\text{s}$ (metre reading ≥ 1500 means a resistance interruption), the error message F0 will be indicated on the display.

If the time for discharging the Pr500 resistance is lower than $150 \cdot 200\mu\text{s}$ (metre reading ≤ 150 is an indication of a resistance short circuit) or if it is higher than $1500 \cdot 200\mu\text{s}$ (metre reading ≥ 1500 means a resistance interruption), the error message F0 will be indicated on the display.

In the event of a fault, the appliance control system switches off all of the actuators and switches over to fault mode. It is not possible to start up a program until the fault has been rectified.

Please note! The stability of the PT 500 characteristic is guaranteed by the manufacturer within the tolerance levels and is not monitored by the software.

Possible causes of faults

- PT500 or reference resistance defect (short circuit, interruption)
- Discharge capacitor defect (short circuit, discontinuity)
- Wiring defect (plug connections, cable discontinuity, cable short circuit).
- Wiring on the control device defect (filter capacitor defect, strip conductors excessively resistant).

10.1 Food temperature sensor



RESISTANCE SEQUENCE

T (°C)	R (kΩ)	R _{TOL} (± %)	T _{TOL} (± %)
25	50,0		
30	40.3		
35	32.7		
40	26.6	6.1	
45	21.9	5.9	1.5
50	18.0	5.7	
55	14.9	3.7	
60	12.4	3.6	
65	10.4	3.5	
70	8.76	3.4	1.0
75	7.40	3.3	
80	6.28	3.2	
85	5.35	2.2	
90	4.58	4.6	
95	3.93	4.5	1.5
100	3.39	4.4	

Fault mechanisms

As soon as the output voltage of the temperature sensor wiring is below approx. 0.07 V (binary data ≤ 4 "means a sensor short circuit"), or as soon as the voltage exceeds approx. 4.9 V (binary data ≥ 252 means a "sensor interruption"), the display will show the fault indication F1. The mean value of the binary data checked is taken in the appliance software over 16 readings.

In the event of a fault, the appliance control system switches off all of the actuators and switches over to fault mode. It is not possible to start a procedure with a food sensor inserted until the fault has been rectified or the food sensor has been removed.

Please note! The stability of the temperature sensor characteristic is guaranteed by the manufacturer within the tolerance levels and is not monitored by the software. .

Possible causes of faults

- NTC temperature sensor defect (short circuit, discontinuity, etc.)
- Wiring defect (plug connections, cable discontinuity, cable short circuit)
- Plug-in mechanism defect

Technical data

Sensor element	resistance NTC
Resistance at + 25 °C	50kΩ
Temperature gauging range	+40°C... + 100°C
Accuracy of measurement	see table
Temperature stability	-10°C... +250°C for the sensor element (up to +260°C short-term) -10°C... +270°C for cables and handles (distance to the infrared heater ≥ 100 mm)
Electric strength between connections and casing ¹⁾	casing electrically connected with connection 2
Thermal time control ²⁾	approx. 6 sec.
Cable and handle colour	approx. RAL 8019 /grey-brown

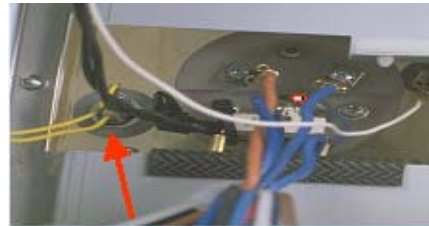
- 1) It is absolutely essential that the sensor casing (connection 2) be earthed, depending on the safety category of the electronics system connected.
- 2) Definition “thermal time control”: response time to 63°C (0 - 63% of the terminal value) in the case of a sudden change in temperature from 25 to 85°C, sensor fully immersed in liquid (in this case 50 mm test immersion depth).

10.2 Water temperature sensor

Gauging the water temperature is monitored for sensor short cuts and sensor interruptions. In the case of a malfunction, an error is indicated.

As soon as the output voltage of the temperature sensor wiring is below approx. 0.2 V (binary data ≤ 10 “means a sensor short circuit”), or as soon as the voltage exceeds approx. 4.9 V (binary data ≥ 252 means a “sensor interruption”), the display will show an F2 fault. The mean value of the binary data checked is taken in the appliance software over 16 readings.

In the event of a fault, the appliance control system switches off all of the actuators and switches over to fault mode. It is not possible to start up a program until the fault has been rectified.



Please note! The stability of the temperature sensor characteristic is guaranteed by the manufacturer within the tolerance levels and is not monitored by the software.

Possible causes of faults

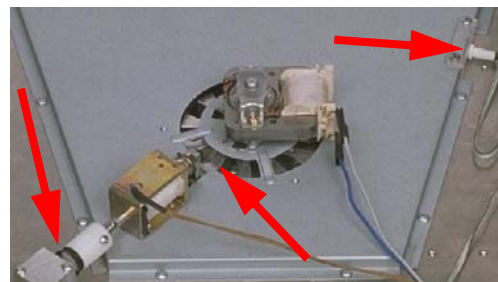
- NTC temperature sensor defect (short circuit, discontinuity)
- Wiring defect (plug connections, cable discontinuity, cable short circuit)
- Wiring on the control device defect (filter capacitor defect, strip conductors excessively resistant)
- 0°C

10.3 Steam leak

Fault mechanisms

A fault will be indicated if, during a stipulated period of time, a certain degree of lifting in the case of the steam temperature is not reached.

The steam leakage monitoring system is active if the boiler is switched on and the operating mode “hot air with vaporisation” has not been selected. The temperature of the steam must reach a certain temperature lifting within a stipulated period of time (EEPROM parameter), otherwise an F9 fault will be indicated. The steam temperature measured fluctuates quite greatly if there is no steam leakage.



In the event of a fault, the appliance control system switches off all of the actuators and switches over to fault mode. The fault can be acknowledged with any button. It will, however, re-occur if the cause of the fault is not rectified.

Please note! The process of monitoring steam leakages is influenced by process parameters stipulated in the EEPROM data storage.

Possible causes of faults

- NTC temperature sensor defect (short circuit, discontinuity, etc.)
- Wiring defect (plug connections, cable discontinuity, cable short circuit)
- Wiring on the control device defect (filter capacitor defect, strip conductors excessively resistant)
- Outgoing air flap defect or the oven has a leak (loss of steam)

10.4 Heating spiral sensor and steam temperature sensor

The gauging of the heating spiral temperature and the steam temperature is monitored for sensor short cuts and sensor interruptions respectively. In the case of a malfunction, an error is indicated. The boiler is also switched off if the heating spiral temperature is excessively high.

Fault mechanisms

As soon as the output voltage of the temperature sensor wiring is below approx. 0.2 V (binary data ≤ 10 "means a sensor short circuit"), or as soon as the voltage exceeds approx. 4.9 V (binary data ≥ 252 means a "sensor interruption"), the display will indicate an F3 fault. The mean value of the binary data checked is taken in the appliance software over 16 readings.

In the event of a fault, the appliance control system switches off all of the actuators and switches over to fault mode. It is not possible to start up a program until the fault has been rectified.

If the heating spiral temperature exceeds a maximum level (EEPROM parameter), the boiler heater is switched off in order to protect the heater (no fault indication).

Please note! The stability of the temperature sensor characteristic is guaranteed by the manufacturer within the tolerance levels and is not monitored by the software.

Possible causes of faults

- NTC temperature sensor defect (short circuit, discontinuity)
- Wiring defect (plug connections, cable discontinuity, cable short circuit)
- Wiring on the control device defect (strip conductors are excessively resistant)

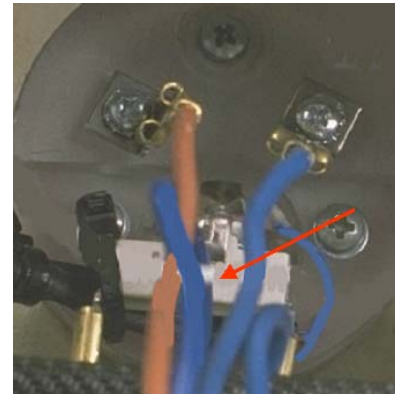


10.5 Boiler heater

When the boiler heater is switched on the water temperature is monitored during the process of altitude adjustment. A fault is indicated if the water temperature no longer rises and if it has not reached a certain level within a stipulated period of time.

The boiler heater is checked during altitude adjustment, which is carried out prior to each respective steaming phase. If, with the boiler heater switched on, the water temperature no longer rises within a period of approx. 6 minutes and if it has not reached a temperature of at least 88°C, an F7 fault is indicated.

In the event of a fault, the appliance control system switches off all of the actuators and switches over to fault mode. The fault can be acknowledged with any button. It will occur again during the next steam operation mode if the fault is not rectified.



Possible causes of faults

- Heater defect (protection against an excessive rise in temperature of the heater, etc.)
- Water temperature measurement devices defect (NTC temperature sensor, wiring, etc.)
- Trigger switch defect (all-or-nothing relay, driver setting, etc.)
- Wiring defect (plug connections, cable discontinuity, cable short circuit, etc.)
- Undervoltage

10.6 Water level pin

The water level pin is only indirectly monitored for short circuits. If, on emptying the boiler (see chapter "Emptying" beginning page 30), the level pin still detects water after pumping has been carried out several times (e.g. short circuit), a fault message will appear. An interruption of the level pin will be recognised indirectly on filling up the boiler.

In addition the water level pin is monitored for scaling.

Should the water level pin detect water all the time (e.g. short circuit), this will be recognized on emptying the boiler. Subsequent to several attempts to pump off (reading in EEPROM), an F8 fault will be indicated.

If the water level pin does not detect any water on filling up the boiler (for example, because of an interruption) the control system will presume that the water tank is empty and will indicate "fill up with water".

When the user fills up with water and presses the OK button the boiler will be filled until it overflows and the water will seep into the oven!

If, during standby operation or after a program has been completed, the level pin still recognizes water, the emptying function of the monitoring system will pump the remaining water out of the boiler.

The indication "water is being pumped off" will be shown. It is possible to restart a program at any time. Once the boiler has been filled up at the beginning of the procedure, the conductance of the water level pin is checked. If it exceeds a certain level (EEPROM parameter), this is an indication that the pin is scaled and the limestone metre in EEPROM is raised by one level. Once the metre has reached a certain level (EEPROM reading) the alarm message "Boiler scaled. Please descale" will appear at the end of the procedure.



Please note! The process of emptying is influenced by water level measurement limiting values stipulated in the EEPROM data storage.

10.7 Emptying

The maximum pumping off time during the process of emptying is monitored. If, after a certain period of time, the water level pin still detects water, a fault will be indicated.

Fault mechanisms

The pumping-off procedure will be repeated if the water level pin still recognises water (EEPROM parameter) subsequent to the emptying time (EEPROM parameter) during the process of emptying. If, after several pumping-off procedures (EEPROM parameter) the water level pin still recognises water, the display will indicate an F8 fault.

In the event of a fault, the appliance control system switches off all of the actuators and switches over to fault mode. The fault can be acknowledged with any button. It will, however, re-occur if the cause of the fault is not rectified.



Please note! The process of emptying is influenced by process parameters of the systems function “Empty” stipulated in the EEPROM data storage.

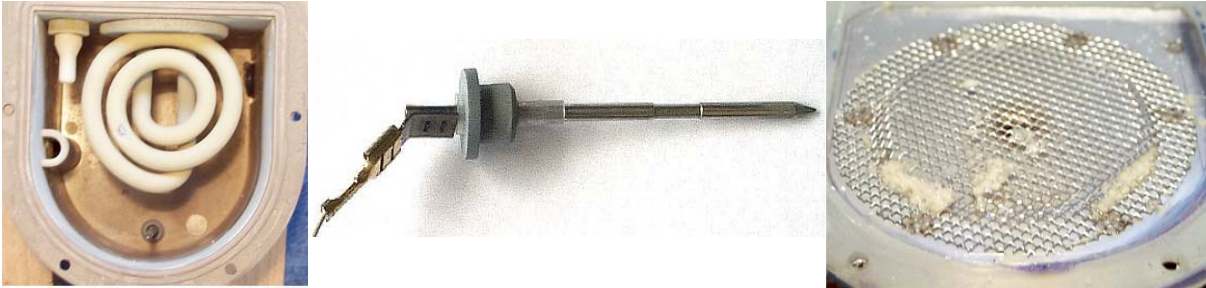
Possible causes of faults

- Discharge pump defect or blocked
- Wiring defect (plug connections, cable discontinuity, cable short circuit, etc.)
- Water level gauging disturbed / faulty (water level pin dirty, wiring, bridge between the water level pin and the earth)
- The water temperature exceeds 70°C

10.8 Boiler and water level pin scaled

Fault mechanism

Scaling of the boiler is detected during the process of altitude adjustment. If the difference between the temperatures of the heating spiral and the water, taken with several measurements, is too great, or if the water level pin has been recognized as being scaled several times, an alarm message will be indicated.

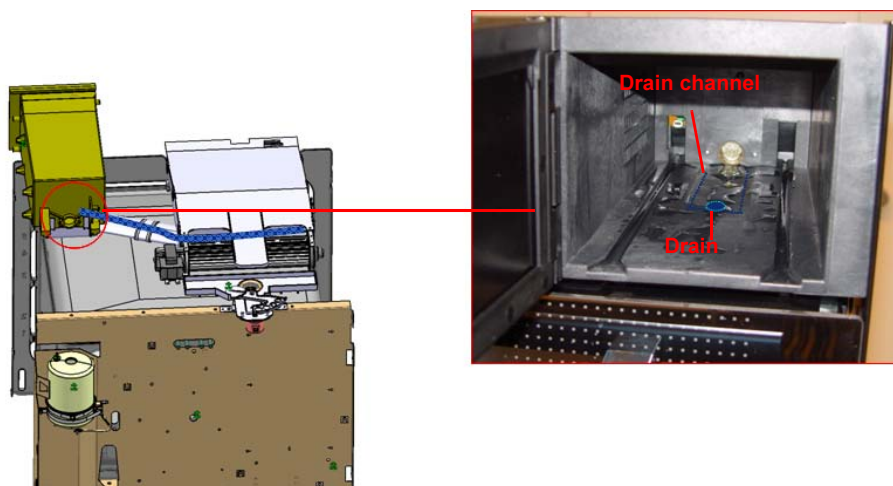


If the temperature no longer rises on altitude adjustment, the maximum recorded heater spiral temperature and water temperature are compared. Should the heater spiral temperature be higher by a certain level (EEPROM parameter), the boiler will be recognised as being scaled. The boiler is also considered to be scaled if, subsequent to initial filling of the boiler, the conductance of the water shortly before altitude adjustment is above a certain level (water level pin scaled, EEPROM value). If the boiler has been recognized as being scaled several times (EEPROM parameter), an **alarm message "A10"** will be indicated at the end of the current program.

Possible causes of faults

- Boiler and water level pin scaled
- Boiler scaled
- Water level pin scaled
- The appliance is located at an altitude of more than 3,500 m above sea level

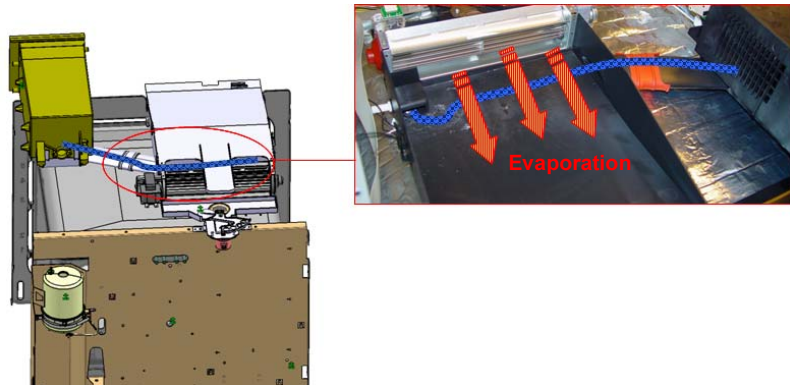
10.9 Non-return valve on the water tank leaks (EEBD 6600.0)



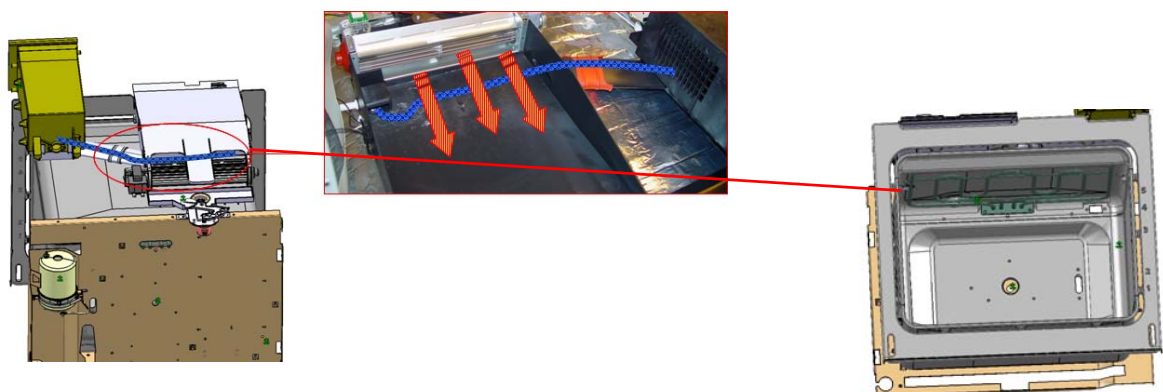
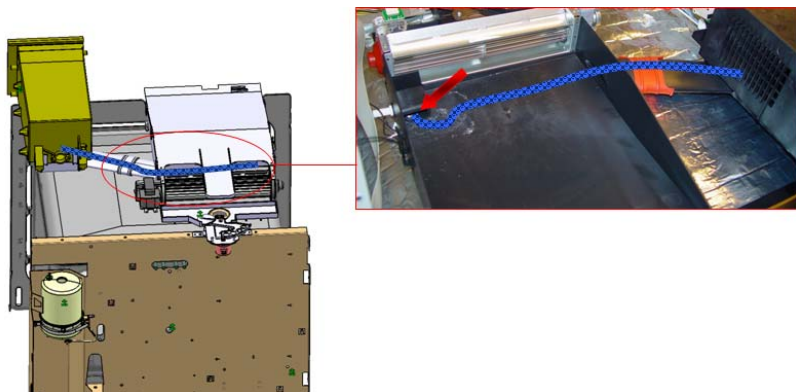
If the connection of the water tank has a leak at the non-return valve the water will flow through the air channel into the oven pipe (drip tray integrated in the oven muffle).

10.10 Water tank leaks (EEBD 6600.0)

If the water tank connection to the solenoid valve has a leak the water will flow through the air channel where it can evaporate with the outgoing air or....



... water flows through the air channel and can then evaporate with the outgoing air or it can flow into the oven muffle (steam ascending pipe and climatic sensor).



11. Descale

11.1 EDG and EKDG

Program duration: approx. 35 minutes

The “descale” program can be selected with the OK button (menu of the OK button back – user settings – descale).

Application

Descaling comprises the following steps:

- The water tank, which is filled with 0.5 litres of a mixture of equal proportions of descaling agent and water, is recognised.
- For reasons of safety the evaporator is firstly emptied. To do so, the discharge pump is operated for 12 seconds (software).
- The supply pump transports the mixture into the evaporator until the level sensor recognises water, with a certain follow-on time (slightly longer than in the standard function). The mixture is circulated several times and is pumped in and out again.
- After the evaporator has been filled, the mixture in the evaporator is heated up to a certain temperature, thus speeding up the descaling process. The mixture is maintained at this temperature for some time.
- After which the evaporator is emptied until the level recognition is actuated, with a certain follow-on period.

The first rinse is carried out in the following steps:

- The water tank must be removed, emptied and filled with fresh water up to the MAX mark and then reinstalled. On doing so, unauthorised utilisation is secured against by means of a minimum period of 5 seconds (software) between detection, removal and installation of the water tank.
- The rinsing liquid is transported into the evaporator up to the level recognition with a certain, longer, follow-on time. The rinsing liquid is circulated several times.
- Subsequent to circulation the rinsing liquid is heated up to a certain temperature [60°C] (EEPROM) for a certain period [0 sec.] (virtually no heating up!)
- Subsequent to heating up, the rinsing liquid is pumped off until the level recognition is actuated, in addition to a certain follow-on time. Should the rinsing liquid exceed the permissible temperature, the “Empty” program is started.
-

The second rinse is carried out in the following steps:

- The water tank must be removed, emptied and filled with fresh water up to the MAX mark and then reinstalled. On doing so, unauthorised utilisation is secured against by means of a minimum period of 5 seconds (software) between detection, removal and installation of the water tank.
- The rinsing liquid is transported into the evaporator up to the level recognition with a certain follow-on time. The rinsing liquid is circulated several times.
- Subsequent to circulation the rinsing liquid is heated up to a certain temperature [105°C] for a certain period [120 sec.] (time-controlled heating up!).
- After having been heated up the rinsing liquid is cooled down to a certain temperature at the same time as emptying takes place (see EDG and EKDG auf Seite 94).
- The cooled-down rinsing liquid is pumped out of the evaporator into the water tank until the level recognition is actuated, in addition to a certain follow-on time.

- The process of descaling is only completed when the water tank is removed after two rinsing phases have been fully implemented.

In the event of a power cut during the descaling process, the descaling program will be repeated or will continue with operation from the procedure step (Descale, 1. or 2. Rinse) in which the power was cut off. In addition, all of the indications, apart from the time, will be deleted. The time blinks at 12:00.

Attention! Modification from 2003 on

There are three new setting ranges for the water hardness (soft, medium, hard) among the user adjustment. The medium water hardness is pre-adjusted, covering the usual range from 9 to 20°C German hardness (resp. 16 to 35° C French hardness).

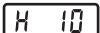
The descaling interval depends from the respective water hardness. For this reason it will be automatically displayed in the clear text display, if descaling is necessary.

11.2 EEBD 6600.0

Programme time: 40 minutes

Each time steam is generated lime will be deposited in the steam generator depending on the degree of hardness of local water (i.e. on the concentration of lime in the water).

A system in the appliance will recognise automatically when it is essential to descale.

The display will blink .

The descale cycle will depend on the respective water hardness and on how frequently the appliance is used. For steaming for 30 minutes four times a week descaling will approximately be required as follows, depending on the water hardness (with three settings for water hardness):

Range	Water hardness [°fH]	Water hardness [°dH]	Descale after
Very soft water	0.5 to 15	0 to 8	18 months
Medium water	16 to 35	9 to 20	9 months
Very hard water	36 to 50	21 to 28	6 months

We recommend that you descale as soon as the display indicates that it is essential. If the appliance is not descaled the functioning may be impaired or the appliance may be damaged.

Experience has shown that standard commercially-available descaling agents are not always effective. These agents generally contain foaming tensides, cause corrosion or do not fully dissolve the lime-scaling, which may result in faulty operation or damage to appliances.

Frothing means that the descaling process is not carried out properly which results incorrect readings in the appliance.

Conducting bridges of foam may result from the level sensor so that the appliance never recognises that the descaling or rinsing process has been completed and will hence never re-set the descaling metre.



This will give rise to error patterns:

- The “boiler limescaled” instruction appears even though a descaling process was carried out only recently
- The discharge pump is reported as being defect
- No water is pumped through, the evaporator runs dry, becomes overheated and the Klixon switches off (in the worst case the heater will burn - error code: F7)

Replacing the operating element, the discharge pump, etc., will not have any effect. Replacing the evaporator and possible the computer too will only postpone the problem to the next descaling process.

Application

The **Durgol steamer** spare-part no. **566 405** descaler is heated up in the appliance and is used hot.

The pipes and components to be descaled have been designed especially for this procedure and will not become damaged.



For safety reasons it is not possible to interrupt the descaling procedure once it has started!

Durgol steamer may never be used anywhere else when it is hot!



Descaling may be carried out with the appliance door open or closed. The appliance must be switched off.

1. Press buttons and simultaneously.
2. The display will blink **[E R P r]**. Then the display will blink **[H 5]**.
3. Take out the water tank and empty it. Fill in the full quantity of special descaling agent undiluted.
4. Replace the water tank.
5. Confirm by pressing the button for setting .
6. The display will show **[E R 1]**. The appliance will be in the descaling phase for approx. 30 minutes. Then the display will then blink **[H 2]**.
7. Remove the water tank, empty out the descaling agent and fill the tank with 1.2 litres of cold water.
8. Replace the water tank. The display will show **[E R 2]**. The appliance is in the rinsing phase.
9. As soon as the display blinks with **[H 2]** take out the water tank, empty out the water and refill the tank with 1.2 litres of cold water.
10. Replace the water tank. The display will show **[E R 2]** or **[E R 3]**.

Depending on how dirty the fluid which is pumped out is, additional rinses may need to be carried out. The display will blink **[E R 2]** or **[E R 3]**.

When the display shows **[E n d]** remove the water tank, empty it and dry it.

The message **[E n d]** will go off and the time of day will be visible again.

If there is a power cut during the descaling process:

Turn or push the knob for making settings. Descaling will automatically be continued, and the interrupted phase will be repeated.

11.3 Flow chart: Descaling programme (EEBD 6600.0)

