

## **INSTRUCTION MANUAL**

**Model: GES 001, GES 002, GES 003  
ELECTRIC STATIC OVEN**



Manufacturer: GASZTROMETÁL Gép- és Berendezésgyártó Zrt.



GASZTROMETÁL Gép- és Berendezésgyártó Zrt.

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### ***EU-Declaration of Conformity***

The manufacturer, Gasztronométál Zrt. certifies on his sole responsibility that the

product **Electric static oven**

types **GES001, GES002, GES003**

conforms the type examination certification and satisfies the basic safety requirements of directive 2014/35/EU. The design and the manufacturing were made according to the following standards and they comply with their safety and health specification:

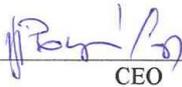
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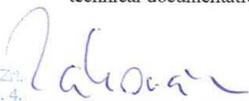
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Signed for and on behalf of:

Person authorized for the compilation of the technical documentation:

  
CEO

GASZTROMETÁL  
Gép- és Berendezésgyártó Zrt.  
2800 Tatabánya, Vágóhid út 4.

  
Head of Product Development Unit

Tatabánya, 08. October 2019.

Manufacturer GASZTROMETÁL Inc. declares that the product delivered complies with those introduced in the chapter "Technical description, data, commissioning and operation instructions" of this instruction manual.

QC stamp:

Issued by (signature):

Date: ..... day ..... month 20.... Year

.....  
Signature

## *Contents*

EU-Declaration of Conformity .....	2
1. Introduction: .....	4
2. Legal declaration: .....	4
3. Technical data: .....	5
4. Technical description:.....	5
5. Transporting, packaging, storage .....	6
6. Installation, commissioning: .....	6
7. Operation, safety instructions: .....	8
8. Cleaning: .....	9
9. Maintenance: .....	10
10. What to do when something does not work .....	10
11. Accessories: .....	11
12. Customer service / Service data:.....	12
13. Cooking table:.....	13
14. Circuit diagram: .....	15
15. Turning knob functions, circuit diagram legend: .....	15
15. Turning knob functions, circuit diagram legend: .....	16
16. Installation, layout variations: .....	17

## 1. Introduction:

Thank You for purchasing the product of Gasztrometál Zrt.

We are sure that You will be satisfied with this energy-saving, easy-to-use oven providing good quality.

The purpose of the oven is: wide-scale serving of catering kitchens, hospital kitchens, canteens, public catering kitchens, confectioneries, and other locations (e.g. shooting-boxes, events).

The oven is equipped with a static heating system providing even distribution of heat without the risk of drying the food.

**The oven operates on 230 V mains, therefore, it is applicable anywhere, where the connection facilities according to point 7 are established.**

The oven can be installed built-in another construction, as a portable separate desktop appliance, or built in a technological block. Ovens can be placed on each other or next to each other, as required, blocks of 2-3 ovens operating separately can be established. Practical stands are orderable for the different installations. (baking-tin holder stand, low stand for oven tower building).

## 2. Legal declaration:

**The operator of the oven should carefully read and keep this instruction manual before putting into operation in order to have their right validated.**

The correctness of data given in this instruction manual and in the “Quality Certificate” integrated is guaranteed by the manufacturer, GASZTROMETÁL Zrt.

The manufacturer reserves the right of changing the technical data of the machine.

GASZTROMETÁL Zrt. undertakes a guarantee of 12 months for the oven according to the “guarantee bond” forming an annex to this instruction manual. The guarantee period starts with the date of commissioning, which must be within 6 months after sale. Therefore, the maximum guarantee period is 18 months after sale.

Those defects will not be considered to be subject to guarantee bond, which, on the basis of information given in this operation manual, can be eliminated by adjustment, readjustment, or originate from inappropriate operation or operation conditions, or damage resulting from inappropriate use, and corrosion phenomena occurring due to inappropriate cleaning, operation conditions.

Defects subject to guarantee may be repaired by the service of the manufacturer or service stations contracted with the manufacturer (see annexed list of service stations). Repairs, interventions carried out by other service stations or repairmen result in loss of guarantee.

### 3. Technical data:

Type:	GES 001	GES 002	GES 003
Typical dimensions (W x L x H)	800x800x400	800x800x1050	800x800x1600
Machine weight	52 kg	106 kg	160 kg
Number of baking plates applicable on one bar: 650 mm x 530 mm GN 2/1 530 mm x 325 mm GN 1/1	1 pcs 2 pcs	1 pcs 2 pcs	1 pcs 2 pcs
Heating time from 20°C to 200°C	20 min	20 min	20 min
Total energy consumption (W)	3.450	6.900	10.350
Lower heater capacity (W)	1.960	1.960	1.960
Upper heater capacity (W)	1.470	1.470	1.470
Supply power by phase (A)	15	15	15
Type of electricity	230 V, 50 Hz	400 V, 50 Hz	400 V, 50 Hz
Maximum heating temperature (°C)	320	320	320

Contact protection class of the electric appliance: class I (fitted with protective earthing).  
Protection of the electric appliance: IP42 (protected against dripping water)

[A1.] Only one collection bar can be used in the appliance at the same time, as the convectional (heat-radiation) heat-spreading does not provide for a good evenness of baking due to screening in case of using several collection bars.

[A2.] Important factors of the heating time are the ambient temperature and the actual mains voltage (230 V), therefore, the data given in the table is for information only.

### 4. Technical description:

The self-supporting framework of the oven is made of stainless steel plates with welded design. The oven drum and other structural elements are fixed to this framework.

Heat is produced in the oven using 7 pieces of 490 W electric pipe heating elements.

The electrical fittings and indicating elements of the appliance are located on the mounting board on the right side and behind. Temperature necessary for baking is adjustable using a continuously controllable switch and can be checked on the thermometer.

Reaching the full heating time is indicated by the yellow test light going out.

On reaching even temperature in the oven the appliance is ready for baking.

Keeping the oven drum at an even temperature is provided for by the integrated temperature controller, the operation (heating period) of which is indicated by a yellow control light.

Overheating of the appliance (in case of any defect of the temperature controller) is prevented by an integrated temperature limiter.

The appliance is capable of using only the lower or only the upper heater, in this case the temperature controller turns on/off at maximum temperature (~320°C).

## **5. Transporting, packaging, storage**

The unit delivered contains the product and the instruction manual.

Treat the oven drum and the covers with a special agent suitable for cleaning stainless surfaces. The oven is delivered covered with protective film, packaged in plastic foil.

Store the appliance packaged in a dry place indoors. The appliance is sensitive to beating, shocking, it should be moved manually or using a fork-lift.

Maximum 4 pieces of ovens should be placed on each other for storage. It is not allowed to place them on each other when transporting.

## **6. Installation, commissioning:**

The oven should be unpacked carefully. Avoid injuries when removing the protective film

Place the oven or ovens at the intended location. When installing the oven(s), use the appropriate stands orderable as accessories. Installation solutions are shown on Figure 16.

Level the stands using the adjustable feet before placing the oven(s) on them.

In case several ovens are placed on each other, fasten the ovens to each other using their own screws with the spacers located on the back panel (see Figure 17). The purpose of this is to reach a mid-potential and mechanical safety. The mid-potential wire should be connected to the lowest (or single) appliance at the indicated point.

During installation the necessary safety place must be provided for, which is 1,2 m in the front. This is necessary for the unobstructed movement of the large-size tray when hot. The ovens can be installed right next to each other side by side. When put in a line with other appliances, heat resistance (50°C) must be provided for. Otherwise, other appliances must be installed in a distance at least 10 cm.

Pull off the plastic protective cover from the outside cover of the unpackaged appliance, then wash it with non-scratching liquid detergent diluted with warm water, rinse it, and carefully wipe it dry.

**Before installation and commissioning read the instruction manual carefully and follow its instructions.**

### **Electric connection:**

Connect the appliance to a one-phase socket with protective earthing specially established at the location of use for the appliance. For this the appliance is fitted with a 2 m long, oil-resisting rubber cable and a plug with rubber cover.

The cable of the wall-socket must be made of a cable of cross-section 3x2.5 mm<sup>2</sup> from the distribution box, and a slow acting cutout should protect it. The socket must be made of good quality material and a nominal capacity of 16 A. No other consuming appliance must be built in this circuit. When using an already existing socket make sure that it complies with the given conditions.

**Attention! The normal one-phase grounded plug allows connection to any suitable socket. However, this does not actually provide for the conditions set out in the previous paragraph. With the help of a specialist make sure that the appropriate installation conditions are met in all cases.**

### **Safety technology regulations**

During the commissioning and operation of the oven the following standard regulations concerning the given country should be complied with:

- Regulations set out in the safety rules of installation;
- Regulations set out in the contact protection rules;
- Regulations set out in the operation rules of power current devices;
- It is FORBIDDEN to operate the appliance without effective contact protection.

Point 15 includes the electric circuit diagram of the appliance.

### **First use:**

- Turn the controller switch from “0” position to the first sign. In this case the green control light and the oven lights turn on and indicate that the appliance is under voltage.
- Turning the controller switch further activate the heating, set the temperature required. When the temperature of the oven reaches the set value, the heat controller turns the heating off, which is indicated by the yellow control lamp going out. Thenceforward, the temperature controller turns the heating on and off to keep up the baking temperature, which is approximately +/- 15°C related to the set value. This value is the typical heat variation of ovens.
- After setting the maximum temperature, turn the controller switch further to change to **lower heating mode**. In this case the temperature controller operates at the maximum temperature value of 320°C.
- Turning the controller switch further change to **upper heating mode**. In this case the temperature controller also operates at the maximum temperature value of 320°C.
- When preheating is completed, turn the controller switch to “0” position.
- During the first heating (when testing operation) contaminations remaining on the heating elements and inside the oven drum, which cannot be removed by washing burn, which may generate some smoke and unpleasant odours. This does not mean abnormal operation, it will terminate after the first heating.

- When the oven drum cools down, after another cleaning and drying, and airing the room, baking operations can be started.

## **7. Operation, safety instructions:**

The oven must be operated only by persons trained for the operation of the oven.

**It is forbidden** to operate the appliance with covers removed or with deficient fittings.

Do not touch the oven with wet body parts, and do not use it barefoot.

Due to its heat-generating capacity the appliance is a potential source of danger!

During use the certain parts of the appliance may be hot, do not touch these parts, and use kitchen gloves in each case.

When opening the door, keep distance from the appliance because of the hot steam flowing out.

Keep children and the disabled away from the appliance when in operation.

Do not cover the vent-holes and heat-distributor openings.

Do not use or store any inflammable material near the appliance.

If alcohol is used during the preparation of food, the steam generated may ignite when contacting the heating element.

Pouring water in the hot oven damages the structure of the oven. To make steam put water in the appliance in a small dish. When baking is completed, dry the generated condense water from the oven in all cases, as it may make certain parts of the appliance corrode after some time.

Do not use closed containers in the oven as they may explode due to the increase in pressure, damaging its surroundings.

Do not cover the lower and upper heating elements of the oven with aluminium foil or other objects, as it prevents spreading of heat.

Dishes pulled along on the bottom of the oven drum may scratch the surface.

The oven door must close well, therefore keep the gaskets clean, and avoid hanging loads on them (risk of deformation).

Do not operate the appliance without supervision.

Use the appliance only for preparing or heating food, no any other ways of use are allowed.

When work is finished check that the device is turned off each case, by looking at the control lamps by the turning knob.

Separate the appliance from the electric mains:

- if it operates in an abnormal way;
- before performing any cleaning or maintenance activities;
- when deciding to not use the appliance for a longer period of time

### **Furniture requirements when built-in a set of furniture:**

The elements, bonding materials, and glues of the furniture must be of high heat-resistance as non-complying materials may result in the deformation and damage of the furniture.

The furniture must be rigid enough to hold the weight of the appliance, and also for the fixing. 5-5 cm free air-gaps must be provided for between the furniture and the appliance on the side, at the back, and at the top for airing.

Good airing of the appliance must also be provided for when built in a set of furniture, when the appliance is built in a set of furniture, next to a set of furniture, or under a desktop.

**Effective heat-insulation covers the apron of the oven drum, which slows down heat-distribution, but it does not stop it. Cooling of the outside cover of the appliance, and that of the electrical fittings located under the cover must be provided for by the surroundings.**

## **8. Cleaning:**

- Before cleaning using any detergents, disconnect the appliance from the voltage by turning off its main switch, or unplug the connecting cable from the socket.

- **Cleaning must be performed observing the “Cleaning and disinfecting instructions”.**

- When preparing the plans, detergents must be chosen carefully. Several materials are commercially available, which have exact descriptions on the nature of contamination and on the materials of devices to be cleaned.

- Observe the followings as a general rule:

**Even stainless steel may become rusty due to iron contamination or as a result of corrosive material or detergent.**

Avoid disinfectants containing chlorine, as these are especially harmful on stainless steel.

Choose detergents, which are especially recommended for cleaning stainless devices.

When cleaning warm surfaces (e.g. oven drum), the efficiency of the detergent, and at the same time its aggressiveness against the surface increases.

Observe the regulations concerning the concentration of detergents.

- **It is FORBIDDEN to clean the appliance using water jet.**

- Contaminations generated on the inner wall of the oven during the work process should be cleaned when lukewarm. Washing hot surfaces with cold water may result in damages.

- The degree of contamination generated may be reduced by:

- good selection of dish size;

- good selection of temperature (splashing and over-expansions at high temperatures);

- careful work.

## 9. Maintenance:

The material, quality, and assembly of the structural elements of the appliance requires only minimum maintenance when used in a normal way.

Maintenance works on the appliance is only allowed to be carried out after disconnecting it from the mains. Maintenance works on the electric connections and on the component parts may only be performed by the specialist of the competent service or a qualified electrician.

## 10. What to do when something does not work

Before calling the service, please, check that abnormal use or defect, disturbance has happened, therefore, check the following:

- Make sure that the regulations of the instruction manual are observed;
- Check the mains connection;
- Check the power supply: the green light and the oven light are on at the same time, and the controller switch is in the first position. In case any of the lights are not on, it is advisable to replace the bulb.

If the green control light and the light in the oven do not operate together, it means power supply deficiency or defect of the appliance, which can be cleared by a specialist electrician.

- Checking the heating: turning the control switch further on, a quiet click indicates turning on of the temperature controller, which is also indicated by the yellow indicator light's turning on.

- When quiet clicking, detectable heating, and turning on of the yellow indicator light are missing, means the defect of the temperature controller (activation of the temperature limiter), which may only be repaired by a service specialist.

- When quiet clicking sound is heard and heating is detectable, but the yellow indicator light does not turn on, it is recommended to try and replace the bulb.

- Uneven cooking of the surface may be the result of the defect of one or more pipe heating elements, which may be replaced by a service specialist.

- Uneven cooking between the lower and upper side may be the result of selecting unsuitable baking bar (lighter surface should be put closer to the heating surface).

- If the cross-section middle part between the baked lower and upper sides is left unbaked, it is due to the high temperature, as heat is not distributed inside the food due to the high and at the same time fast incrusting outer heat-distribution.

- Dishes with thick walls are suitable for distributing uneven heat within the oven, coming from the bottom of gas-heated oven drums. In case of electric ovens it is unnecessary, and therefore, it should be avoided. Their considerable heat absorption at the bottom takes energy away from food; therefore, the lower part of the food may remain uncooked, light, and cold. This can be avoided by using thin-walled dishes.

- Use a tray with sidewalls only in case of liquid, gravy generation, otherwise use a baking plate.
- The baking plate or tray should always be placed in the oven until reaching the back wall.
- Cracking of the crust (surface) of food happens due to high temperature, as due to the expansion and other rising processes still going on inside the deeper layers, the crust is completed early as the heat is distributed too slow within the material, and therefore the hardened surface is burst.
- In case the appliance cannot be put into a usable condition, unplug the cable from the mains network and wait for the notified specialist to turn up.

### **Attention!**

When using several baking units not connected to the same phase, some difference in the cooking time may appear due to any voltage difference existing in the network between the phases, which results in different cooking performance between the ovens. This is not an issue of the appliance, but a result of the nature of the electric network. However, this fluctuation of voltage does not harmfully influence the inner heat-distribution of the oven.

Another advantage of the oven type GES001 occurs in case of a phase loss. In this case appliances connected to other phases remain operable, in opposition with three-phase appliances (requiring industrial current).

## **11. Accessories:**

1 piece of GN2/1 enamelled dish is an accessory to the appliance.

The following materials are not included in the basic price of the appliance, as they would mean unreasonable costs for the users, who already have accessories for ovens, or who operate with their own sizes.

The appliance is manufactured in accordance with the dimensions set out by gastronorm standards.

### **Optionally orderable accessories:**

- A wide range of GN 2/1 (650 mm x 530 mm) and GN 1/1 (530 mm x 325 mm) surface area, 20-40-60-100-150 mm deep dishes;
- GN 2/1 dish holder grid for casseroles, cake-tins, baking-dishes;
- GES-6000 type oven stand 150 mm (placed on the floor, or on top of each other in case of several appliances);
- GES001-7000 type oven stand 800 x 800 x 900 mm (placed on the floor, or on top of each other in case of several appliances);

- GES001-7200 type oven stand with cake-tin holder, with 7 pieces of dish holder bars 800 x 800 x 850 mm (placed on the floor, or on top of each other in case of several appliances, with possible empty, semi-finished, or end-product storage);
- GES-8000 type oven stand 250 mm (placed on the floor, or on top of each other in case of several appliances);
- GES001-10000 type oven stand 800 x 800 x 650 mm (placed on the floor, or on top of each other in case of several appliances);
- GES001-10200 type oven stand with cake-tin holder, 4 pieces of dish holder bars 800 x 800 x 650 mm (placed on the floor, or on top of each other in case of several appliances, with possible empty, semi-finished, or end-product storage);
- For different dish dimensions the manufacturer undertakes the manufacturing of individual dish holder bars.

## **12. Customer service / Service data:**

In case You cannot find any reference to the breakdown of Your appliance in this instruction manual, with which it could be prevented, please, contact our customer service, dealer, or service partners.

Please, provide the following:

- Problem;
- Type, serial number of the appliance on the data plate.
- The data plate is located on the lower front corner of the right side cover of the appliance.

With these data, and providing the nature of problem, the breakdown can be prevented even by the first repair process.

Please, use only original and new component parts to replace defective component parts.

Allow only authorized service specialists to repair Your appliance.

### 13. Cooking table:

Food	Temperature	Level	Weight	Baking time
	°C	Grid	Kg	Minute
Fruit desiccation	130-150	2		
Mixed pastry (short pastry, nut, wafer-sheet)	190-200	2		20-80
Sponge-cake (sponge, wafer-sheet, 20mm)	190	1		15
Tart circles, 6 pcs, diameter 230 x 40 mm	130	1		70-80
Tea-biscuits	200	2		10-20
Linzer circles, 35 pcs/plate	200	2		10-15
Grated linzer	190-200	2		40-50
Paste (pie)	195-200	2		45-80
Raised pie, biscuits 42 pcs/plate	220	2		20-25
Sweet gnocchi with custard and grated walnut 42 pcs/plate	180	1		15
Croissant with cumin, 28 pcs/plate	250	1		15-20
Cheese-bag, 38 pcs/plate	250	1	4	20-25
Roly-poly pudding, 40 pcs/plate	190	1	4	40-45
Scumbled cake, 7 rolls/plate	190	1		40
Layered potato casserole	270	1	13	55-60
Layered savoy cabbage casserole	250	1	12	55-60
Rice pudding	250	2	10	40-45
Fruit cake	190-200	2		40-50
Strudel	200-220	1		20-30
Pizza	220	3		20-35
Meat	200-240	1		40-50
Beefsteak	200-240	1		40-50
Roast pork	200-220	1		100-120
Chops	190-210	1		80-100
Game	200-230	1		100-120
Poultry	200	1		50-160
Filled chicken leg, 42 pcs/plate	200-220	1	7	60-70
Fish	200-220	2		35-55

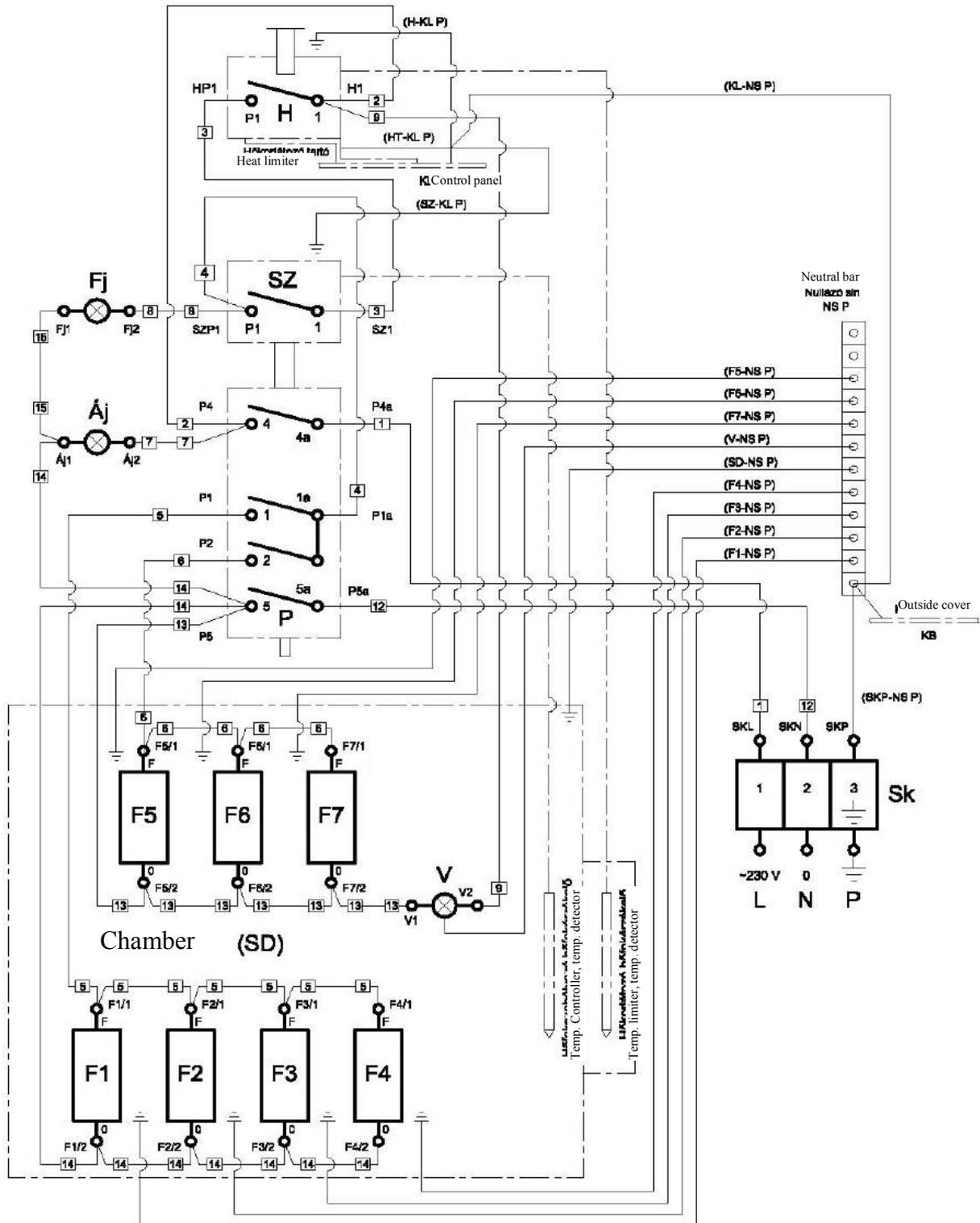
Values given in the table are for guidelines only, which may differ due to the types of food, the composition and way of preparation of the material, its size, total weight, and the ambient temperature.

**IMPORTANT!**

Data given in the cooking table are valid after pre-heating the oven to the given temperature.

The steam generated in the food during cooking may be let out by changing the size of the gap between insulating rubbers at the horizontal and vertical sides of the door. The upper switches of the vertical insulating rubbers (2 pcs) have 2 positions. By increasing or decreasing the gap, the steam generated during cooking can be let out of the oven as necessary. Set it only in cold state of the oven, in order to avoid burning.

# 14. Circuit diagram:



## Turning knob functions, circuit diagram legend:

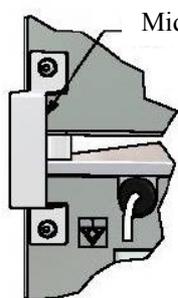
Programme switch		Temp. controller position	Function
Contact pieces	Switch position	P1-1	
All contacts open	0	Open	Appliance is switched off. ÁJ; FJ; V light is off
5a-5; 4a-4 closed	First signal	Open	Appliance is under power. Temperature controller is turned off. ÁJ; V light is continuously on.
5a-5; 4a-4; 1a-1 1a-2 closed	From +50°C to +270°C	Controlled by temperature controller	Lower and upper heating are turned on with temperature control. ÁJ; V light is continuously on. FJ light is controlled by the temperature controller according to temperature.
5a-5; 4a-4; 1a-1 closed		Controlled by temperature controller	Lower heating is turned on with temperature control at 320°C. ÁJ; V light is continuously on. FJ light is controlled by the temperature controller according to temperature.
5a-5; 4a-4; 1a-2 closed		Controlled by temperature controller	Upper heating is on with temperature control at 320°C. ÁJ; V light is continuously on. FJ light is controlled by the temperature controller according to temperature.

Sign	Name
ÁJ	Power indicator lamp (green)
FJ	Heating indicator lamp (yellow)
F1-F4	Lower heating elements
F5-F7	Upper heating elements
SZ	Temperature controller
P	Programme switch
SK	Terminal
V	Oven drum lights
KL	Control panel
HT	Temperature limit holder
KB	Outside cover
NS P	Neutral bar
SD	Oven drum

## 16. Installation, layout variations:



<p>GES-001 oven on a GES001-7200 stand with cake-tin holder</p>	<p>2 pcs of GES-001 ovens on GES001-10200 stand with cake-tin holder</p>	<p>3 pcs of GES-001 ovens on GES-6000 stand</p>
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Mid-potential



<p>Fastening ovens on each other and place of mid-potential</p>	<p>GES001-7200 stand with cake-tin holder</p>	<p>GES001-10200 oven stand with cake-tin holder</p>
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