

11/2022

Mod: LKS/6T

Production code: CR1663530

INSTALLATION AND MAINTENANCE MANUAL

HSO HIGH SPEED OVEN

CAUTION: Read the instructions prior to using the equipment

Conformity

The conformity of the equipment refers to the complete equipment on delivery.

In the event of an expansion, modifications or connection of other functions, the user is responsible for the conformity of the modified equipment.

Observe the local and national rules and provisions for installation and operation of commercial cooking equipment.

INDEX

IMPORTANT SAFETY INSTRUCTIONS	26
 WARNINGS	26
IMPORTANT SAFETY INSTRUCTIONS	31
WARNING LABEL APPLICATION INSTRUCTIONS	34
FEATURES	36
GROUNDING AND INSTALLATION	37
RECOMMENDATIONS FOR USE	40
CARE AND CLEANING	41
BEFORE CALLING SUPPORT	43
WIRING DIAGRAM	264

Warranty

Any damage resulting from failure to observe this installation manual is excluded from the warranty.

In addition, the warranty does not cover:

- Damage resulting from improper use or installation operations, maintenance and repair carried out incorrectly
- Non-compliant use of the equipment
- Technical transformations or modifications not authorised by the manufacturer
- Use of non-original manufacturer spare parts

The manufacturer accepts no liability for any inaccuracies in this manual attributable to printing or copying errors. We reserve the right to modify our products as we deem fit, without impairing their basic features.

The reproduction or copying of any part of this manual by any means whatsoever is strictly forbidden unless authorized previously in writing by the manufacturer.

Copyright
Sending specific information about the products to third parties is not permitted. All rights, including those for translation and reproduction, are reserved.

- ORIGINAL INSTRUCTIONS -

IMPORTANT SAFETY INSTRUCTIONS

 RECOGNIZE THIS SYMBOL AS A SAFETY MESSAGE

WARNINGS

Interventions that will become necessary over time, as well as special oven maintenance, must only be carried out by the manufacturer's personnel or by an authorised technical help service.

- **Read** the warnings in this manual carefully as they provide important information regarding safe use and maintenance.
- **Store this manual with care!**
- This device must only be used **as specifically intended**: to cook food. Any other use is to be considered incorrect and therefore, dangerous.
- Only properly trained service staff can use the device.
- This device can be used by children aged 8 years and over, and by persons with physical, sensorial or mental impairments, or scarce experience and knowledge, provided they are supervised or have been trained on how to use the device by a person responsible for their safety.
- Children must be supervised to ensure they do not play with the device.
- Cleaning and maintenance must not be entrusted to children unless they are supervised.
- Supervision is necessary during oven use.

WARNING

- The equivalent sound pressure (A-weighted) is lower than 70dB(A).
- During operation, the oven has hot surfaces. **Take care!**
- **CAUTION!** During use, the oven's surfaces are hot as indicated by the stickers marked with the international symbol IEC60417 – 5041  . Take care!
- **CAUTION:** Hot steam may be released when the door is opened.
- When the device is used, use PPEs against heat.
- If the power cord is damaged, it must be replaced by the manufacturer, their help centre or by a person with similar qualifications, so as to prevent all risks.
- In the event of a fault or malfunction, **turn the oven off immediately!**
- **CAUTION:** Disconnect the power supply to the oven during cleaning and maintenance operations and when replacing components.
- **CAUTION:** The floor around the oven may be slippery!
- **WARNING:** Do not use pressure or steam cleaning systems.

WARNING

- **SAFETY STICKER**
- **WARNING:** Maximum insertion height for containers: the appliance cannot be installed with the hob higher than 160 cm (63 inches).
- **WARNING:** to avoid burns, do not use containers filled with liquids or foods that can become liquid, at a height at which they cannot be observed.
- The attached sticker must be applied to the door at a height of 160 cm (63 inches) from the floor



- Do not work on the machine using unsuitable systems for accessing the upper part (e.g. by using ladders or by climbing on the machine)
- **Treatment of chemical substances:**
- Use appropriate safety measures. Always refer to the data sheets on safety and to the labels on the product used.
- Use the PPEs recommended in the safety data sheets.

WARNING

- If technical assistance is required, all information indicated on the ID plate must be provided, **as well as detailed information about the fault** to make it easier for the support service to understand and resolve the problem.
- This manual, as well as the user manual, can be downloaded in various languages using the QR-codes shown on the specifications plate or by connecting to the website www.lainox.com.
- The HSO oven can be supplied with a power plug or with a cable without a plug, depending on the model chosen. The connection to the power supply network can be made with the plug supplied or connected permanently. In the event of a permanent connection, the power supply line of the oven must be equipped with an omnipolar general switch with a minimum opening distance between the contacts of at least 3 mm per pole.
- The oven must be part of an equipotential bonding system. This connection is made by attaching a conductor with a nominal section of up to 10 mm² to the specific terminal, located on the rear of the oven, marked with the international symbol IEC60417 – 5021 .
The connection is made between all the adjacent devices in the room and the dispersion system in the building.

WARNING

Electrical safety and advice on additional electrical protection

- Commercial kitchens and catering areas are environments in which electrical appliances can be placed near liquids, or operate in humid conditions or where the limitation of movement for installation and assistance is evident.
- Installation and periodic inspection of the appliances must only be carried out by a qualified, experienced and competent electrician; in addition, the appliances must be connected to an adequate power supply according to the load, as reported on the label containing the appliance data.
- The installation and electrical connections must meet the necessary requirements, in accordance with the local regulations on electrical wiring and with the guidelines for electrical safety.
- **The following is recommended:**
 - Ensure additional electrical protection with the use of a differential switch (RCD).
 - Make sure that fixed wiring appliances include a local disconnect switch to which they can be connected and that this is easily accessible for shutdown and safe isolation. The disconnect switch must meet the requirements specified in the IEC 60947 standard. For Australia and New Zealand the disconnect switch and connection cable must comply with AS / NZS 3000.

WARNING

When using electrical equipment, basic safety precautions should be followed to reduce the risk of burns, electrical shock, fire, or injury to persons including the following.

1. READ all instructions before using equipment.
2. READ AND FOLLOW the specific "PRECAUTIONS TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY" on this page.
3. Install or locate this equipment ONLY in accordance with the installation instructions in this manual.
4. Liquids or other foods, must not be heated in sealed containers since they are liable to explode.
5. Eggs in their shell and whole hard-boiled eggs should not be heated in microwave ovens since they may explode even after microwave heating has ended.
6. Failure to maintain the oven in a clean condition could lead to deterioration of the surface that could adversely affect the life of the appliance and possibly result in a hazardous situation;
7. See door cleaning instructions on page 41 of this product safety manual.
8. Do not heat baby bottles in oven. Baby food jars must be open when heated and contents stirred or shaken before consumption, in order to avoid burns.
9. DO NOT operate this equipment if it has a damaged cord or plug, if it is not working properly, or if it has been damaged or dropped.
10. This equipment, including power cord, must be serviced ONLY by qualified service personnel. Special tools are required to service equipment. Contact nearest authorized service facility for examination, repair, or adjustment.
11. DO NOT cover or block vents or other openings on equipment.
12. DO NOT store this equipment outdoors. DO NOT use this product near water, for example, near a kitchen sink, in a damp basement, swimming pool, or similar location.
13. DO NOT immerse cord or plug in water.
14. Keep cord AWAY from HEATED surfaces.
15. DO NOT let cord hang over edge of table or counter.

PRECAUTIONS TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

1. **DO NOT** attempt to operate this oven with the door open since open door operation can result in harmful exposure to microwave energy.
It is important not to disable or tamper with the safety interlocks.
2. **DO NOT** place any object between the oven front face and the door to allow dirt or cleaner residue to accumulate on sealing surfaces.
3. **DO NOT** operate the oven if it is damaged. It is particularly important that the oven door close properly and that there is no damage to the:
 1. door (bent)
 2. hinges and latches (broken or loosened)
 3. door seals and sealing surfaces.
- D. The oven should not be adjusted or repaired by anyone except properly qualified service personnel.

WARNING

To avoid risk of fire in the oven cavity:

- a. Do not overcook food. Carefully attend oven when paper, plastic, or other combustible materials are placed inside the oven, due to the possibility of ignition.
- b. Remove wire twist-ties from paper or plastic bags before placing bag in oven.
- c. If materials inside the oven ignite, keep oven door CLOSED, turn oven off and disconnect the power cord, or shut off power at the fuse or circuit breaker panel.
- d. Do not use the cavity for storage. DO NOT leave paper products, cooking utensils, or food in the cavity when not in use.
- e. Do not add alcohol when cooking!

WARNING

Liquids such as water, coffee or tea can be overheated beyond boiling point without appearing to be boiling due to surface tension of the liquid. Visible bubbling or boiling when the container is removed from the microwave oven is not always present. THIS COULD RESULT IN VERY HOT LIQUIDS SUDDENLY BOILING OVER WHEN A SPOON OR OTHER UTENSIL IS INSERTED INTO THE LIQUID. To reduce the risk of injury to persons:

- i. Do not overheat the liquid.
- ii. Stir the liquid both before and halfway through heating it.
- iii. Do not use straight-sided containers with narrow necks.
- iv. After heating, allow the container to stand in the microwave oven for a short time before removing the container.
- v. Use extreme care when inserting a spoon or other utensil into the container.

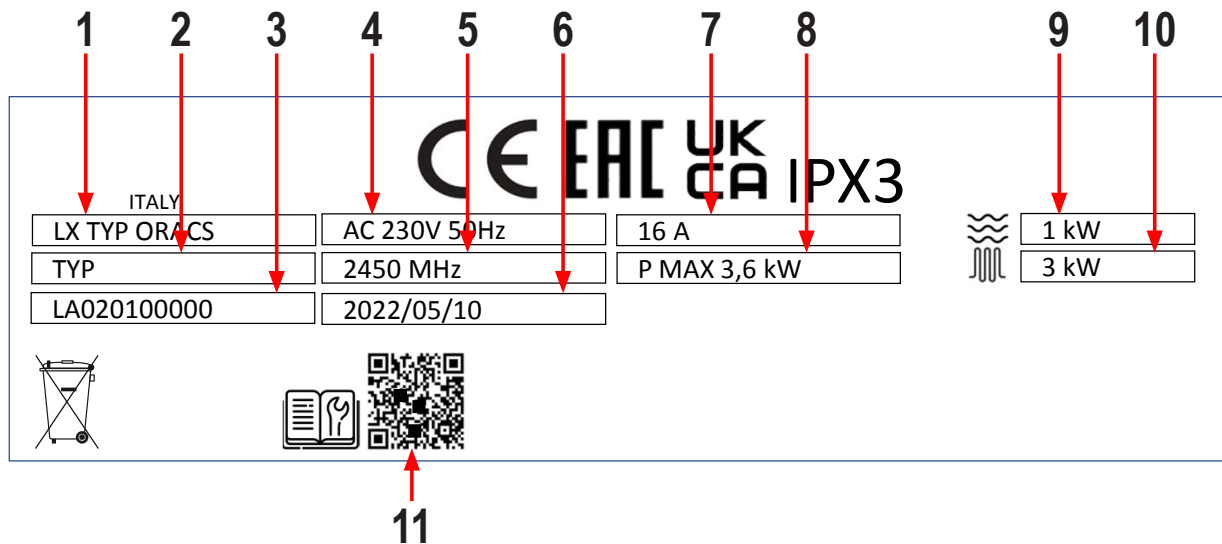
WARNING

To avoid personal injury or property damage, observe the following:

1. Do not deep fat fry in oven. Fat could overheat and be hazardous to handle.
2. Do not cook or reheat eggs in shell or with an unbroken yolk using microwave energy. Pressure may build up and make them explode. Pierce yolk with fork or knife before cooking.
3. Pierce skin of potatoes, tomatoes, and similar foods before cooking with microwave energy. When skin is pierced, steam escapes evenly.
4. Do not operate equipment when the oven cavity is empty.
5. Microwave popcorn should not be popped in oven.
6. Do not use regular cooking thermometers in oven. Most cooking thermometers contain mercury and may cause an electrical arc, malfunction, or damage to oven.
7. Do not use metal utensils in oven.
8. Do not use aluminium foil in oven.
9. Never use paper, plastic or other combustible materials that are not intended for cooking.
10. When cooking with paper, plastic or other combustible materials, follow manufacturer's recommendations on product use.
11. Do not use paper towels which contain nylon or other synthetic fibres. Heated synthetics could melt and cause paper to ignite.
12. Do not heat sealed containers or plastic bags in oven. Food or liquid could expand quickly and cause container or bag to break. Pierce or open container or bag before heating.
13. To avoid pacemaker malfunction, consult physician or pacemaker manufacturer about effects of microwave energy on pacemaker.
14. An authorized service technician MUST inspect equipment annually. Record all inspections and repairs for future reference.

⚠ WARNING

- The information shown on the specifications plate is set out below:



- 1 Model
- 2 Commercial model
- 3 Serial number
- 4 Electrical power supply
- 5 Microwave frequency
- 6 Date
- 7 Phase current
- 8 Total maximum power
- 9 Microwave power
- 10 Convection power
- 11 Link to installation manual

WARNING LABEL APPLICATION INSTRUCTIONS

- The following label is provided in one of two alternative formats (font size at least 5 mm):

- **FORMAT A**

WARNING: Liquids or other foods should not be heated in sealed containers as they can explode

WARNING: Microwaving beverages can cause delayed boiling, therefore care must be taken

when handling the container WARNING: the contents of baby food bottles and jars should be

stirred or shaken and their temperature checked before consumption in order to avoid burns

- **FORMAT B**

WARNING: Liquids or

other foods should not be

heated in sealed containers

as they can explode

WARNING: Microwaving

beverages can cause

delayed boiling, therefore

care must be taken when

handling the container

WARNING: the contents of

baby food bottles and jars

should be stirred or shaken

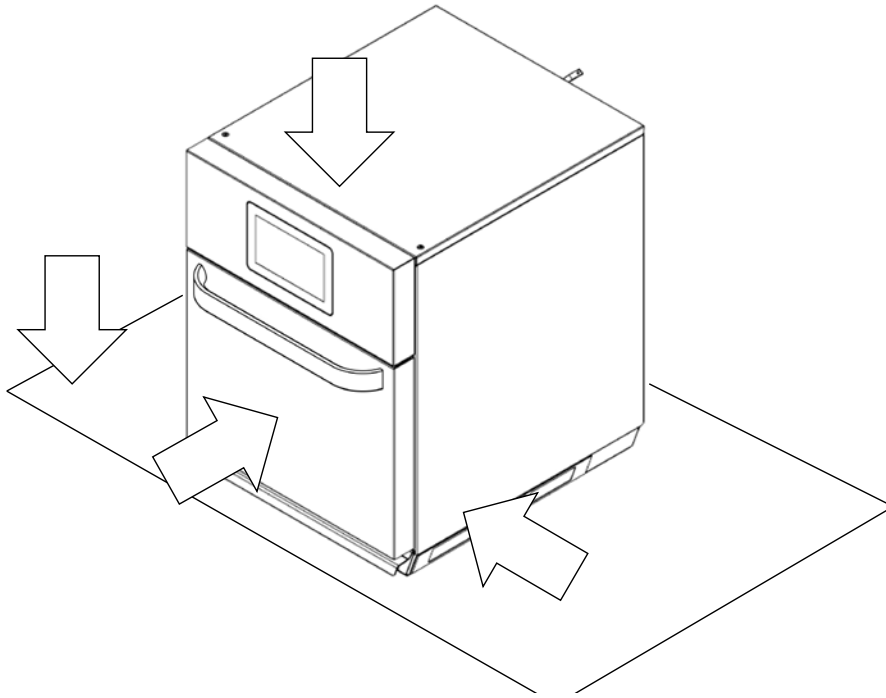
and their temperature

checked before consumption

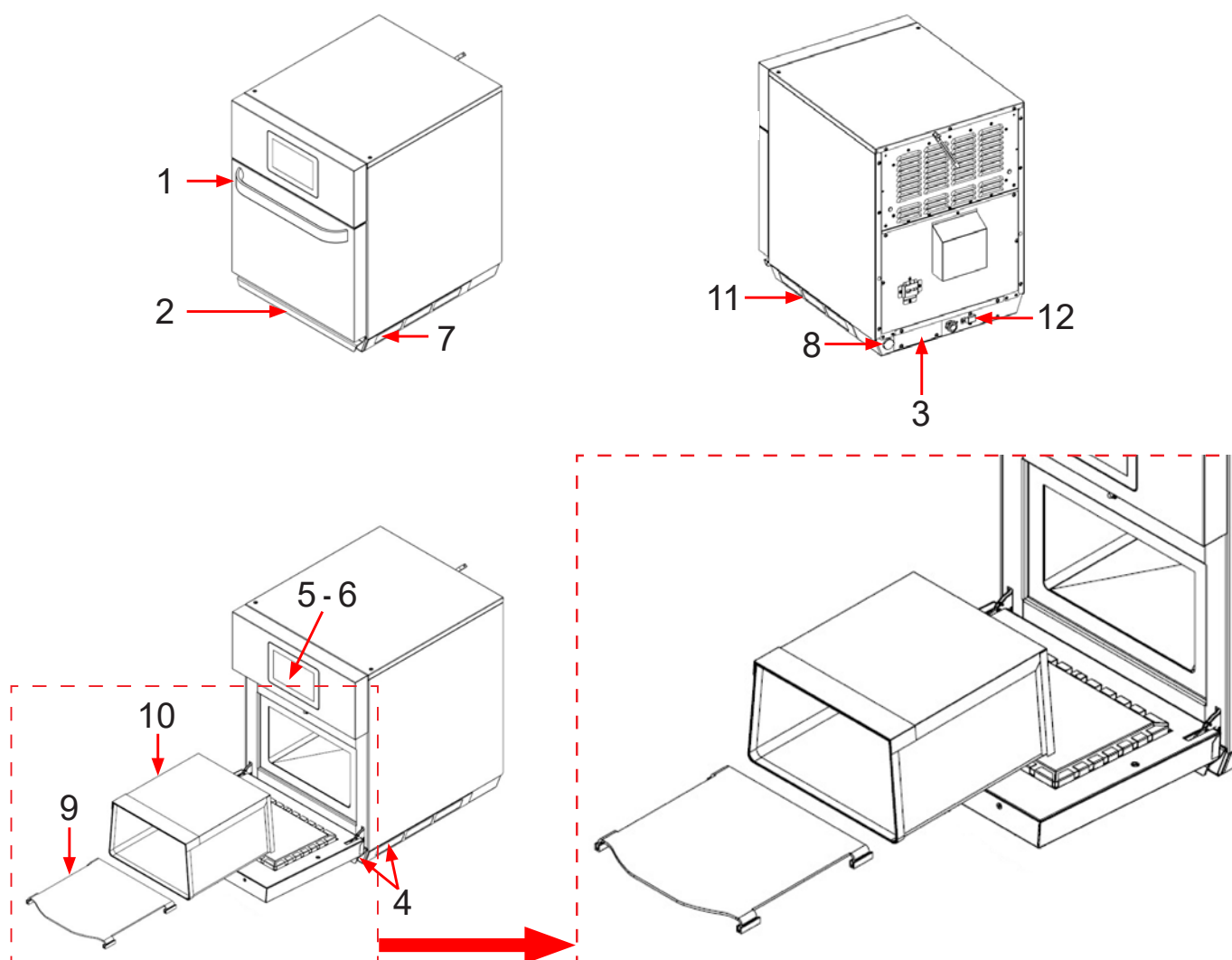
in order to avoid burns

WARNING LABEL APPLICATION INSTRUCTIONS

- It should be applied alternatively on the upper edge of the oven, on the side, on the door or on the counter near the appliance.



FEATURES



1. Door handle

Ergonomic design for one-handed operation. Do not use to lift or move the oven. Do not load weights on the open door.

2. Handle to lift or move the oven

3. Specifications plate and serial number located on the back of the oven

4. Air filters

The oven is equipped with 3 magnetic air filters: two located on the lower sides of the oven and one under the door

5. Touchscreen display

The display is equipped with a user interface. Use to set the time, program and to operate the oven.

6. ON/OFF button on the display

Use to turn on the oven.

7. USB port

The oven is equipped with a USB port, located behind the magnetic filter on the right side of the oven. Use with standard USB drives.

8. Ethernet port

The oven is equipped with an Ethernet port, located on the back of the oven.

9. Smooth cooking plate accessory

The oven is equipped with a removable smooth cooking plate which contributes to the browning and toasting of bread, pizzas and other foods.

10. "HSO WASHABLE BOX"

The oven can be equipped with a removable and washable "HSO WASHABLE BOX", useful for improving the cleaning of the oven, to be replaced in case of excessive delamination or wear.

11. Hygienic non-slip gasket applied to the bottom.

12. Safety thermal reset button

GROUNDING AND INSTALLATION

Grounding/Earthing Instructions

The oven **MUST** be grounded. Grounding reduces risk of electric shock by providing a discharge wire for the electric current if an electrical short occurs. This oven is equipped with a cord which includes a grounding wire and grounding plug. The plug must be plugged into an outlet that is properly installed and grounded.

Consult a qualified electrician or service technician if grounding instructions are not clear or if there is any doubt as to whether the oven is properly grounded.

Do not use an extension cord.

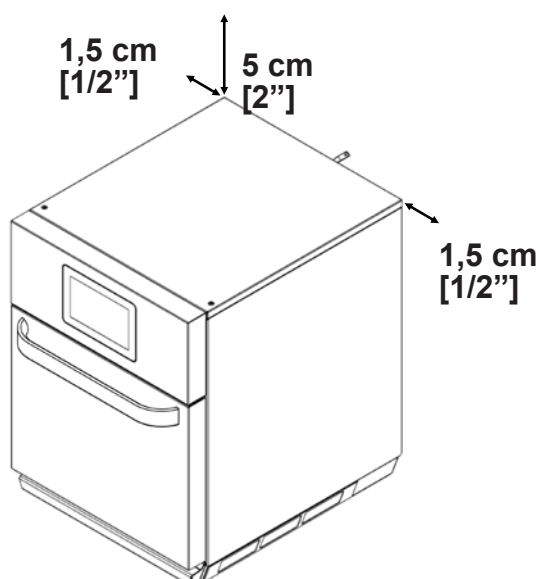
If the product power cord is too short, have a qualified electrician install a socket near the oven. This oven should be plugged into a separate circuit with the electrical rating as provided in product specifications. When the combination oven is on a circuit with other equipment, an increase in cooking times may be required and fuses can be blown.

External equipotential earthing terminal

Equipment has secondary earthing terminal. Terminal provides external earthing connection used in addition to earthing prong on plug. The terminal is located on outside of oven back and marked with symbol shown on the right



For versions with power cable without plug, if direct installation to the power supply network is envisaged, disconnect the line using a multi-pole switch with at least 3 mm (0.12 inches) disconnection according to Category III.



Oven clearances

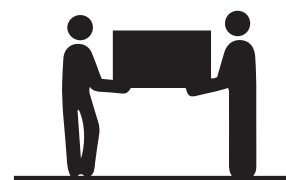
- A. Allow at least 5 cm (2 inches) of clearance around top of oven. In the case of two stacked ovens, 5 cm (2 inches) of space must be ensured above the upper oven. Proper air flow around oven cools electrical components. With restricted air flow, oven may not operate properly and life of electrical parts is reduced. Provide air circulation holes in the cabinet if the oven is installed built-in closed on the 5 sides.
- B. There is no installation clearance requirement for the back of the oven.
- C. Allow at least 1,5 cm (1/2 inch) of clearance around sides of oven.
- D. Install oven so oven bottom is at least 15 cm (5.9 inches) above floor.

⚠ WARNING

To avoid risk of electrical shock or death, this oven must be grounded and plug must not be altered.

⚠ WARNING

Excessive weight hazard



Use two or more people to move and install oven.
Failure to do so can result in back or other injury

HSO Net Weight 71 kg.

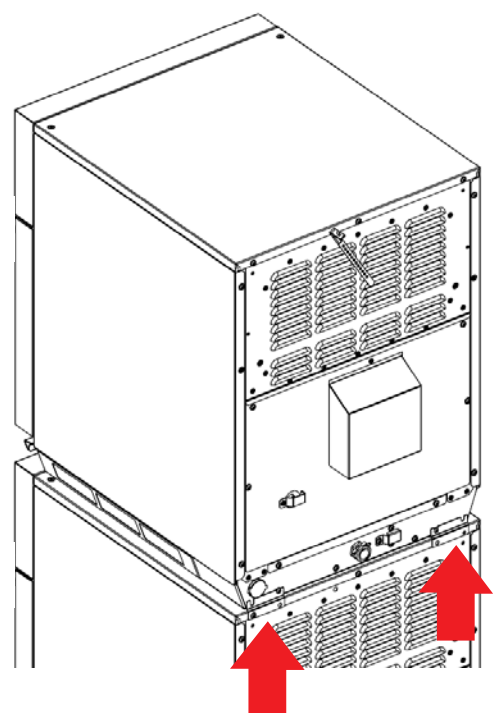
Installation:

STEP 1 - After removing the packaging

- Inspect the oven to see if it has damage which dents on the door or inside the cooking compartment.
- Immediately report any bruises or breakages to the seller. Do not use the oven if damaged.
- Remove all packaging materials from the inside of the oven.
- If the oven has been stored in an extremely cold area, wait a few hours before connecting the power.

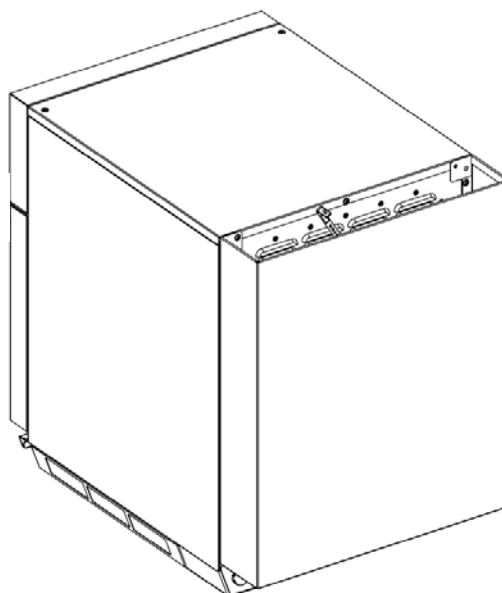
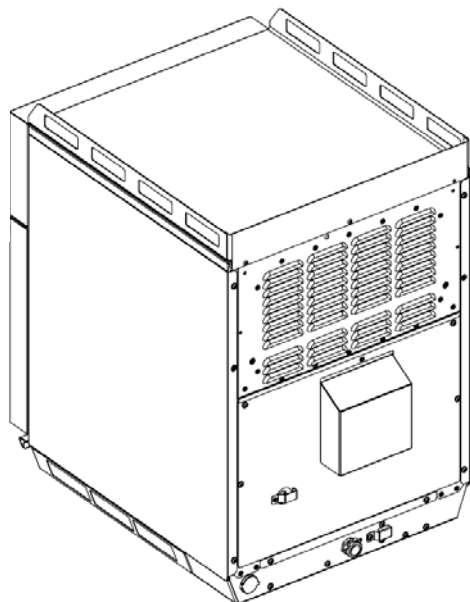
STEP 2 - Positioning the oven

- The recommended depth of the support surface is a minimum of 56 cm (22 inches) by 43 cm (17 inches) of width.
- Do not install oven next to or above source of heat, such as pizza oven or deep fat fryer. This could cause oven to operate incorrectly and could shorten life of electrical parts.
- Do not block or obstruct oven filters. Allow access for cleaning.
- Install oven on level countertop surface.
- Socket should be located so that plug is accessible when oven is in place.
- The oven can be fitted on the support that may be supplied as an accessory. The oven must be fixed to the support using the screws supplied with the support.
Place the oven on the support by aligning the threaded inserts on the bottom of the oven with the holes on the support frame. From under the frame, tighten the retaining screws to the oven.
- To assemble the adjustable feet (possibly supplied as an accessory), follow the instructions below:
 - Move the cantilever oven frontally from the support surface by the distance necessary to free the feet fixing area
 - Remove a piece of the gasket in order to ensure that the feet touch the bottom
 - Assemble the feet
 - Reposition the oven back on the support surface
 - Repeat the operation for the rear feet or, with the help of a second person, carefully lift the rear part and assemble the feet
 - Adjust the height of the feet in order to ensure the horizontality of the oven
- The HSO ovens can be stacked on top of each other. To secure the upper oven, the following instructions must be followed:
 - The upper oven MUST have the anti-slip gasket fitted
 - Position the ovens on top of each other
 - Remove two screws at the top from the back of the lower oven and two screws at the bottom from the back of the upper oven.
 - Secure the two ovens together using the two brackets supplied and the screws that have been removed as shown in the figure



GROUNDING AND INSTALLATION

- The HSO ovens can be equipped with an accessory for objects to be placed on top of the oven or with a rear heat protection. For both of these accessories, proceed with assembly and fixing to the oven using the back screws as shown in the images below.



STEP 3 - Oven tray installation

- Oven tray installation
 1. Oven cavity must be cool to touch.
 2. Place tray in oven with curved edge toward the front of cavity.

⚠ DO NOT cook food directly on floor of oven.

RECOMMENDATIONS FOR USE

1. Avoid using silicone pans and accessories.
2. Make use of the accessories supplied or available in the catalogue.
3. Line pans with parchment paper for easy removal of food after heating and cleaning.
4. Muffin tins are useful for individual cakes and brownies. Spray with cooking spray prior to cooking for easy removal of food after heating.
5. Frequent cleaning prevents unnecessary build-up that may affect the oven performance.
6. Use the manufacturer's recommended cleaner or another cleaner that does NOT contain ammonia, phosphates, chlorine, sodium hydroxide or potassium hydroxide, as this may damage basic oven components and void the applicable warranty. For best results, use the non-stick coating applied to the inside of the door and the HSO Washable Box; replace them in case of excessive delamination or wear.
7. Items will be hot when finished cooking. Use oven mitt, tongs or pizza paddle to safely remove items from oven.

First ignition settings

Before using a new oven for the first time:

remove the HSO Washable Box (possibly supplied or purchased separately), clean the oven using OSOCL detergent with a damp cloth and rinse; spray OSOPR oven protection product on a damp cloth and wipe all the internal surfaces. Do not remove the OSPPR oven protective product. Insert the HSO Washable Box if present and the hob.

Bring the oven to 300°C (572°F) for 30 minutes in convection mode to remove all odours normally found in new ovens. Do not activate the microwave function.

The first time it is switched on, a window appears on the screen prompting setting of the language.

Scroll inside the window and select the desired language (the default language is English).

After selecting the language, select "do not show this message again". The next time the oven is switched on, there will no longer be any prompts to select the language.

On the home screen, two icons appear below the power-up one. The one on the right refers to the user manual (which can be downloaded using the QR-code on the specifications plate) while the one on the left refers to the settings.

For the next steps it is recommended to read the user manual.

Switching off the oven

At the end of the day, turn off the oven by pressing the green icon on the screen. The oven will begin to cool.

The oven fan will continue to turn to cool the oven.

The screen will show "Cooling" which will remain present until the oven temperature is below 60°C (140°F)

WARNING: To avoid damaging the convection motor, do not turn off the power by unplugging the unit or turning off the power switch until the fan has stopped.

CARE AND CLEANING

Follow the recommendations below and on the following page for proper maintenance of the HSO oven.

 The use of caustic cleaning products or those containing ammonia, phosphates, chlorine, sodium or potassium hydroxide (caustic soda) can damage essential oven parts. Do not use water pressure type cleaning systems.

WARNING: Do not use pressure or steam cleaning systems.

Use of unapproved cleaning agents will void the terms of the warranty.

Recommended cleaning supplies:

Damp cloth, plastic abrasive scouring pad, OSOCL oven cleaner, OSOPR oven protector, mild dish detergent, rubber gloves, protective glasses, microfibre cloth

Any **HSO Washable Box** used should be washed daily according to the following instructions:

- Remove larger food and grease residues with a damp cloth.
- Hand wash with warm water and using a non-corrosive detergent or a detergent that does not contain ammonia, phosphates, chlorine, potassium or sodium hydroxide (caustic soda). Do not use sharp tools.
- Leave to dry at room temperature.
- The **HSO Washable Box** should be replaced if there is any sign of delamination or significant wear.

If the oven is fitted on feet, the surface beneath the oven must be cleaned regularly.

Recommended procedures:

- Clean the oven daily or as required.
- Clean when the oven is cold
- Clean with cold tools and accessories.
- Use a non-corrosive cleaner.
- Wear protective gloves and goggles when cleaning.
- Always use the recommended cleaning products: damp cloth, abrasive sponge, OSOCL oven cleaner and OSOPR oven protection.
- Remove the food and its residues from the oven at the end of the cooking cycle, do not scratch or scrape the inner surfaces of the oven and do not damage the inner side plates of the oven.
- Use only accessories suitable for high temperature ovens and microwaves.
- Wash the cooking plate with warm soapy water and allow to air dry (dishwasher safe, washing and use can result in a change of colour)
- Wash the HSO Washable Box with warm soapy water and allow to air dry (dishwasher safe, washing and use can result in a change of colour)
- Place pans in the centre of the grille, not in contact with the oven walls.
- Clean the door and other surfaces with a clean cloth, sponge or nylon pad using a solution of warm water and mild detergent.
- Clean the display with a dry or damp microfibre cloth.
- Weekly or as required remove all 3 magnetic air filters located along the base on the front and sides of the oven. Wash the filters in a solution of warm water and mild detergent (they can be washed in the dishwasher).
- Rinse thoroughly and dry carefully. Place the clean filters on the base and sides of the oven.

WARNING

Wear protective gloves and protective glasses when cleaning the oven.

To prevent burns, handle utensils, accessories, and door with care. Allow oven, utensils, and accessories to cool before cleaning. Oven, utensils, and accessories become hot during operation

Failure to maintain the oven in a clean condition could lead to deterioration of the surface that could adversely affect the life of the appliance and possibly result in a hazardous situation.

CARE AND CLEANING

Recommended procedures

DO NOT use harsh chemicals.

DO NOT spray liquids on the screen.

DO NOT accelerate cooling of the oven by using water or ice.

DO NOT use cleaning products that are corrosive or that contain ammonia, phosphates, chlorine, potassium or sodium hydroxide (caustic soda).

DO NOT use pressure cleaning systems.

DO NOT spray cleaner into the holes.

DO NOT use abrasive sponges to clean the cover of the upper surface of the cooking compartment

DO NOT cook food wrapped in plastic wrapping.

DO NOT use the oven if the air filters are not in place.

DO NOT operate the oven empty in microwave mode.

DO NOT apply weights greater than 5 kg or lean against the open door. Risk of damage to or overturning of the oven.

- Below is the table of the scheduled and preventive maintenance plan.

COMPONENT	FREQUENCY	ACTION
Oven and accessories	Daily	Wash the oven and accessories daily or as required according to the instructions in the manual.
Inlet air filters	Weekly	clean the magnetic air filters with water and neutral detergent
Internal air filter	100,000 cycles	When changing the magnetrons, clean the air expulsion grille in the back of the oven.
Electric contactor	100,000 cycles	Replace the component with original spare parts. The oven contains an internal counter that stores the number of activations. At the end of the recommended cycles, it will show a maintenance recommendation notification.

BEFORE CALLING SUPPORT

WARNING

To avoid electrical shock which can cause severe personal injury or death, do not remove outer case at any time. Only an authorized service technician should remove outer case.

This is a class A product. This could cause radio interference in a household environment. In this case, it may be necessary to take suitable measures.

WASTE MANAGEMENT AND ENVIRONMENTAL RESPECT



- This appliance is marked in accordance with the European Directive 2012/19/EU on electrical and electronic appliances (WEEE). WEEE contain both pollutants (which can cause negative consequences on the environment) and basic components (which can be reused).
- It is important that WEEE are subjected to specific treatments to remove and properly dispose of all pollutants and to recover all materials. Individuals can play an important role in ensuring that WEEE do not become an environmental problem; it is essential to follow a number of basic rules:
- WEEE must not be treated as household waste;
- WEEE must be taken to the appropriate collection points managed by the municipality or by registered companies.
- In many countries, for large WEEE, home collection may be present. When purchasing a new appliance, the old one may be returned to the dealer who must accept it free of charge on a one-for-one basis, provided that the appliance is of the equivalent type and has the same functions as the one purchased.