



Manual of

Installation

Maintenance

an Use

**NKE234 - NKE234S**





## Contents

### How to use the appliance

➤ General warnings for the machine usage	4
➤ Cooking time selection	4
➤ Convection cooking without steam	4
➤ Combined cooking humidified convection	5
➤ Rapid exhaust control	5
➤ Steam cooking at 100°C	5
➤ Low temperature steam cooking 50÷100°C	6
➤ Cooking with the “Core probe” device (Series S ovens only)	6
➤ Capacity of the cooking chamber and maximum load capacity	7

### Advice for the maintenance

➤ Stainless steel maintenance	7
➤ Cleaning of the cooking chamber	7
➤ Door glasses inside cleaning	8
➤ Removal of calcareous deposits	8
➤ Protection in case of machine inactivity	8
➤ Periodic maintenances to be carried out by the user	8
➤ Fan maintenance	9
➤ Cooking chamber drainage filter	9
➤ Fat filter	9

### Installation

➤ General regulations for the fitter	10
➤ Connection for water inlet and outlet	11
➤ Electrical connection	11
➤ Feeding cable	12
➤ How to switch the oven on	12
➤ Final testing	12

### Special maintenance

➤ Picture 1 (Overall dimensions of the ovens NKE234, NKE234S)	13
➤ Legend for pictures 1-2	13
➤ Picture 2 (Connections for the electric ovens)	14
➤ Picture 3 (Recommended clearance from nearby machines and walls)	15
➤ Picture 4 (Water connection)	15
➤ Picture 5 (Description of the control panel models NKE234)	16
➤ Picture 6 (Description of the control panel models NKE234S)	17
➤ How to replace the fuses	18
➤ Reset of the safety thermostat	18
➤ How to replace the light bulb	19
➤ Picture 7 (Maintenance advice)	19
➤ Wiring diagram	--

## Usage of the machine

### General warnings for the machine usage

- The working of the machine needs to be looked after.
- The machine usage is exclusively reserved to a qualified staff instructed for the usage.
- Before using the machine, it is necessary to read carefully this booklet.
- Before using the machine, it is necessary an accurate cleaning of the cooking chamber as described in the “**Advice for the maintenance**” chapter.
- The non-observance of the abovementioned rules can compromise the machine and operators safety.

**The manufacturer disclaims all responsibilities due to the non-observance of what above-mentioned.**

### Cooking time selection

To set a cooking time, rotate the knob clockwise until you obtain the desired value; when the set time expires, the machine will signal the end of cooking and will stop automatically. To set an endless cooking time (continuous working), rotate the knob counter-clockwise to the position:

∞ (Infinite time) for models NKE234, **on** for models NKE234S

To finish the cooking period at any time, rotate the knob counter-clockwise to the position:

**0** (Zero) for models NKE234, **off** for models NKE234S

### Cottura a convezione secco

Rotate the working mode selector on the Convection position.

(Index towards right).

Set the required temperature by means of the electronic thermostat knob.

Put the automatic humidifier knob on 0 (Zero).

Set the required cooking time by means of the timer knob.

## Combined cooking humidified convection

Rotate the working mode selector to the Convection position.

(Index towards right).

Set the required temperature by means of the thermostat knob.

Set the required humidity value by means of the humidifier knob; the automatic humidifier device will check and keep automatically the set value of humidity.

Set the required cooking time by means of the timer knob.

The automatic humidifier enables to set the desired percentage of humidity during the cooking. For example, for the roasting of a piece of meat, at the beginning you set a 30% value, then you put it at 0 towards the end of the cooking; in this way your meat will be soft and yet well roasted.

It may be used during the first cooking phase of bread in order to help the leavening.

Moreover, it can be used to create an ideal climate for the regeneration of precooked products both in single portions and in baking-tins.

## Rapid exhaust control

The opening of this control enables to eliminate quickly the steams released by the product and present in the cooking chamber.

Open it during the last cooking minutes in order to dry the product surface quickly while cooking "au gratin" the "lasagne" and other types of baked macaroni; leave it open for the whole cooking time to get the best result for pizza, "pasta" and other products that need to lose much humidity in a short time.

### **Note:**

During the steam cooking or "low temperature" steam cooking the rapid exhaust shall be closed.

## Steam cooking at 100°C

Close the rapid exhaust.

Rotate the working mode selector to the Steam position.

(Index towards left).

Set the required cooking time by means of the timer knob.

### **Note:**

The position of the automatic humidifier knob has no influence during the steam cooking.

## Low temperature steam cooking 50±100°C

Close the rapid exhaust.

Rotate the working mode selector to the Steam position.

(Index towards left).


Set the required cooking temperature by means of the thermostat knob, while considering that the maximum temperature that can be set is 100°C and the display will show the steam cooking temperature.

Set the required cooking time by means of the timer knob.

**Note:** The position of the automatic humidifier knob does not affect the steam cooking.

## Cooking with the “Core probe” device (Series S ovens only)

In order to accomplish a cooking process with electronic temperature control by means of the “core probe” device, do as follows:

- Set a cooking mode.
- Pre-heat the cooking chamber; the “core probe” device shall be off.
- Insert the probe into the food to be cooked; it is very important that the probe point is placed in the real centre of the product (the **core**).
- Press the key  (at the beginning the display shows – **P** -, then **C** and the probe temperature)
- Turn the knob counter-clockwise until (0) is displayed.
- Set the required temperature, by turning the knob clockwise to increase or counter-clockwise to decrease it.

The cooking process starts and finishes automatically:

1) as soon as the product core has reached the set temperature, if the cooking time setting is (**on**)

2) as soon as the product core has reached the set temperature or as soon as the set time is over, if different from (**on**)

The end of the cooking process will be acoustically signalled.

In order to disconnect the core probe, turn the knob counter-clockwise until (0) is displayed or just disconnect the probe.

### **Note:**

The process end controlled through the core probe device can be used with any of the cooking modes previously set.

### **Caution! Danger!**

In case of replacement of the core probe, the type recommended by the manufacturer shall be used, only.

## Capacity of the cooking chamber and maximum load capacity

**Table 1**

Model	Max. load	Grid capacities	Trays h20mm	Trays h40mm	Trays h60mm
KE234 – KE234S	8Kg	4x2/3GN	4x2/3GN	4x2/3GN	4x2/3GN

## Advice for maintenance

### Stainless steel maintenance

The appliance is fully made in stainless steel 18/10 AISI 304 and therefore requires no particular maintenance; however, the manufacturer suggests to avoid using large sized salt grains, small ones only shall be used in boiling water (not cold water). In this way, corrosion will be avoided.

**Most of all, containers shall be washed carefully after using acid ingredients (i.e. tomato, lemon juice, vinegar and so on).**

Moreover, the observance of the following instructions is recommended in order to keep the appliance in the best conditions.

### Cleaning of the cooking chamber

A dirty cooking chamber brings about hygienic problems. Carry out the cleaning as follows:

- Heat the cooking chamber up to about 60 °C (steam mode).
- Sprinkle it with water and cleansing agent.
- Set a cooking program “steam 60 °C” for about 30 minutes.
- At the end of the process cycle, open up the door with caution.

#### **Caution! Danger!**

The outgoing steam can contain some injurious substances, do not inhale and avoid contact. In order to avoid problems, use products on sale that do not contain ammonia or chlorine-based acids.

- Don't expose the oven to acid vapours.
- Don't use acids for its cleaning.
- Don't use high-pressure machines for its cleaning.

#### **Caution! Danger!**

Do not use water blasts for the oven external cleaning.

## Door glasses inside cleaning

Thanks to the compass opening of the door inner glass, removing the deposits is quite easy.

Clean the door glasses as follows: (see **Picture 7**)

- 1) Release the glass by pushing the glass fastening “B” towards the door outside
- 2) Pull the glass “C” towards yourselves
- 3) Make the glass cleaning
- 4) Push the inner glass against the fastening devices “B” until they are hooked

**Caution! Danger!** 

**Once the glass is open, handle it with care, paying attention that it doesn't bump into other objects that can cause micro-cracks and, later on, the glass breakage.**

## Removal of calcareous deposits

The calcareous deposits, which can appear on the bottom of the trays or even of the cooking chamber, can be removed by using scale-removers easily available on the market. While using these products, follow the operating instructions indicated by the Producer carefully.

## Protection in case of machine inactivity

Should the appliance remain inactive for a long period, first clean the cooking chamber and the outer walls, and then protect it by spreading some vaseline oil or any similar product available on the market.

## Periodic maintenances to be carried out by the user

**Caution! Danger!** 

**Before carrying out any kind of operation, disconnect the electrical supply and close the water tap.**

The appliance has been designed so as to reduce maintenance operations as much as possible. However, a periodic check shall be carried out by skilled personnel, who will control the working of both the appliance and its safety devices.



## Fan Maintenance

The fan requires a periodical cleaning operation to be carried out with the relevant decalcifying products available on the market.

Do as follows (see **Picture 7**):

- 1) Disconnect the power supply
- 2) Take out the oven rack from the cooking chamber.
- 3) Clean the fan properly.
- 4) Repeat the above-mentioned operations in reverse order to reassemble the parts.

## Cooking Chamber Drainage Filter

At the end of each workday, make sure that there are no deposits clogging the drain as they can jeopardize the appliance operation.

See **Picture 7 (H)**

## Fat filter (Optional)

This filter is mounted on the deflector; it shall be removed and cleaned every day so as to prevent fat residues from clogging the airflow, which causes serious damages to the equipment.

In order to take the fat filter out, lift and pull it.

## Installation

### Warning!

The manufacturer disclaims all responsibilities due to the non-observance of the regulations given hereinafter.

### Important!

Before starting the installation, check the conformity of the oven technical data with the requirements.

### Important! Danger!

Before carrying out any operation (installation, maintenance or cleaning), it is compulsory to disconnect the power as well as the gas and water supply, installed upstream the appliance in the same room where the oven is operating.

## General regulations for the fitter

- Any operation relating to the installation, control tuning or repair of equipment is to be carried out by skilled personnel only, previously appointed by the manufacturer.
- Please note that any operation performed by unskilled personnel may bring about serious damages to the equipment as well as to things and persons.
- The appliance shall be equipped with adjustable feet, it shall be installed on a perfectly LEVELLED SURFACE, which is able to bear the weight of the oven, firm and made of **flameproof** material.
- Do not obstruct the slots for motor cooling; the correct distances from the surrounding walls are shown in **Picture 6**.
- The walls surrounding the equipment, the supporting surface as well as any object in contact with the appliance shall be of **flameproof** material.
- The manufacturer disclaims any responsibility for damages due to the non-compliance with what above illustrated.
- It is recommended to carry out the water and gas connections with stainless steel flexible pipes, in order not to stress the supply pipes and make servicing easier.
- It is recommended to carry out a connection to the drainpipe as it is shown in **Picture 2 ( E )**

## Connections for water inlet and outlet

Both inlet and outlet pipes ( $\varnothing 3/4"$ ) are located in the rear side of the equipment set, as per the installation diagrams: **Picture 1, Picture 2.**

A tapping cock shall be installed in the water supply pipe in a position where it is easy to be seen and reached.

In order to obtain a correct working of the equipment, it shall be supplied with cool water, having the following features:

Supply pressure values between 50 and 400 Kpa ( $0.5 \div 4$  Bar)

Mineralization degree between 7 and 14° Fr

PH = 7.5


Moreover the appliance shall be connected through an exhaust to outdoor as shown in Picture 2, letter E.

**NOTE:** Should water not have the features as here above described, we suggest installing a special filter and/or a water softener with automatic or manual regeneration upstream the equipment, so as to avoid calcareous deposits and corrosions damaging the inner parts of the pipes and the equipment, which can cause damages and jeopardize the operation of the appliance.

**In case of non-observance of what abovementioned, the manufacturer disclaims any responsibility, even if the equipment is still under warranty.**

## Electrical connection

- Make sure that the mains voltage is the same indicated in the identification plate located on the rear panel of the equipment.
- Upstream the equipment, it is necessary to locate an omnipole general switch of adequate output (see table 3) and with a minimum contact opening of 3mm, as per the regulations in force, in a position easy to be seen and reached.
- Upstream the equipment, a safety device – circuit breaker 0.03A -, in compliance with the electrical regulations in force shall be installed.
- In order to obtain the best protection in case of non-direct contacts, it is absolutely required to accomplish an equipotential connection of the metallic structures existing in the same room where the appliance is installed by means of the relevant terminal clamp (**Letter G** in **Picture 2**).

 **CAUTION!** It is absolutely compulsory to carry out a serviceable “earthing” connection, in accordance with the regulations in force. If not, the manufacturer disclaims all responsibilities, either direct or indirect ones, with regard to damages caused to the equipment as well as to things and persons.

## Feeding cable

**Note:** The cable used to connect the appliance shall be H07 RN-F and have the section shown in **Table 2**

**Table 2**

Electrical data					
Appliance	Total power	Heating power	Feeding	Absorbed current	Feeding cable section
KE234 KE234A	4100W	3.9kW	230V ~	17.8 A	4mm <sup>2</sup>
KE234 KE234A	4100W	3.9kW	230V 3 ~	10.3 A	2.5mm <sup>2</sup>
KE234 KE234A	4100W	3.9kW	400V 3N ~	9.2 A	1.5mm <sup>2</sup>

## How to switch the oven on

- 1) Open the water supply tap.
- 2) Connect the power supply.
- 3) Make sure that the appliance door is closed.
- 4) Rotate the main switch to the combined cooking position or to the steam cooking position (see chapter “**How to use the appliance**”).
- 5) Set a cooking temperature.
- 6) Set a cooking time or turn the timer knob to the continuous cooking position  
**∞ (Mod. KE234), on (Mod. KE234S).**
- 7) To switch the appliance off, turn the main switch to the **OFF** position.

**NOTE:** After use, disconnect the electrical supply and close the gas and water supply taps.

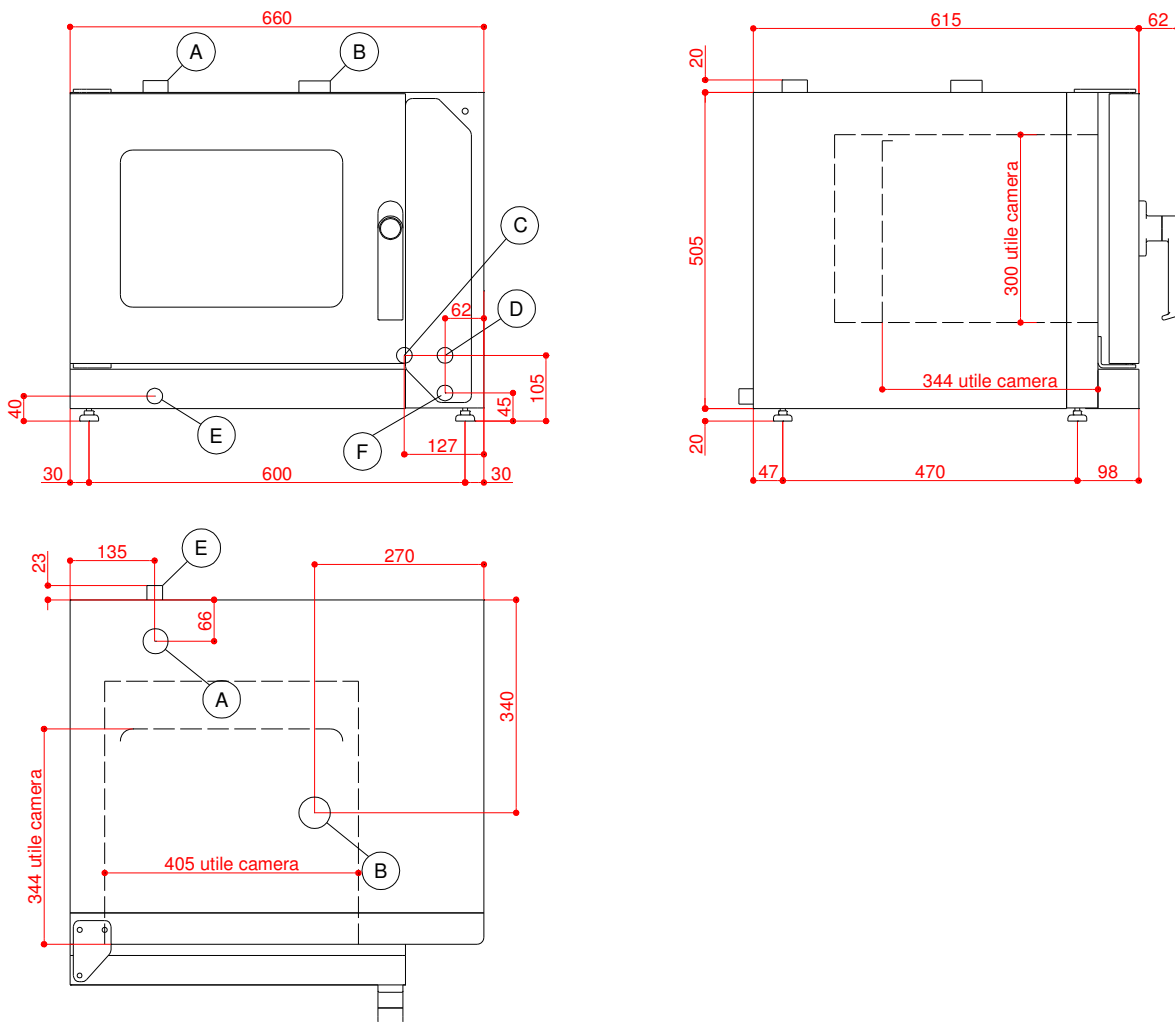
## Final testing

The fitter is compelled to:

- Check that there are no leakages.
- Make sure that there are no dangers for both the user and the appliance.
- Re-assemble all parts of the appliance previously removed, if any, and check their proper working.
- Carry out both testing and checking of electric, gas and water installations. They shall comply with the regulations in force and rules previously illustrated.
- Train the users of the appliance giving them all necessary information regarding the safety regulations to be strictly observed.
- Hand over this instruction manual complete with all its parts. It shall be kept in good condition for any future servicing to be carried out to both the appliance and the systems it is made of.

## Overall dimensions of the ovens NKE234, NKE234S

**Picture 1**



**Warning:**

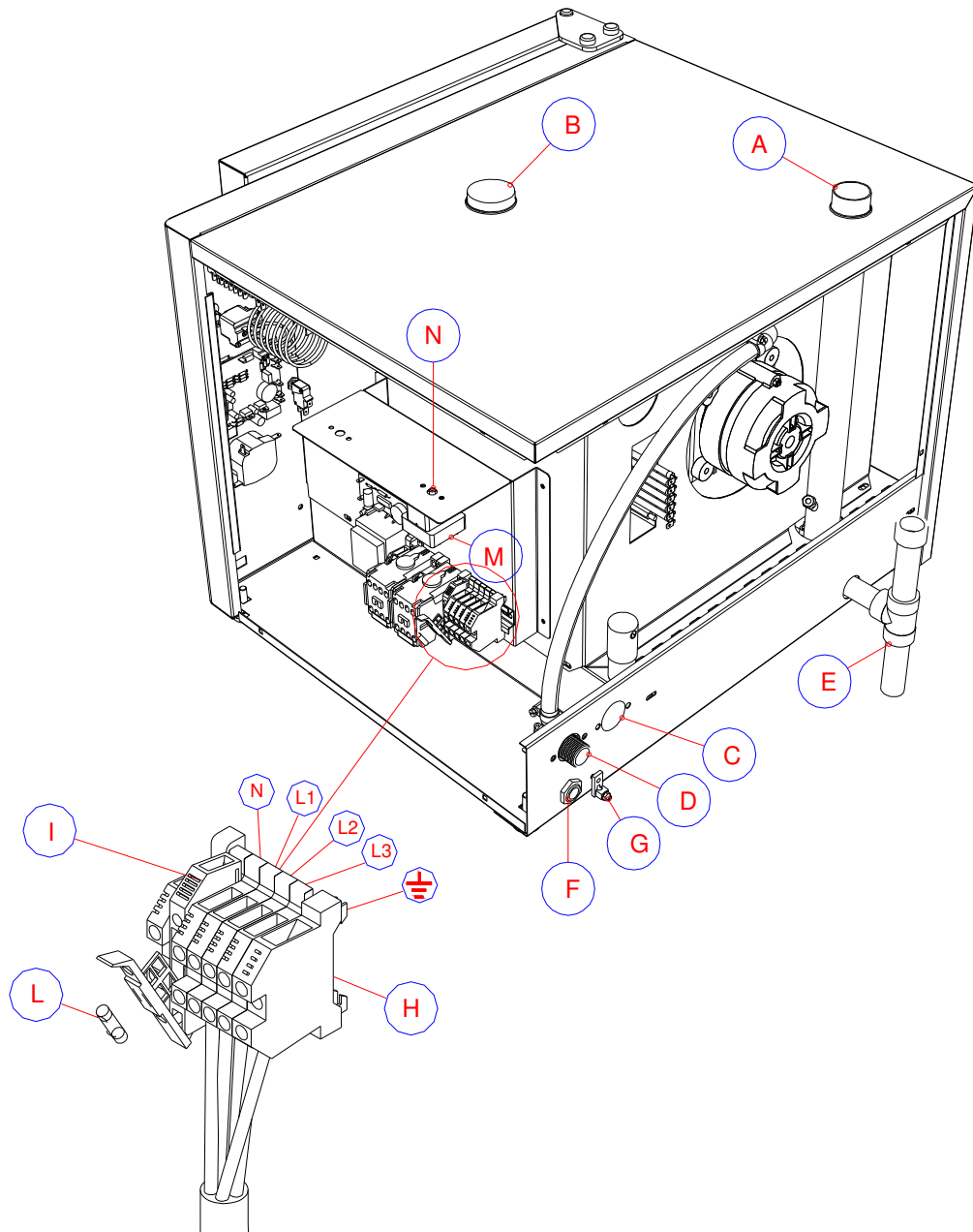
The manufacturer reserves the right to modify the characteristics of his machines at any time and without notice.

### Legend for pictures 1 - 2

- A – Outlet exhaust pipe for the cooking steam Ø 40mm
- B – Rapid steam exhaust Ø 50mm
- C – Water inlet for the steam condenser (optional) Ø ¾" gas
- D – Water inlet for the steam production Ø ¾" gas
- E – Water outlet Ø 25mm
- F – Inlet of the power supply cable
- G – Equipotential terminal
- H – Supply terminal board
- I – Fuse carrier terminal
- L – Fuse

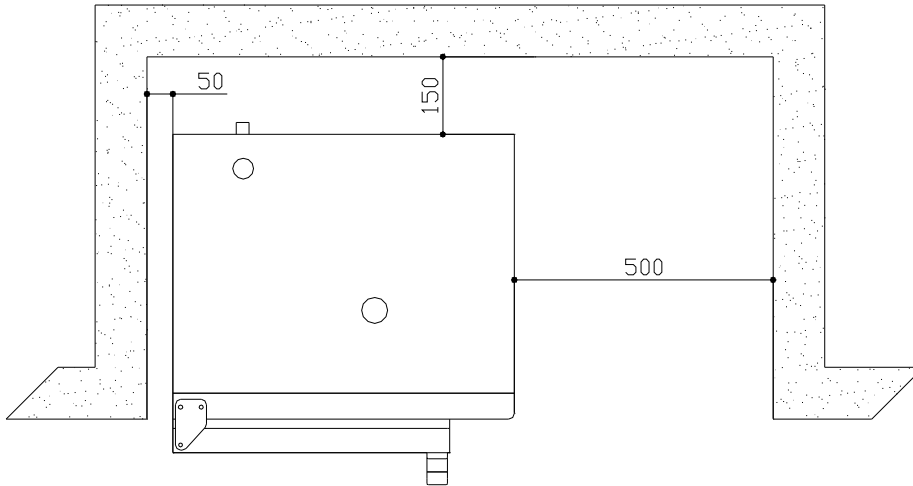
## Connections for the electric ovens

**Picture 2**



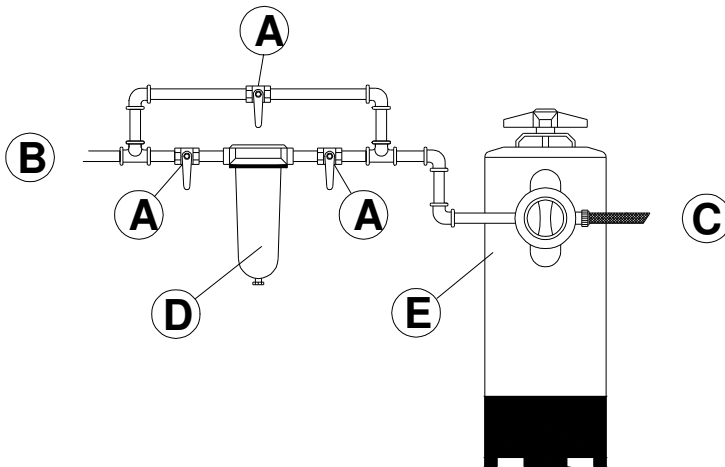
## Recommended clearance from nearby machines and walls

**Picture 3**



## Water connection

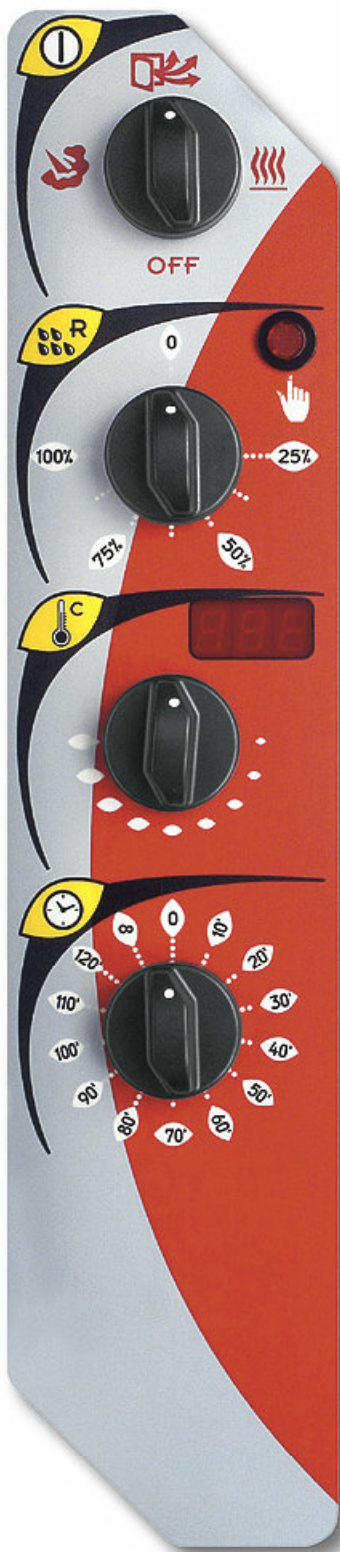
**Picture 4**



## Legend for picture 4

- A) Valves for the interruption of water supply and for the filter cleaning
- B) Connection point to the water mains
- C) Connection point to the machine
- D) Filter
- E) Water softener

**Picture 5**



Selector for the different functions  
(Off, Steam cooking, Chamber cooling, Combined cooking)

Manual humidifier

Automatic humidifier

Temperature display

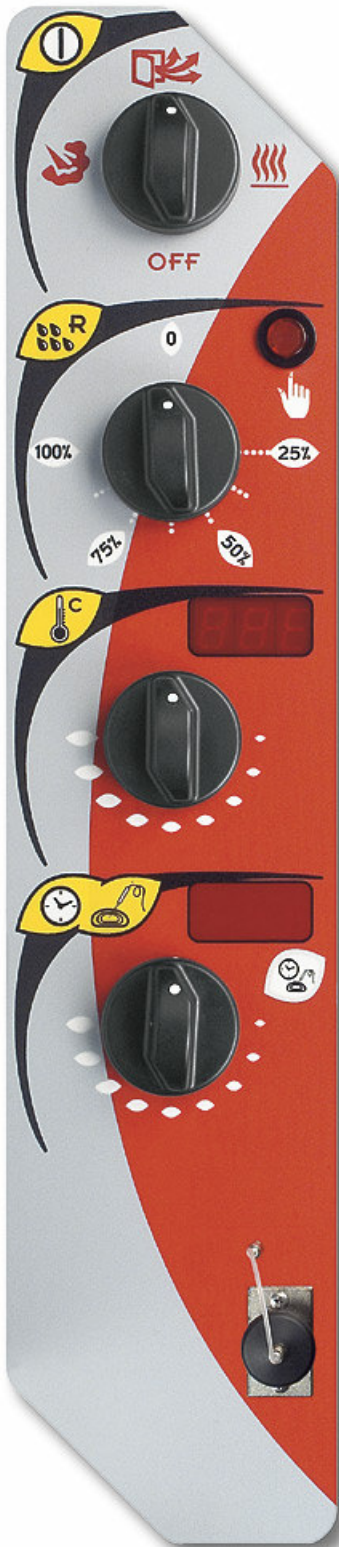
Cooking thermostat

Cooking timer



## Description of the control panel models KE234S

**Picture 6**



Selector for the different functions  
(Off, Steam cooking, Chamber cooling, Combined cooking)

Manual humidifier

Automatic humidifier

Temperature display

Cooking thermostat

Cooking time display / Core temperature display

Button to select cooking time / core temperature

Cooking time knob / core temperature knob

Core probe connector

## Special maintenance

**Caution! Danger** 

**Before carrying out any operation, disconnect the electrical supply and close the water tap.**

**Caution!**

**These operations can only be carried out by skilled personnel duly authorized by the manufacturer.**

**Caution!**

**In case of replacement of parts or components of the equipment, original spare parts supplied by the manufacturer shall be used.**

**Note:**

Should the user carry out operations that are not described in this instruction manual, it is **compulsory** to contact the manufacturer of the appliance, who will give all the necessary information.

**The manufacturer disclaims all responsibilities due to the non-observance of the above-mentioned regulations.**

## How to replace the fuses

See **Picture 2**

To replace the fuses, remove the right panel of the equipment.

Next to the terminal board “**H**” located on the right side of the appliance, there is the fuse carrier “**I**” with rapid fuses type “**L**”; pull the cover of the fuse carrier “**I**” by rotating it (about 90°). After detecting the causes and removing them, replace the old fuse with a new one of the same type.

## Ripristino del termostato di sicurezza

See **Picture 2**

Should any damage of the system controlling the cooking chamber heating occur, the appliance would automatically stop by means of a safety thermostat “**M**”.

To restart it, do as follows:

Remove the right panel of the appliance; after finding out the causes of the safety thermostat intervention and removing them, restart the appliance by pressing the internal push-button “**N**” (a click can be heard).

## Sostituzione della lampada di illuminazione

See **Picture 7**

By means of the appropriate tool, unscrew the two screws fixing the frame “G” of the bulb-holder on the cooking chamber. Then remove the frame, being careful not to damage the gasket “F”, unscrew the bulb “D” from the bulb-holder and replace it with a new one of the same type and manufacturer.  
(TYPE E14 - 25w X6J 230-240V 300°C H.D)

**Picture 7**

