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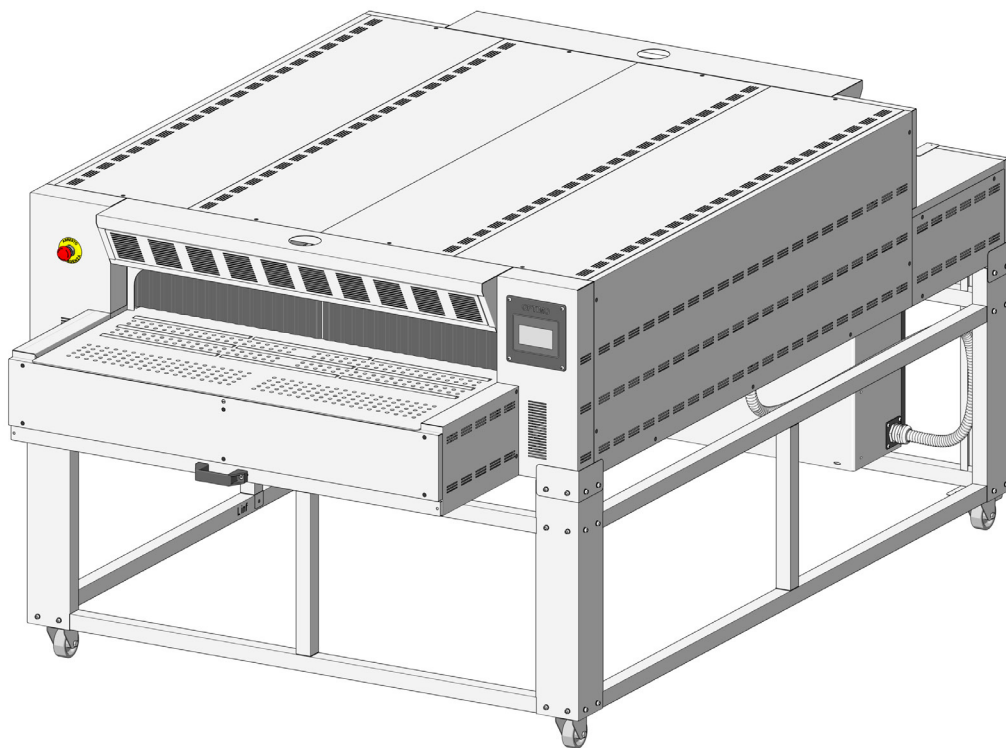


KBS Gastrotechnik GmbH – Schoßbergstraße 26 – 65201 Wiesbaden

USE AND MAINTENANCE MANUAL



ELECTRIC TUNNEL OVEN OPTIMO



MOD. STONE Line 42-72-102
MOD. INOX Line 42-72-102

TRANSLATION OF THE ORIGINAL INSTRUCTIONS

Grandi Forni Italiani Srl Via Federico Raffaele, 27/29 - 00054 - Fiumicino (RM) - ITALY
phone +39 0679784506 - www.grandiforniitaliani.it



ED.1 REV.0
04/25

Dear Customer,

First of all thank you for choosing a **Grandi Forni Italiani Srl** oven.

Grandi Forni Italiani is an industrial leader in the field of electric tunnel ovens.
Grandi Forni Italiani products guarantee great reliability and safety.

All parts of **Grandi Forni Italiani** ovens are designed and produced to ensure the best performance at all times.

In order to maintain a high quality standard and long-term reliability, please use original spare parts only.

All of **Grandi Forni Italiani** ovens are certified according to the European Directive 2006/42/EC (Machinery Directive) and are provided with the identification and **EC** norms conformity plate. The instruction manual and the Declaration of Conformity to Directive 2006/42/EC and its amendments are also enclosed; this allows **Grandi Forni Italiani** ovens to be sold freely throughout the European Union.

All machines sold in countries outside the EC comply with the strictest safety standards and, upon previous agreement with the customer, they can be certified and homologated according to the standards and regulations in force in the country where the machine is installed.

We are therefore convinced to have fulfilled any safety need and to have contributed to further improve the quality of work.

The Management

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INTRODUCTION

USE OF THE MANUAL

The use and maintenance manual is the document accompanying the machine from its manufacture to its dismantling. Therefore it is an integral part of the machine itself. The manual must be read before starting ANY ACTIVITY involving the machine, including handling. For a better consultation the instruction manual is divided into the following sections:

SECTION 1

Safety.

SECTION 2

Transport, packing, handling and inspection on the purchased product.

SECTION 3

Description of the oven and of its field of application (i.e. the work it can perform). The technical features of the oven are also listed. This information can be compared to that of an illustrative leaflet.

SECTION 4

Installation of the oven.

SECTION 5

Description of the controls and the touchscreen panel to use the oven.

SECTION 6

Ordinary maintenance.

SECTION 7

Residual risks.

SECTION 8

Dismantling.

NOTE: The figures of this manual are for illustrative purposes only. Before carrying out any operation or installation it is always necessary to consult the machine construction and design drawings. If necessary, please contact Grandi Forni Italiani Technical Assistance Service.

SYMBOLS USED



Operations that may present risks if they are not carried out correctly are indicated by this symbol.

It is advisable to train the staff in charge of the oven and to check that what is envisaged is understood and put into practice.

The manual indicates some procedures regarding oven installation and handling that are performed during installation by Grandi Forni Italiani technicians.

These tasks are marked with this symbol:



NOTICE

The oven operator, on his own responsibility, can carry out the tasks marked with the symbol indicated above or subcontract them, always on his own responsibility.

The user must tell Grandi Forni Italiani which installation operations he wishes to carry out on his own. In this case, please note that Grandi Forni Italiani has technical sheets, instructions and annexes that can be provided on request to facilitate such operations.

NOTICE

Should the Customer need to move the system in order to install it in other production units, he may carry out all the corresponding operations on his own and under his responsibility, assigning the tasks that are usually performed by Grandi Forni Italiani technicians to trusted personnel.

INFORMATIVE LETTER

This use and maintenance manual is an integral part of the machine and must be readily available to personnel transporting, installing and maintaining the machine. The installer and the maintenance operator must know the content of this manual. The descriptions and the pictures it contains are not to be considered as binding. While the essential features of the machine remain unchanged, Grandi Forni Italiani reserves the right to make any changes to parts, details and accessories which it deems appropriate for the improvement of the machine, or for constructive or commercial requirements, at any time and without any obligation to promptly update this manual.

NOTICE

To ensure the right working of the machine and of its safety devices, it must be installed only by qualified and authorised staff.

GRANDI FORNI ITALIANI TECHNICAL ASSISTANCE SERVICE

ALL RIGHTS RESERVED

Reproduction of any part of this manual, in any form, without the express written permission of Grandi Forni Italiani is prohibited.

The content of this manual can be modified without prior notice.

Great care has been taken in collecting and checking data contained in this manual to make it as complete and comprehensible as possible.

Nothing in this manual can be interpreted as an express or implied warranty or condition - including, but not limited to, the warranty of suitability for a particular purpose. Nothing in this manual can be interpreted as a modification or confirmation of the terms of any purchase contract.

TECHNICAL ASSISTANCE SERVICE

Grandi Forni Italiani Srl

Via Federico Raffaele, 27/29

00054 Fiumicino (RM)

ITALY

Phone +39 0679784506

www.grandiforniitaliani.it

maintenance@grandiforniitaliani.it



The original configuration of the machine must not be changed at all.

On receiving the machine make sure:

- ☞ the supply corresponds to what has been ordered.

In case of non-compliance please inform Grandi Forni Italiani Srl immediately. Also make sure that the machine has not been damaged during transport.

WARRANTY

All Grandi Forni Italiani ovens have a 12-month warranty from the date of delivery, unless otherwise stated in writing, while the natural stone is guaranteed for life.

The warranty covers damaged and/or defective parts. Replacement of spare parts and repair operations of defective parts are covered only if carried out by our company and at our workshop. The material to be repaired will have to be sent CARRIAGE FREE. Once the machine has been repaired, it will be sent to the customer CARRIAGE FORWARD.

The warranty does not provide for the intervention of our technicians at the place of installation of the machine, nor for its disassembly.

If for practical reasons, one of our technicians is sent on site, the customer will be charged the costs plus the travelling expenses.

The warranty does not include:

- ✎ failure caused by lack of maintenance or carelessness.

WARRANTY FORFEITURE:

- ✎ in case of arrearage or other breaches of contract,
- ✎ whenever changes or repairs are carried out on our equipment without our prior authorization;
- ✎ whenever the serial number is tampered with or cancelled;
- ✎ whenever the damage is caused by improper use, bad treatment, bumps, falls and other causes not due to normal working conditions;
- ✎ whenever the machine seems tampered with, dismantled or previously repaired by unauthorized staff;
- ✎ in case the machine is used for purposes that are different from the ones described in this manual.

The repairs under manufacturer's warranty do not interrupt it.

All disputes will be settled in the court of justice of Rome (Italy).

We thank you in advance for your attention to this manual and invite you to inform us of all improvements you deem necessary to make it more complete.

INTRODUCTION TO OUR COMPANY

Grandi Forni Italiani Srl is a world leader in the production of tunnel ovens. Grandi Forni Italiani systems are intended for baking food for small, medium and large industries.

Grandi Forni Italiani technical Know-how allows us to design technologically advanced ovens, both standard and customized, but always totally made in Italy.

The beating heart of the company is the Research & Development department, of which the company's founding partner is the leader. Thanks to his continuous search for technological innovation over the years, he has developed various projects:

- 2004: designed and patented the ELECTRIC TUNNEL oven with baking conveyor belt in refractory stone;
- 2007: designed and introduced onto the market the MODULAR INDUSTRIAL ELECTRIC TUNNEL oven;
- 2020: designed the ELECTRIC TUNNEL oven with conveyor belt in NATURAL STONE, entirely made from recyclable materials, which reduces power consumption by 40%.

In addition, the extensive presence on the national and international market with a widespread sales and technical assistance network enables the company to offer superior solutions and know-how and to develop consultancy and collaboration projects tailored to the end customer.

The Management

DECLARATION OF CONFORMITY CE



DECLARATION OF CONFORMITY

(All. IIA DIR. 2006/42/CE)

TRANSLATION OF THE ORIGINAL DECLARATION (ITALIAN)



THE MANUFACTURER

GRANDI FORNI ITALIANI SRL

Company

via Federico Raffaele 27/29

00054

RM

Address

Post code

Province

Fiumicino

Italia

Town

State

DECLARES THAT THE MACHINE

OPTIMO Oven

Designation

Model

Oven for cooking food

Description

Serial number

Manufacturing year

COMPLIES WITH THE FOLLOWING DIRECTIVES

- Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery
- Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility (recast)
- Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits.

AND ALLOWS

Name

Address

Post code

Province

Town

TO MAKE THE TECHNICAL BOOKLET ON ITS BEHALF

Fiumicino,

Place and date

DAVIDE FASCIOLA

Legal representative

1 SAFETY

1.1 SAFETY MESSAGES

This use and maintenance manual includes the safety messages described below in order to ensure the user's safety and the correct machine operation.

As to the "DANGER", "WARNING" and "CAUTION" messages, the safety message is a symbol (a triangle containing an exclamation mark) followed by the text indicating the risk level.

DANGER

It indicates an imminent dangerous situation that will result in death or serious injury (such as amputation, severe burns, loss or deterioration of sight or hearing) if not avoided.

WARNING

It indicates a potential dangerous situation that can result in death or serious injury (such as amputation, severe burns, loss or deterioration of sight or hearing) if not avoided.

CAUTION

Indicates a potential dangerous situation that could cause less severe or minor damage (such as cuts, scratches, irritation) if not avoided.

As to the "NOTICE" and "SAFETY INSTRUCTIONS" messages, the safety message is just a text (without any symbol) and it does not indicate precisely a risk, it is only for information.

NOTICE

It is used for non-physical injuries.

SAFETY INSTRUCTIONS

Indicates specific safety instructions or procedures.

All safety messages are indicated with special colours and the text ("DANGER", "WARNING", "CAUTION", "NOTICE", "SAFETY INSTRUCTIONS") is always in capital letters.

1.2 OPERATIONAL ROLE IDENTIFICATION

Grandi Forni Italiani machines are assembled with the utmost care and precision in order to consistently meet the quality and safety standards of the market.

The achievement of these targets, as essential priorities of the production process, ensures the manufacturing of unique and special ovens, whose potential will be fully exploited by the end-users.

That is why a clear identification of the roles of **all the operators using the ovens** is essential. They are the ones who must be given technical and professional skills as well as behavioural information and a more and more precise sense of responsibility.

As a consequence, the main professional roles operating on the ovens have been described in this manual. Each of them has been identified with a graphic symbol which will be used in the various sections of the manual. This will make it quicker and more immediate to identify the specific recipients of the information and the instructions contained in each paragraph.











The table on the following page contains a description of the operational roles identified. Each of them is accompanied by a list of the **main corresponding tasks**. This is general and non-exhaustive information, since the specific role definition depends on each company varying according to the number of operators, the internal organization and the precise definition of the tasks. Anyway, the information supplied can be a useful organizing tool improving the work process, and especially the safety protection of workers and of the place where they work.

We remind you that all the tasks described need **specific training** inside the company. This can be obtained by making some more experienced staff assist the different operators. Moreover, we recommend organizing special courses **increasing the workers' skills** to enhance their expertise about each machine, as well as the principles behind the interaction of more machines in a line.

Organizing some corporate training days means offering the workers not only the opportunity to extend their technical skills, but also to be able to develop their organizational autonomy and skills, thus increasing the willingness to mutual role coordination.

In many cases, the operations carried out by the various job titles are linked together or the most complex assembly/disassembly or maintenance operations can involve the **overlapping of more tasks**. In these cases, the description of the operations to carry out will be accompanied in the manual by several icons, so that the recipients of the instructions are well identified graphically, too.

The operational roles identified also include Grandi Forni Italiani **service technician**. Once the oven has been installed, Grandi Forni Italiani technicians will be at the Customer's disposal to train operators as completely as possible. They will provide them with technical information as well as information on any residual risks or dangers associated with the use of the oven.

JOB TITLE	SYMBOL	PPE REQUIRED	MAIN TASKS
Mechanical maintenance technician			<p>Checks the machine operation and efficiency by carrying out periodical controls according to the time schedule defined in the technical documentation supplied with the machines</p> <p>Checks the wear status of the single components of the machine according to the set time schedule</p> <p>Carries out ordinary and extraordinary maintenance operations to prevent and limit faults</p> <p>Carries out any mechanical repair in compliance with the safety standards in force</p> <p>Identifies the anomalies and solve them, by carrying out test runs and by informing the supervisors of the problems detected</p> <p>Records the technical data and the results of the repairs carried out</p> <p>Arranges the electrical system components on the machine</p>
Electrical maintenance technician			<p>Arranges the electrical system components of the electrical cabinet. Important: This operator must be experienced and expressly authorised to work on the electrical cabinet in accordance with the IEC 61439-1:2022 standard.</p> <p>Manages all the maintenance and repair operations on electrical components, sensors, motors, etc.</p> <p>Carries out periodical checks on the electrical operation of the machine and solves quickly any anomaly detected in compliance with the safety standards</p> <p>Performs the operations to prepare the machine for the work cycle</p>
Toolmaker and programmer			<p>Writes the software for the correct machine operation</p> <p>Collects historical and statistical data from the software</p> <p>Compiles statistics and develops production plans according to the data collected</p> <p>If necessary, modifies the software setting of the operating panel</p>
Operator			<p>Loads the product to be baked into the machine and checks correct positioning</p> <p>Checks for unusual situations that could block the work cycle</p> <p>Checks that all operations are carried out correctly by the machine</p>
Supervisor			<p>Organizes and coordinates the different working phases, communicating effectively goals and timing</p> <p>Checks the quality of work of maintenance men and toolmakers in case of interventions on the machine</p> <p>Makes sure the operators carry out their tasks correctly and on time</p> <p>Continuously monitors the progress of work</p> <p>Makes sure the tasks are carried out only by the operators in charge in compliance with the safety standards</p> <p>Checks the correct operation of the safety systems</p> <p>Follows all the machine installation stages together with Grandi Forni Italiani technicians</p> <p>Can intervene at all stages of the work cycle to check that the operations are carried out as intended and in compliance with the safety standards</p>

1.3 GENERAL WARNINGS

The following rules must be read carefully in order to prevent any kind of injury to people and/or damage to property.

⚠ DANGER Do not attempt to operate the machine unless you have clearly understood how it works. If any doubts arise despite having read this manual thoroughly, please contact Grandi Forni Italiani Technical Assistance Service.

Make sure that all safety requirements are known to all personnel involved in the use, cleaning and maintenance of the system.

⚠ DANGER Before switching it on, the operator must check the safety devices and the machine for any visible defect. In such a case, immediately report any visible breakage of the system structure or of any other functional part to Grandi Forni Italiani.

Do not start the machine until you have warned and removed all personnel in the vicinity of it.

Check the correct operation of all switches and safety devices on a daily basis.
Safety devices must never be removed.

All signs bearing safety or warning indications must be kept in perfect condition. If they are damaged, they must be replaced promptly.

The operator must be familiar with the function and position of the **STOP** and **EMERGENCY** buttons.

Replace any parts found to be defective with original spare parts guaranteed by the manufacturer.

⚠ DANGER Do not work with wet hands/objects when the machine is connected to the electrical network. All work on live parts must be carried out by authorised personnel only. Before starting work, the system must be disconnected from the electrical network using the main switch located in the electrical cabinet.
Do not make joints of any kind in the electrical circuit connections.
In the case of maintenance work inside the guards, it will be necessary to:

- Lock the main switch;
- Remove the keys from the lock;
- Carry them with you for the whole duration of the intervention.

Do not operate the machine with the fixed guards removed.

Do not work on moving parts under any circumstances, even if it is to clear a jam.

Do not wear clothing, ornaments, accessories that can get entangled in moving parts.

Keep the floor and/or platform of the operators' area constantly clean of both obstacles and water.

Pay close attention to all caution, warning and danger signs placed on the machine.

Always apply and enforce safety regulations; if in doubt, consult this manual again before acting.

The machine must only and exclusively be used for the purposes for which it was intended and in accordance with what is stated in the contract with Grandi Forni Italiani.

**DO NOT USE THE MACHINE FOR USES OTHER THAN THOSE INDICATED IN THE MANUAL.
DO NOT PROCESS PRODUCTS OTHER THAN THOSE INDICATED IN THE MANUAL.
DO NOT INCREASE THE SPEED OF THE MACHINE BEYOND THE VALUE INDICATED IN THE MANUAL.**

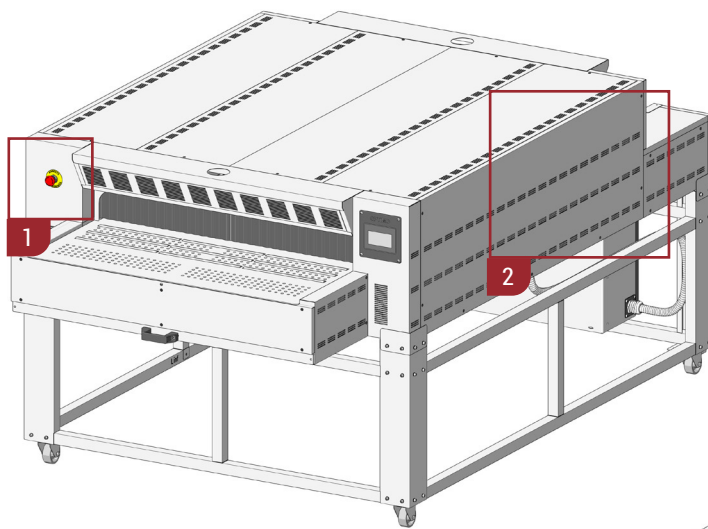
Improper use of the machine can cause danger to the operators and damage the machine itself. Please contact Grandi Forni Italiani for authorisation before using the machine for any other purpose.

If any problem should arise during the machine working life and in any case not covered in this technical documentation, please contact Grandi Forni Italiani Customer Service in order to solve the issue as quickly as possible.

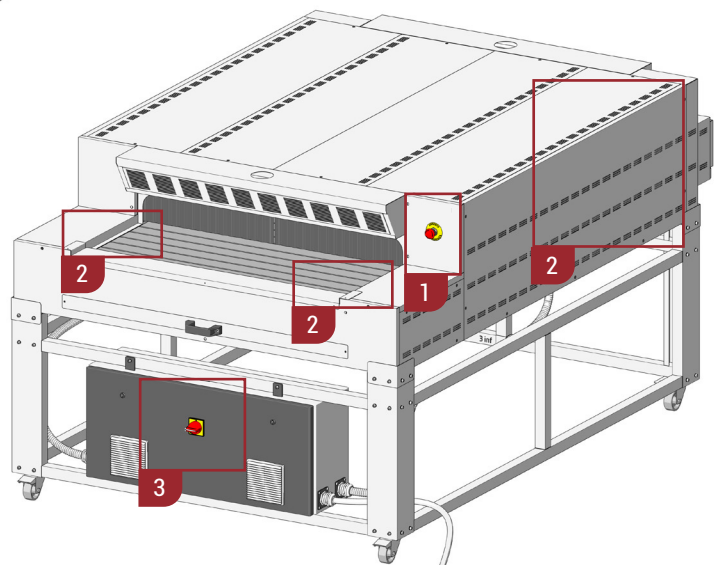
1.4 SAFETY PROTECTIONS



Any safety system does not exempt the operator from being qualified or trained on the machine use and from following training courses on the correct use of the equipment. Therefore, before starting the machine he must make sure the protections are correctly installed and working. Otherwise, he must check in with his supervisors. Some of the most important safety systems are listed below.



OUTLET SIDE



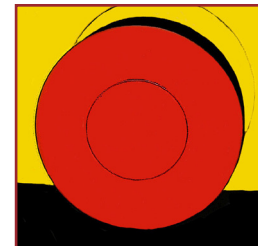
INLET SIDE

ELECTRIC TUNNEL OVEN OPTIMO

POS.	DESCRIPTION
1	EMERGENCY BUTTON
2	PROTECTION GUARDS
3	ELECTRICAL CABINET DOOR OPENING

EMERGENCY STOP

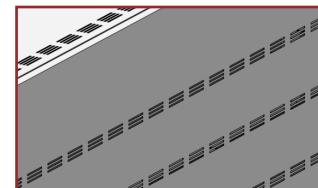
Two emergency buttons have been installed for the emergency stop of the machine: one is located on the inlet side and the other one on the outlet side of the oven. If one of these buttons is pressed, the machine stops immediately.



PROTECTION GUARDS

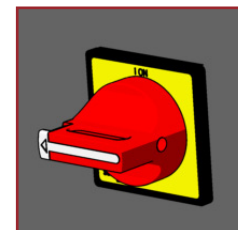
All electrical parts of the machine, live components, drive systems and other moving parts, or parts that pose a threat to the safety of the operator, are guarded by means of fixed guards or panels with fixing screws.

These panels may only be removed when the machine is switched off, with the main switch in the OFF position and using suitable tools.



ELECTRICAL CABINET DOOR OPENING

The electrical cabinet, located in the lower part of the oven, is equipped with a main switch with door lock which allows the door to be opened only after the power has been switched off. In any case, always disconnect the power supply before opening the door.



1.5 CLOTHING



⚠ WARNING

During work, inspection or maintenance operations, **IT IS STRICTLY FORBIDDEN** to wear necklaces, bracelets or clothing such as scarves or wide sleeve shirts which may get entangled in the machine.



TIES/SCARVES/
FOULARDS
FORBIDDEN



NECKLACES/
BRACELETS
FORBIDDEN

If necessary, use the required PPE according to the type of activity to perform.

1.6 EMERGENCY SITUATIONS



In case of emergency, follow the procedures indicated in the internal emergency plan of the company.

OPTIMO oven does not present any particular risk of fire. Nevertheless, do not use water in the vicinity of the electrical cabinet.

2 TRANSPORT

2.1 TRANSPORT



The oven is generally placed and secured on a pallet and wrapped in air bubble nylon films. For larger models, the oven body and base are separated and packed individually (on a pallet).

The size (length, width, height) and weight of each assembly are shown on the transport document (machines shipped in Italy) or on the packing list (machines shipped abroad).

The different assemblies are designed to be moved by crane, bridge crane or forklift truck.

Nevertheless, make sure that the means of transport and the lifting equipment are able to support the weight of the machine with its packaging. The weight of the packaging depends on the company responsible for transport and on the type of system used. For further information about weight, size and characteristics of the packaging, please contact Grandi Forni Italiani before the delivery.

The main systems used to transport the machine are:

- ☞ Transport on pallet.
- ☞ Transport in wooden case.

NOTICE

Whether the responsibility for handling lies with the customer or with Grandi Forni Italiani will be contractually determined on a case-by-case basis. The appointed party, as defined in the contract, organises and handles the shipment from Grandi Forni Italiani premises to the customer's plant. The customer is normally responsible for the subsequent handling, storage or transfer of the machine or its parts to the exact place of installation.

⚠ CAUTION

Personnel handling the load must work with protective gloves and safety shoes.

⚠ CAUTION

While lifting or handling the machine or any of its parts, clear the working area and leave a sufficient safety area around it to avoid injuring people or damaging objects that may be within the operating range.

It is essential that the security officer is on site to coordinate operations during the unloading and handling operations.



2.2 TRANSPORT IN WOODEN CASE

The oven can be packed in wooden crates (Fig. 1 and Fig. 2).

In addition to the address, the cases also bear the case number, net and gross weight, size, upper and lower side and position for lifting and transport.

The label applied on the packaging must be prepared by the transport company.

The case will also come with a packing list with all the parts it contains.

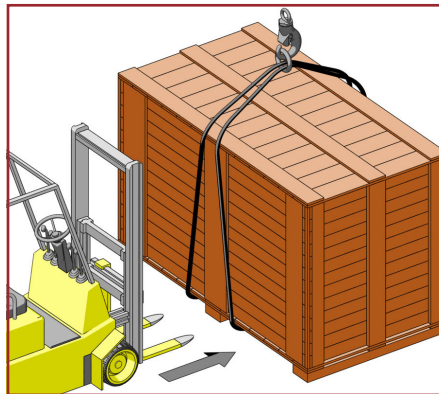


Fig. 1

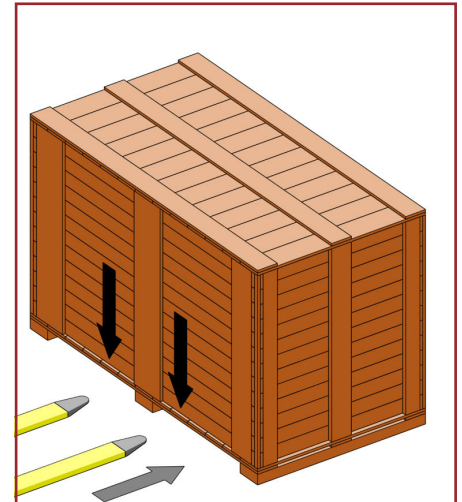


Fig. 2

NOTICE

To transport the machine it is generally necessary to fasten all its parts to pallets by means of strapping.

All optional extras ordered together with the machine are packed separately in boxes or also placed on a pallet and strapped to it (Fig. 3).

The pallets with the materials are then covered with wrapping nylon film with bubbles that protect the product from shocks and moisture during transport, and the packaging is then placed in a cardboard box.

NOTICE

Whatever means of transport is used, the manufacturer adopts appropriate protection against the weather, such as polyethylene covers.

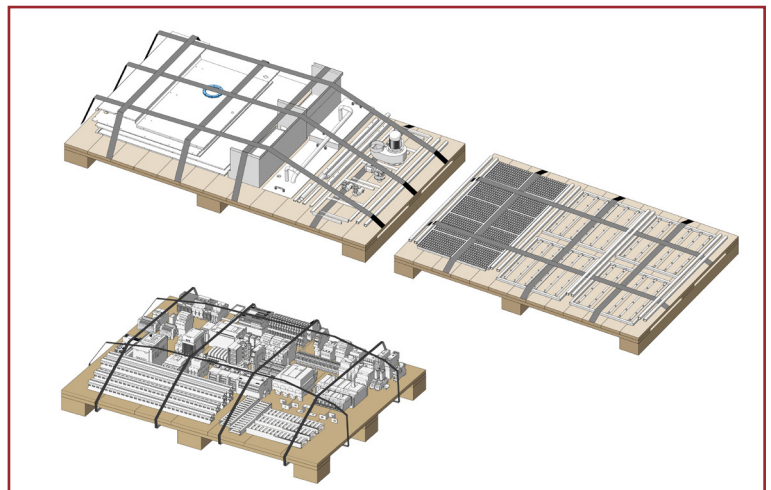


Fig. 3

2.3 STORAGE



When transporting and storing the machine, make sure that the temperature is between -5 and 50° C.

If the machine components must be stored, make sure that they are not placed in areas with an excessive relative humidity.

SAFETY INSTRUCTIONS

When storing, never stack cases or pallets containing machine components on top of each other.

Always check that the environmental conditions are suitable for storage. Some tools and electronic devices can suffer from humidity or extreme temperatures.

Cases, containers or pallets are usually stored in a customer-owned area, in most cases it is close to where the system is going to be installed.

During the storage period, the responsibility for the contents of the cases lies with the user, represented by a supervisor.

The crates must not be opened and the instructions written on them must not be removed.

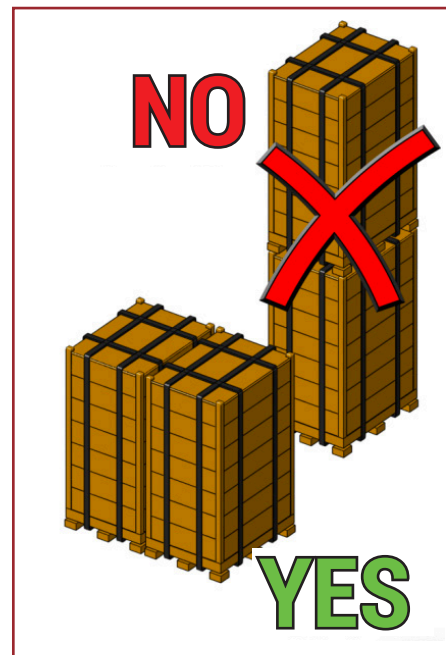


Fig. 4

2.4 UNPACKING



The customer, represented by the supervisor, will be responsible for unpacking. Therefore, the supervisor will coordinate the use of forklift trucks, bridge cranes or of what is necessary to handle the machine components and position them in the installation area.

The customer is responsible for all equipment used for unpacking.

In the case of transport in cases and containers, a hammer with a nail puller must be used for unpacking.

The crates must be opened starting from the upper covering. Then remove the side walls (Fig. 5).

SAFETY INSTRUCTIONS

Check from above which assemblies or accessories have been placed on the package sides, then decide which side to remove first in order not to damage the contents of the case. Remove the cover and take all disassembled components and accessory parts out. Carefully remove all material used to pack.

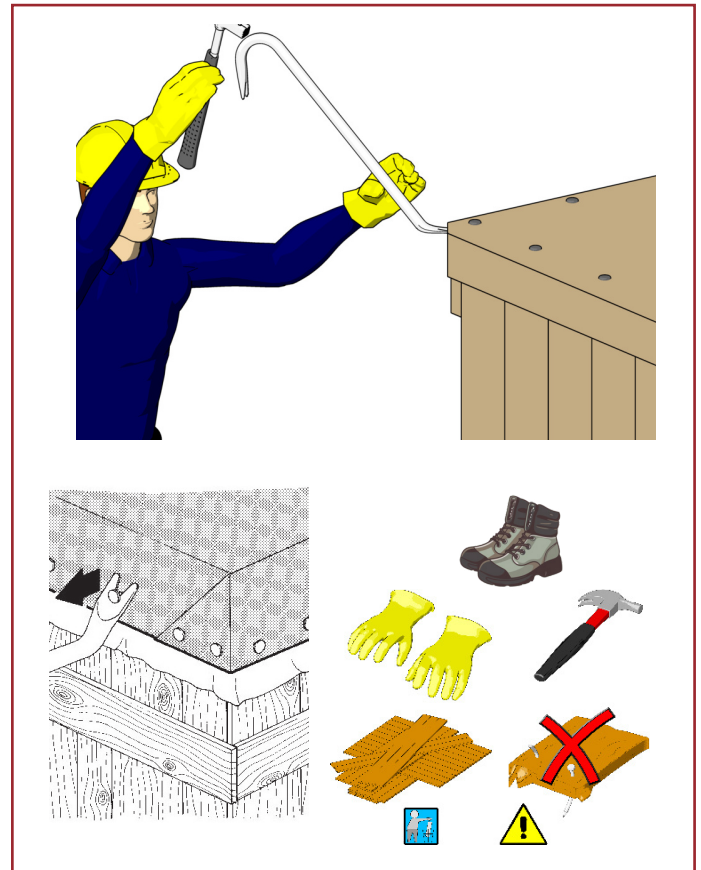


Fig. 5

CAUTION

Always use protective gloves and safety shoes, paying close attention to protruding nails.

NOTICE

The packing (usually a wooden one) must be delivered to associations in charge of its disposal and recycling.

CAUTION

Some machine components can be packed in cardboard boxes and secured to the pallet by strapping.

As shown in Fig. 6, proceed by cutting the strapping, then remove the packaging starting with the top cover.

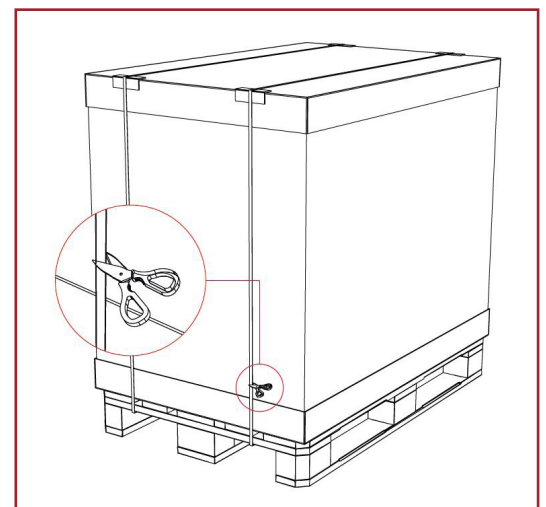


Fig. 6

2.5 LIFTING



If the oven is packed separately from the base, it must be lifted out of the packaging and placed on the base. A truck with a load capacity which is appropriate to the weight of the oven (indicated on the plate) must be used for this purpose.

⚠ CAUTION

Always proceed very slowly during handling.

⚠ CAUTION

The operation must be supervised by a person in charge of signalling in order to carry out the correct positioning.

⚠ CAUTION

While handling avoid swinging the machine: move it carefully and lift it slightly from the ground.

As an alternative, a lifting system equipped with a hook and appropriate ropes can be used. In this case, do as follows:

- ➡ Pass the ropes through the lower part of the oven.
- ➡ Position the hook of the hoisting tackle at the centre of gravity of the machine and then hook the ropes.

NOTICE

Use lifting equipment which is appropriate for the weight of the oven.

⚠ CAUTION

Personnel handling the load should work with protective gloves.

⚠ CAUTION

Always check the point where the ropes or chains may be resting on the machine in order to prevent some parts from being damaged; if necessary place some polystyrene or wooden blocks between them.

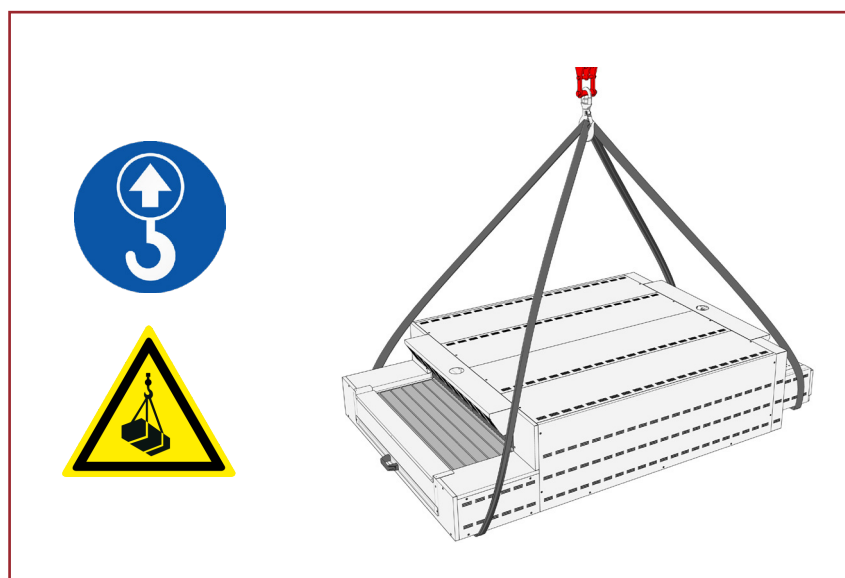


Fig. 7

2.6 HANDLING



It is possible to move the oven complete with base thanks to the 4 pivoting wheels. Once positioned in the desired place, lock the brakes.

⚠ CAUTION

Check the suitability of the place to support the weight of the oven (see par. 4.6).

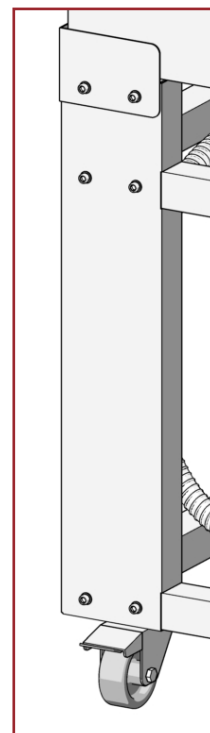


Fig. 8

3 DESCRIPTION OF THE MACHINE

3.1 PLATE AND LABELLING DATA


The system comes with the manufacturer's identification plate shown below, which also bears its conformity to the Machinery Directive 2006/42/EC. The plate must not be removed at all, even if the machine is resold. Always refer to the serial number (written on the plate itself) when contacting the manufacturer. Some pictograms showing important safety warnings are placed on some components of the machine; they must be strictly followed by everyone dealing with the machine. The company is not to be held responsible for damage or injuries to property or people that might occur if the above mentioned warnings are not observed. In such case, the operator is the only person responsible.

1



READ THE INSTRUCTIONS

2



DO NOT REMOVE SAFETY PROTECTIONS

3



DANGER ELECTROCUTION RISK

4



BURN HAZARD

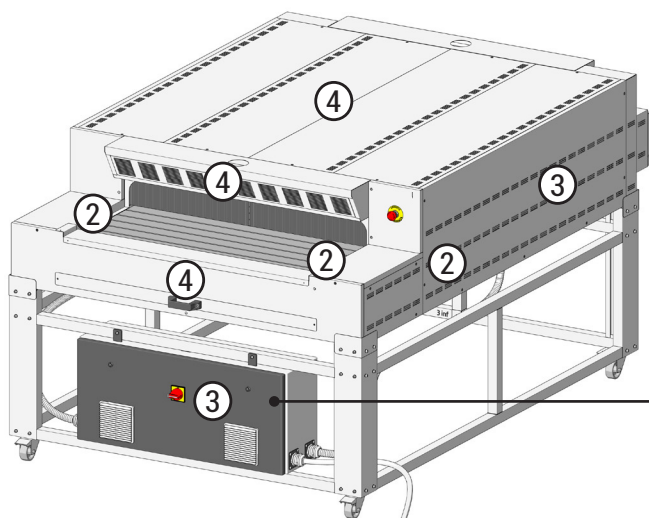
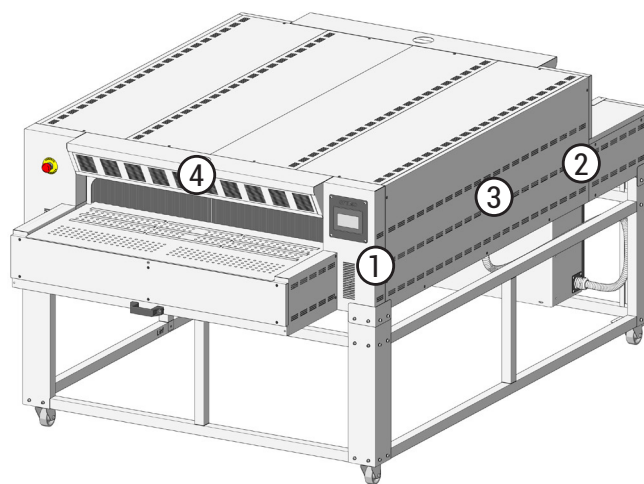
WARNING - ATTENZIONE

SCOLLEGARE L'ALIMENTAZIONE PRIMA DI APRIRE IL PANNELLO





L'INSTALLAZIONE, LA REGOLAZIONE, L'ALTERAZIONE, L'ASSISTENZA O LE MANUTENZIONI IMPROPRIE POSSONO CAUSARE DANNI, LESIONI O MORTE. LEGGERE ATTENTAMENTE LE ISTRUZIONI DI INSTALLAZIONE, FUNZIONAMENTO E MANUTENZIONE PRIMA DI INSTALLARE O RIPARARE QUESTA APPARECCHIATURA.

DISCONNECT THE POWER SUPPLY BEFORE REMOVING THE PANEL

IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY, OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS BEFORE INSTALLING OR SERVICING THE EQUIPMENT.



VIA FEDERICO RAFFAELI 27/29 10054 FUBRIGNO (TV)			
MODELLO MODEL MODELE MODELO		TENSIONE VOLTAGE TENSIE VOLTAJE	FREQUENZA FREQUENCY FRECUENCIA
SERIE SERIAL NUMBER NUMERO DE SERIE			HERZ
ANNO YEAR ANNEE AÑO		ASSEMBLATO A FREQUENZA FOLLOWING DIRECTIVE COUNCIL DIRECTIVE CONFORME A LA DIRECTIVE CONFORME A LA DIRECTIVE	AMP
		PESO WEIGHT POIDS PEZOS	KG

SYMBOL	PICTOGRAM MEANING	DESCRIPTION
	Read and understand the instruction manual before using this machine.	Each operator who is going to use the machine must read and understand the instruction manual. The non-compliance with the instructions given releases the manufacturer from all and any liability in case of damage or injuries deriving from such operations, making the operator solely responsible to the competent bodies. The operator, maintenance technician or any person must never work on the machine if they have not first read the manual. Moreover, the manual must always be available and kept with care. In case of any doubt, ask a supervisor. The non-compliance with the operating instructions could result in personal injury or damage to the equipment.
	Do not remove safety protections.	Do not operate with guards removed, gears or belts exposed. Replace guards before operating the machine. To prevent the risk of injuries, do not use the machine if there are no protections on moving parts or gears.
	Danger electrocution risk.	This symbol indicates the risk of electric shock. Switch off the machine by pressing the main switch before carrying out maintenance operations on the orange conductors. The orange conductors of heat inside the cabinet go on being energized when the main switch is off. To carry out maintenance operations on these circuits, turn off the machine by pressing the main switch.
	Burn hazard.	Hot surface. Do not touch. This part of the machine has high temperatures. Keep your hands away to prevent the risk of being burnt.

3.2 DESCRIPTION OF THE MACHINE

The machine described in this manual has been constructed and designed for tunnel baking of a variety of products such as pizza, pinsa, bread, sweets, proteins and for small and medium-sized products.

The use of the oven does not require specialized labour, as the baking process is fully automatic, and continuous throughout the entire 24-hour work cycle.

OPTIMO ovens are tunnel ovens and are divided into three models:

- OPTIMO 42 (small, medium, large) with natural stone/stainless steel cooking belt;
- OPTIMO 72 (small, medium, large) with natural stone/stainless steel cooking belt;
- OPTIMO 102 (small, medium, large) with natural stone/stainless steel cooking belt;

The three models can be used individually as countertops, on a stand with wheels, or inserted into automatic or semi-automatic production lines.

The oven is made of highly innovative and technological materials: the structure is made of stainless steel, the baking chamber of stainless steel is entirely lined with NBS natural stone, the thermal insulation is made of environmentally friendly material, and the independent heating elements are armored in stainless steel. In addition, the electronic technology, called GSC, allows the maximum temperature of 500°C / 932°F to be reached, with a 40% energy saving compared to similar ovens on the market.

The tunnel is heated by means of a series of heating elements placed in the upper and lower part of the baking chamber and independently controlled through the touchscreen panel (see chapter 5 USE). In addition, the system provides the temperature of the upper part (TOP) and of the lower part (BOTTOM) in real time thanks to two special sensors.

The entire lower part of the oven is enclosed by special panels that prevent the dispersion of any residue resulting from the cooking of food. To facilitate oven cleaning, there are three collection trays: one in the loading area and two in the unloading area.

The oven is preset for connection to a centralised suction system (charged to the user) by means of two holes in the loading and unloading area respectively.

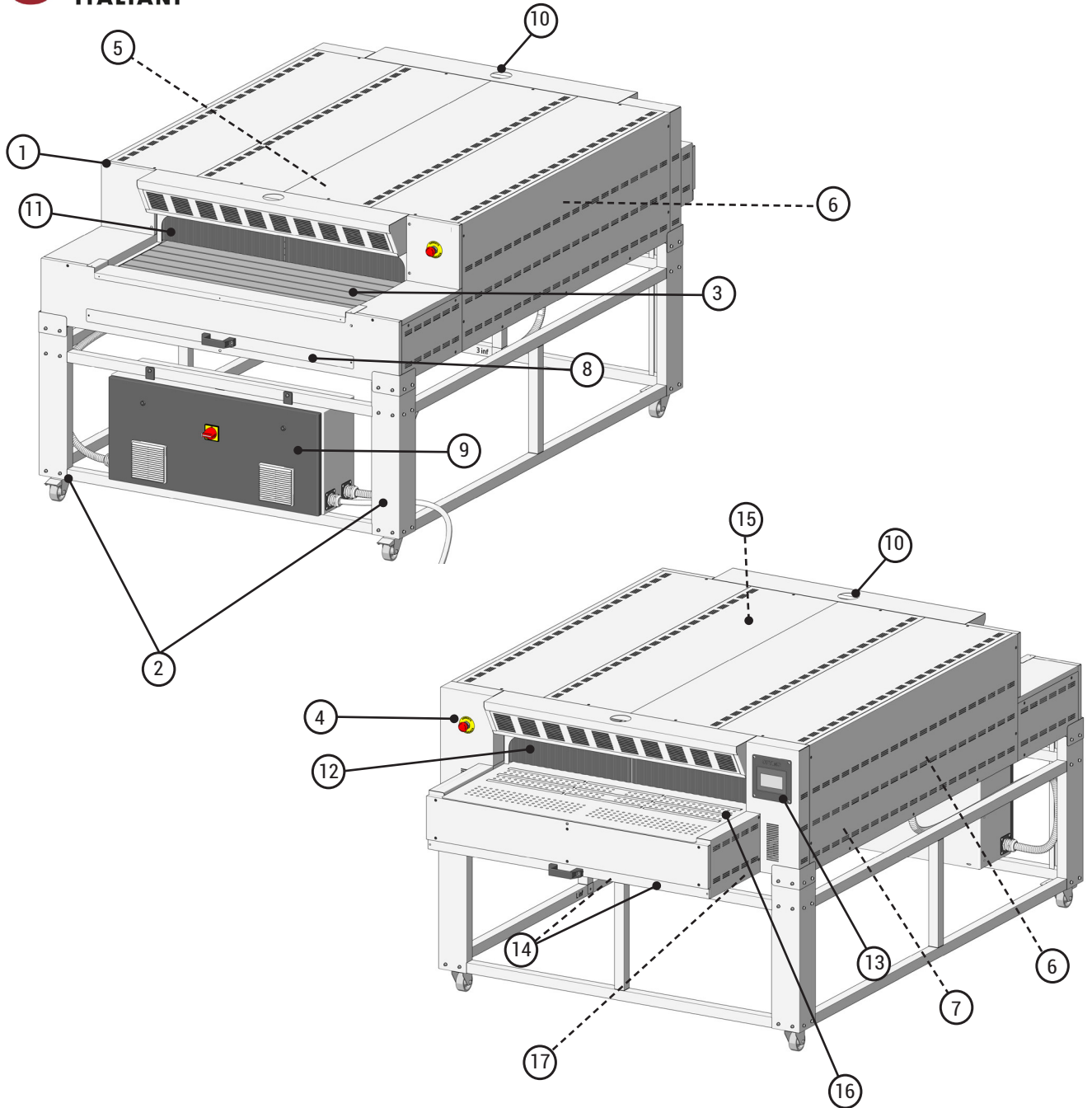
Teflon strips in the inlet and outlet area prevent unwanted heat loss from the cooking chamber.

We recommend the use of a brush, placement peel and unloading peel. Grandi Forni Italiani has this equipment as an optional extra.

The operator is positioned in the loading area to put the product into the oven and in the unloading area to take it out of the oven.

The product is placed on the belt in the loading area by means of the placement peel, it is baked by passing through the tunnel, and is then taken out of the oven in the unloading area by means of the unloading peel. The operating parameters of the oven are managed via a touchscreen panel located in the outlet area.

The figure on the following page shows the main parts of the machine.



POS.	DESCRIPTION
1	Stainless steel frame
2	Support frame with pivoting wheels
3	Conveyor belt (stone/stainless steel, refer to par. 3.3)
4	Emergency button
5	Baking chamber with NBS stone
6	Environmentally friendly thermal insulation (lateral)
7	Motor (brushed)
8	Tray (inlet area)

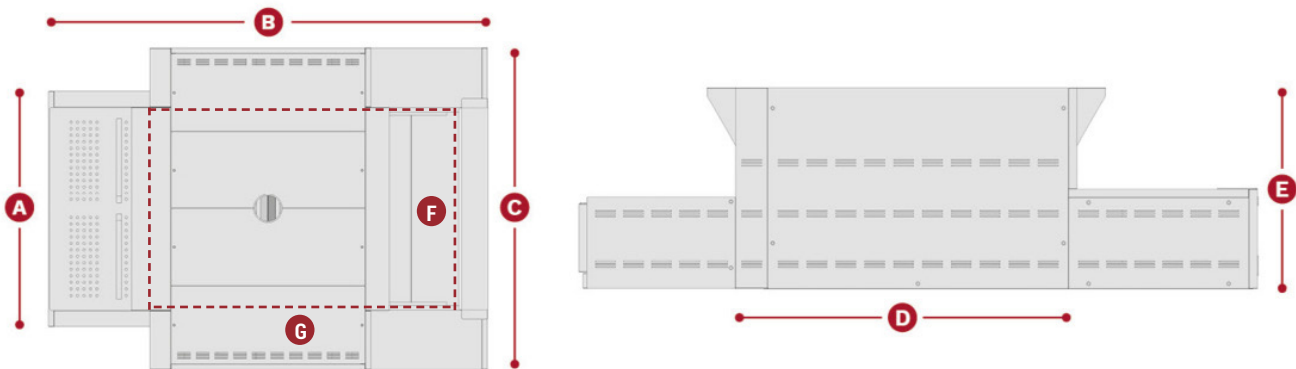
POS.	DESCRIPTION
9	Electrical cabinet
10	Connection to the suction system
11	Food-grade teflon strips (inlet area)
12	Food-grade teflon strips (outlet area)
13	Touchscreen panel
14	Collection tray (2 in the outlet area)
15	Pressed glass fibre insulation
16	Stainless steel shelf (outlet area)
17	Flat bottom of the baking chamber

3.3 TECHNICAL FEATURES

Each oven model can be supplied in three versions: small, medium and large, which differ in the length of the belt and thus of the baking chamber.

Each model is available with the baking belt in natural stone (mod. Stone) or in stainless steel (mod. Inox).

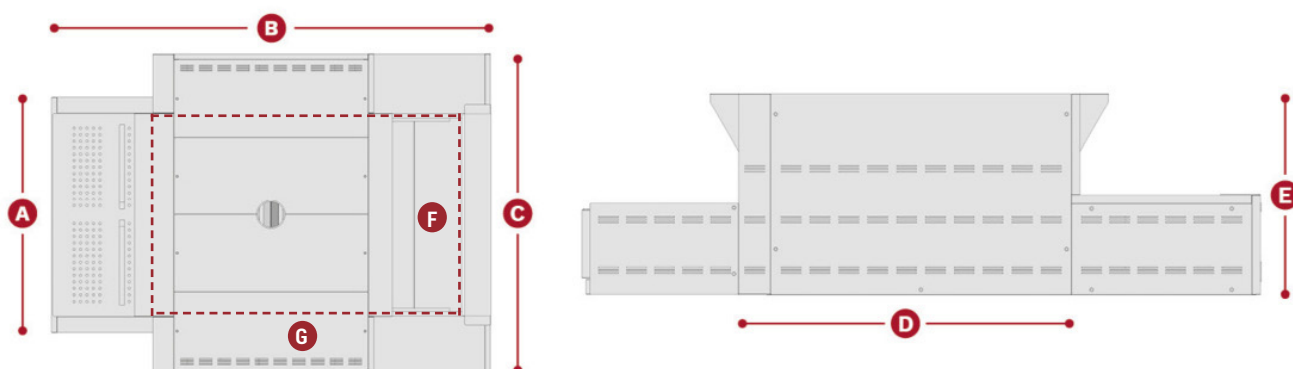
3.3.1 TECHNICAL DATA MOD. STONE



ELECTRIC TUNNEL OVEN OPTIMO

		LINE 42			LINE 72			LINE 102		
		STONE			STONE			STONE		
		S	M	L	S	M	L	S	M	L
EXTERNAL DIMENSIONS (CM)	A	45	45	45	75	75	75	105	105	105
	B	170	210	250	170	210	250	170	210	250
	C	94	94	94	124	124	124	154	154	154
	D	85	125	165	85	125	165	85	125	165
	E	50	50	50	50	50	50	50	50	50
DIMENSIONS OF THE BELT (CM)	F	42	42	42	72	72	72	102	102	102
	G	120	160	200	130	170	210	130	170	210
CAPACITY		2 Ø 33 cm	3 Ø 33 cm	4 Ø 33 cm	4 Ø 33 cm	6 Ø 33 cm	8 Ø 33 cm	6 Ø 33 cm	9 Ø 33 cm	12 Ø 33 cm
TEMPERATURE (°C)		500	500	500	500	500	500	500	500	500
POWER SUPPLY VOLTAGE (V)		400	400	400	400	400	400	400	400	400
PHASES		3 + N	3 + N	3 + N	3 + N	3 + N	3 + N	3 + N	3 + N	3 + N
POWER (kW)		13	19	26	16	24	32	18	27	36
CONSUMPTION (kWh)		6	9	12	8	12	16	9	13	18
CURRENT (A)		20	29	40	24	37	49	28	42	56
WEIGHT (KG)		160	210	260	210	320	430	320	430	540

3.3.2 TECHNICAL DATA MOD. STAINLESS STEEL



		LINE 42			LINE 72			LINE 102		
		INOX			INOX			INOX		
		S	M	L	S	M	L	S	M	L
EXTERNAL DIMENSIONS (CM)	A	45	45	45	75	75	75	105	105	105
	B	170	210	250	170	210	250	170	210	250
	C	94	94	94	124	124	124	154	154	154
	D	85	125	165	85	125	165	85	125	165
	E	50	50	50	50	50	50	50	50	50
DIMENSIONS OF THE BELT (CM)	F	42	42	42	72	72	72	102	102	102
	G	120	160	200	130	170	210	130	170	210
CAPACITY		1 60x40 cm	2 60x40 cm	3 60x40 cm	2 60x40 cm	3 60x40 cm	4 60x40 cm	3 60x40 cm	5 60x40 cm	7 60x40 cm
TEMPERATURE (°C)		500	500	500	500	500	500	500	500	500
POWER SUPPLY VOLTAGE (V)		400	400	400	400	400	400	400	400	400
PHASES		3 + N	3 + N	3 + N	3 + N	3 + N	3 + N	3 + N	3 + N	3 + N
POWER (kW)		13	19	26	16	24	32	18	27	36
CONSUMPTION (kWh)		6	9	12	8	12	16	9	13	18
CURRENT (A)		20	29	40	24	37	49	28	42	56
WEIGHT (KG)		110	160	210	160	210	260	210	260	310

ELECTRIC TUNNEL OVEN OPTIMO

OTHER FEATURES

MINIMUM LIGHT FOR WORKING OPERATIONS: LUX 400
MAXIMUM NOISE: db (A) < 75*

* Noise tests have been carried out in compliance with UNI EN ISO 11202:2021.

3.4 FIELD OF APPLICATION



The machine has been designed and constructed for tunnel baking of a variety of products such as pizza, pinsa, bread, sweets, proteins and for small and medium-sized products.

The machine cannot be used for cooking other types of products without the express authorisation or any structural modifications by Grandi Forni Italiani.

The cooking cycle is automatic.

We recommend following the prescriptions of the law of the country in which the machine is installed.

Grandi Forni Italiani is not to be held responsible for any accident deriving from the use of the machine by NON SPECIALISED and non qualified staff, or if it is used for purposes different from the above-mentioned ones, without the manufacturer's written authorisation and the adaptation of the technical features.

Grandi Forni Italiani also declines any responsibility coming from an installation of the machine not complying with the standards in force or with the directions given in this manual.

3.5 CHARGES TO BE PAID BY THE CUSTOMER



The following charges are to be paid by the customer:

- ☞ The services performed by his technical and administrative staff, as well as the ordinary and specialised labour for the management and execution of the works, including unpacking and positioning.
- ☞ The services performed by his staff, the tools and instruments used to carry out measuring, marking and tests.
- ☞ The costs of the compulsory insurances as well as the pay costs for the whole personnel.
- ☞ The ordinary and extraordinary maintenance of his means of work and equipment, as well as their repair and consumption.
- ☞ The transport, insurance, supervision and safekeeping costs of the materials, the equipment and means of work necessary to execute the works; it is understood that the customer releases the manufacturer from any responsibility for theft, fire and damaging.
- ☞ The protection, by suitable means, of machinery, equipment, materials etc. which may be damaged during the execution of the works.
- ☞ Any protection, of any kind, that may be necessary due to the proximity of installations, pipes, tanks and/or other, or in conjunction with other works.
- ☞ First aid and further medical assistance, as well as the hospital costs of his staff in the event of an accident and/or illness.
- ☞ Daytime and night-time danger signals and indications.

4 INSTALLATION

4.1 GENERAL SAFETY RULES FOR INSTALLATION



This section describes the minimum safety rules that must be followed by the technicians in charge of the machine installation.

SAFETY INSTRUCTIONS Do not wear rings, wristwatches, jewellery, loose items of clothing such as scarves, unbuttoned jackets or blouses with open zips that can catch on moving parts. We recommend using safety clothes such as helmets, overalls, anti-slip shoes, gloves and goggles.

SAFETY INSTRUCTIONS Never use solvents or other flammable liquids as cleaning agents to clean the machine; use products suitable for food use instead.

SAFETY INSTRUCTIONS Always lift the components and the equipment weighing more than 25 Kg by means of a crane; also check that the lifting hook is in barycentric position.

SAFETY INSTRUCTIONS Indicate that the installation is in progress.

SAFETY INSTRUCTIONS Always pay attention to the people who are near the load to be lifted.

SAFETY INSTRUCTIONS Handle all components with protective gloves.

SAFETY INSTRUCTIONS Handle all parts carefully, do not put hands or fingers between each part.

SAFETY INSTRUCTIONS The area where installation work is carried out must be kept clean at all times.

SAFETY INSTRUCTIONS While using compressed air for cleaning small elements, protect yourself with glasses with side protections.

SAFETY INSTRUCTIONS There must be at least 400 lux of natural or artificial light in the area around the machine and the workbenches. Lights must not cause glare, shadows or stroboscopic effects.

SAFETY INSTRUCTIONS Check that the power supply has been correctly set up.
Any adaptation or modification to the electrical system of the room in which the oven is installed must be carried out in accordance with current health and safety laws.

4.2 CHECK ON THE PURCHASED PRODUCT



Before using the machine make sure it has not been damaged during transport or storage. Also check if all ordered options and the standard equipment are inside the packing. In case of damage, immediately inform the forwarding agent and the manufacturer. While checking pay attention to the connection cables, since any damage could compromise the machine working, or worse, the operator's safety.

4.3 INSTALLATION CONDITIONS



Installation of the oven must be carried out by technicians authorised by Grandi Forni Italiani.

SAFETY INSTRUCTIONS

Do not install the machine without the suitable protections.

4.4 INSTALLATION AREA



The machine installation area should meet the following characteristics:

- ☞ The room temperature should range between 5 and 40°C (non-condensing).
- ☞ The maximum relative humidity must be 80%.

In addition:

- ☞ Observe the free spaces required and indicated in this manual.
- ☞ The electrical system must be as much protected as possible from dust, harmful vapours and humidity.

NOTE: The user is responsible for installing the machine in accordance with the terms and conditions of the contract.

4.5 ASSEMBLY INSTRUCTIONS



As defined in the contract, the oven is generally placed and secured on a pallet and wrapped in air bubble nylon films and sent to the place of installation, or, for larger models, the oven body and base are separated and packed individually (on a pallet), as described in section 2 of this Use and maintenance manual concerning transport.

⚠ CAUTION

Unless otherwise agreed upon in the contract, the customer is responsible for packaging, transport, storage at the place of installation and positioning of the machine.

⚠ CAUTION

The positioning of the oven and any wiring of the electrical cabinet to the components must be carried out by a technician authorised by Grandi Forni Italiani.

⚠ CAUTION

No technical information nor specific instructions on the assembly of the machine shall Grandi Forni Italiani provide to the customer. If otherwise agreed, Grandi Forni Italiani can provide the technical information necessary for the installation and assembly of the machine.

⚠ CAUTION

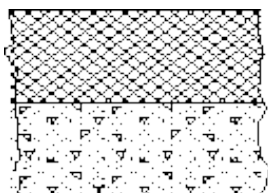
The following pages contain all the information necessary for the connection of the utilities.

4.6 POSITIONING ON THE GROUND



Before positioning the machine on the ground in the prepared excavation, it is advisable to check by means of a bubble that the floor is perfectly levelled. Also check the suitability of the foundation to bear loads at the machine support points. First of all make sure that the floor has a foundation and sub-foundation as shown in the drawing below and that it can bear the machine weight.

Floor composition:



Foundation:
 $R_{ck} 250 \text{ Kg/cm}^2$

Sub-foundation:
concrete 150 Kg/m^3

4.7 FREE SPACES



To work freely on the machine, open the electrical cabinet door and remove the trays, the machine must be installed respecting the measurements and distances indicated on the layout. It is recommended, in any case, to leave adequate space in the installation position.

⚠ CAUTION

The machine must NOT be placed in an explosion hazard area.

The customer states that he has already visited the area where the machine will be installed and that he has a full knowledge and awareness of the risks relating to the working areas since he has received from the manufacturer all the necessary information about the above mentioned risks and about the prevention and emergency measures to be adopted.

The customer undertakes to provide the manufacturer, before the start of the works, with a document including the risk assessment of the area where the machine will be installed.

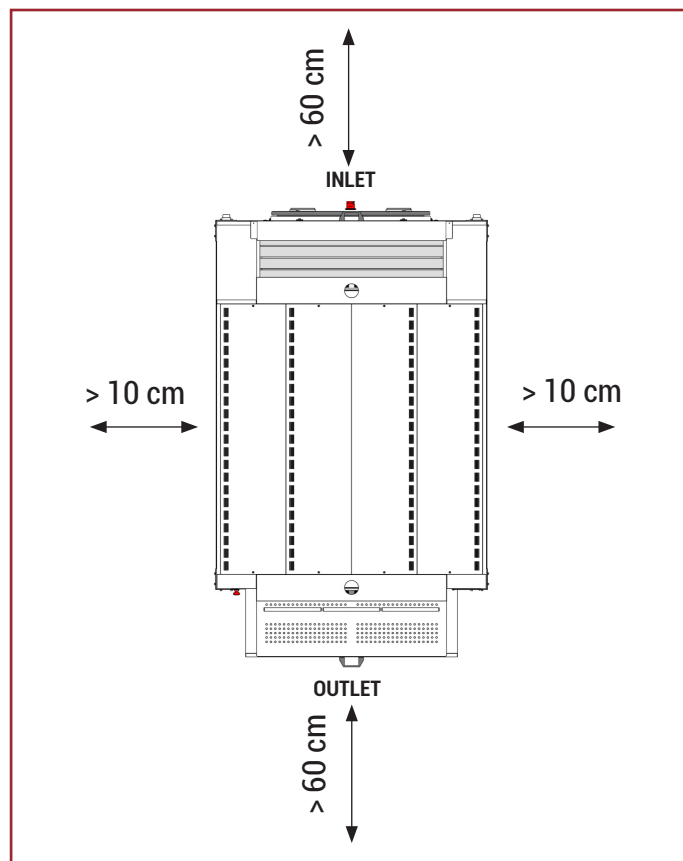


Fig. 9

⚠ CAUTION

There must be a distance of at least 10 cm between the lateral sides of the oven and the wall; the side of the loading area and the side of the unloading area must be at least 60 cm away from the wall to allow for the opening of the electrical cabinet and trays.

⚠ CAUTION

Do not clog the cooling grooves.

4.8 PRELIMINARY CHECKS



POWER SUPPLY CHECKS

Before carrying out any connections, check that the characteristics of the electric network to which the machine is to be connected correspond to the required power supply specifications.

The power cable (not supplied) must terminate with an industrial-type plug, which must be connected to a power supply panel equipped with the corresponding socket and a differential circuit breaker.

The coupling of socket and plug must ensure that the earth conductor is the first to connect and the last to disconnect, and must be sized for the rated current. For this purpose, plugs and sockets for industrial use of the CEE17 type or complying with the European standard EN60309 are suitable.

The thermal protection device must be calibrated to the total rated current, the magnetic protection device must be calibrated to the maximum instantaneous current and the differential device must be calibrated to the 30 mA current.

Grandi Forni Italiani is not liable for any damage caused by failure to comply with these standards.



4.9 ELECTRICAL CONNECTION

The customer is responsible for connecting the electrical cabinet.

SAFETY INSTRUCTIONS

Install a differential device upstream of the machine and check that the earth circuit is effective.

⚠ WARNING

Before operating on the supply cable, disconnect the machine from the power supply. The machine is earthed; defective earthing connections can lead to unsafe working conditions. Grandi Forni Italiani is not liable for possible damages.

⚠ WARNING

It is forbidden to open the boxes containing the electrical equipment unless expressly authorised by Grandi Forni Italiani.

⚠ CAUTION

The power supply reaches the oven from the electrical cabinet through overhead ducts in which the cables run to junction boxes (see, for example, the one shown in Fig. 10) located in the lower part of the machine (loading area).

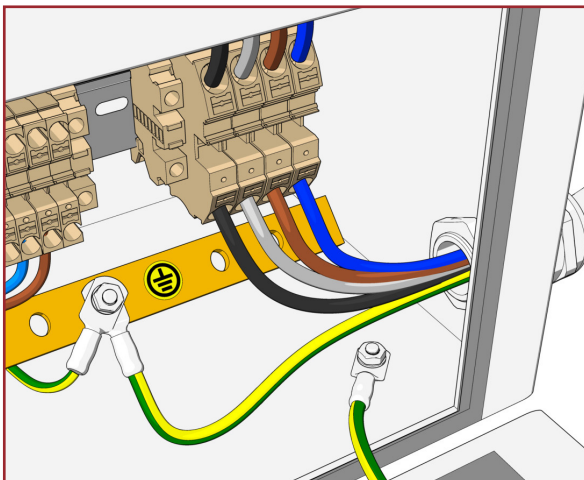
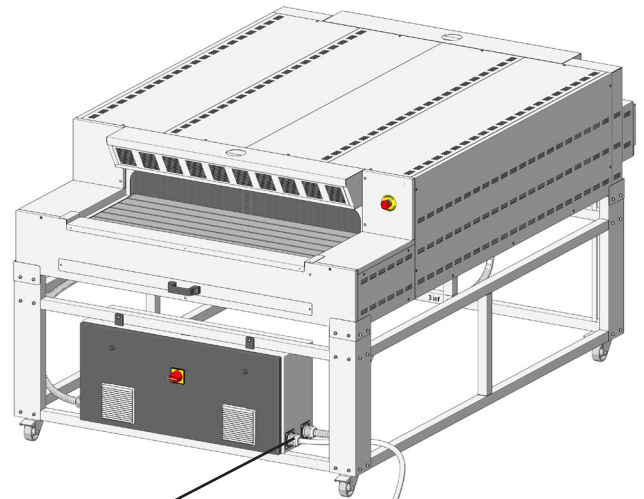


Fig. 10



ELECTRIC TUNNEL OVEN OPTIMO



4.10 INTERNET CONNECTION

In order to carry out remote diagnoses and checks, the oven has an Ethernet connection.

Connect an RJ45 Ethernet cable from the local network with an Internet connection (to be provided by the user) to the module inside the electrical cabinet.

4.11 CONNECTION TO THE SUCTION SYSTEM



The oven is equipped with two connection flanges, one in the inlet area and one in the outlet area, to which it is possible to connect, via the two holes (A) and (B), a suction system (charged to the user) for the vapours that are generated inside the baking chamber.

CAUTION

The suction system and its connecting pipes remain the responsibility of the user.

CAUTION

It remains the responsibility of the user to comply with all existing laws regarding the vapour discharge outside the premises.

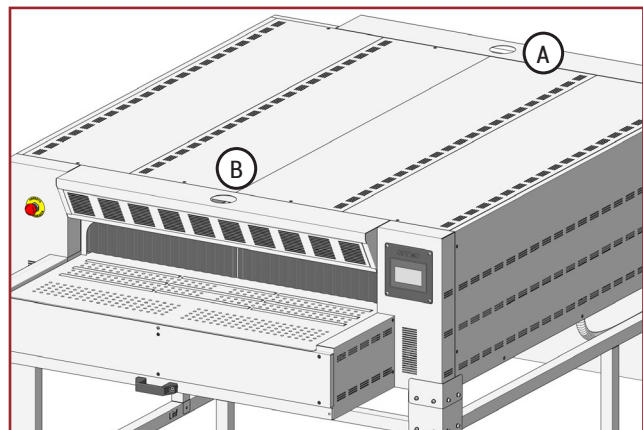


Fig. 11

5 USE

5.1 INTRODUCTION












This section describes the safety rules that must be followed in order to use the oven correctly. Please read this section carefully.

5.2 SAFETY RULES DURING USE



TO USE THE MACHINE STRICTLY FOLLOW the precautions and the safety rules indicated below. Grandi Forni Italiani declines any responsibility whatsoever if the user does not observe the necessary precautions and safety criteria: furthermore, it is not responsible for any kind of negligence during the use of the equipment.

SAFETY INSTRUCTIONS

-  Do not introduce your hands between moving components.
-  Do not remove fixed protections.
-  Do not disable or put out of service the safety devices.
-  Do not change or add any device to the electrical system without a prior written authorization or the technical intervention of Grandi Forni Italiani confirming the change introduced in the description of the intervention.
-  Do not use the machine for purposes that are different from the ones described in this use and maintenance manual.
-  Do not use the machine with products not intended for food use.
-  Do not let unauthorized staff work on the machine.
-  Do not clean the machine while it is working.
-  Do not mount on or lean against the machine.

5.3 RULES FOR THE MACHINE USE



To work on the machine, the operator must know the safety rules and the dangerous situations that could occur during the working phases.

In any case it is essential that the operator is trained and qualified to work on the machine. In case of doubts, ask a supervisor for further explanations or clarification, and, if necessary, directly contact Grandi Forni Italiani Technical Assistance Service.

SAFETY INSTRUCTIONS

All the operations must be carried out in strict compliance with the safety rules of the country in which the machine is sold.

SAFETY INSTRUCTIONS

The customer undertakes to comply with and make his staff observe all the rules and regulations in force concerning safety, prevention of accidents and health in the work place.

The customer must strictly follow the standards and regulations in force, and all the special provisions inside the plants and storehouses known by the customer because of previous information.

SAFETY INSTRUCTIONS

Compliance with the instructions in this manual are binding conditions for the safe use of the machine. Non-compliance with the conditions of use implies the condition of "improper use" by the operator.

SAFETY INSTRUCTIONS

The use of any tools, equipment or machinery shall be at the complete and total risk of the customer, who must, in any case, verify the full compliance of said tools, equipment or machinery with all existing regulations, before and during use. For all the works involving equipment or plant parts with high risk of accident, the customer must submit a quality control plan of the intervention to the manufacturer.

SAFETY INSTRUCTIONS

The customer shall equip his own personnel with all the individual safety protections for the execution of the works, as well as with the ones which might be prescribed by the manufacturer due to specific danger conditions of the plant and/or of the area where the personnel must work.

SAFETY INSTRUCTIONS

Position a sign in the machine working area stating that access is forbidden to unauthorised people.

5.4 WORKING AREA



The oven can be used within a line equipped with automatic product loading and unloading, or alternatively in manual mode with loading and unloading by an operator.

In the case of the line, the operator is responsible for supervising the correct operation of the oven. For this purpose, please refer to the documentation provided by the line manufacturer.

If the oven is used in manual mode, the figure below shows the area where the operator must be to check that the oven is working properly and to load and unload the product.

SAFETY INSTRUCTIONS

The manual mode requires a fixed operator position and the oven must be operated by **ONE OPERATOR ONLY!**

The operator must control the proper operation of the oven and take care of product loading and unloading.

This operator has a complete view of the whole working area and therefore he can prevent other people from reaching dangerous areas. Observe the standards concerning this working area.

POSITION OF THE OPERATOR DURING MANUAL OPERATION OF THE OVEN

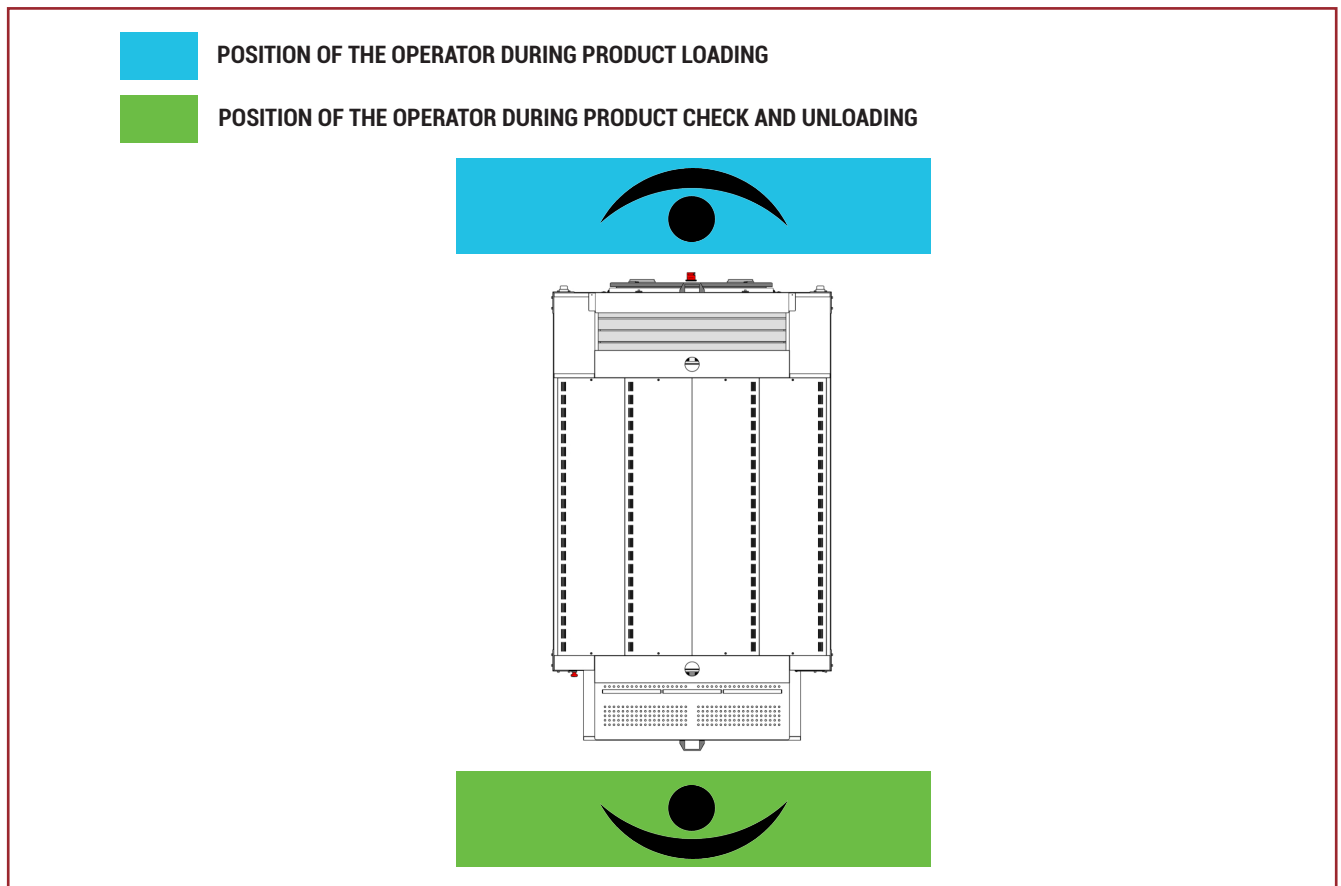


Fig. 12

⚠ CAUTION

It is forbidden to climb on the machine.



The information given in this chapter must be read and completely understood by the operator and supervisor. If the instructions are not understood, do not carry out any type of operation on the machine, but ask the supervisor. In addition to reading the instructions given, the operator must in any case have been trained by Grandi Forni Italiani technicians on the correct use of the machine.

TOUCHSCREEN PANEL

The oven is equipped with a touchscreen panel (1) which allows the oven programming and control. The panel is mounted on the machine, in the unloading area. A detailed description of the touchscreen panel can be found in par. 5.6.

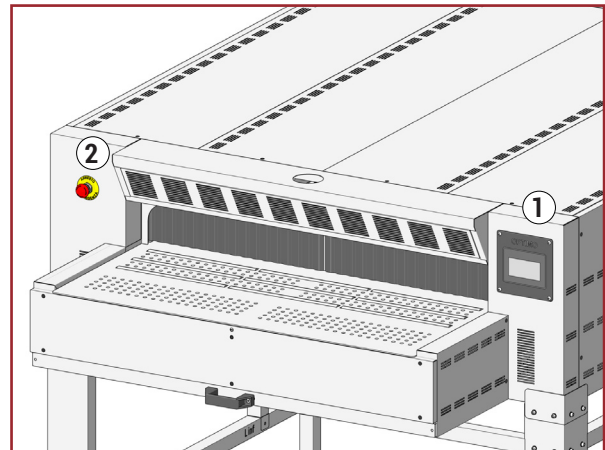


Fig.13

EMERGENCY STOP BUTTON

The oven is equipped with two emergency stop buttons (2), one in the loading area and one in the unloading area (see Fig.13), the activation of which immediately stops the operation of the oven without disconnecting the power supply to the electrical cabinet and the operator panel.

MAIN SWITCH

The main switch (3), which is located on the electrical cabinet, supplies the oven with power (see Fig.14).

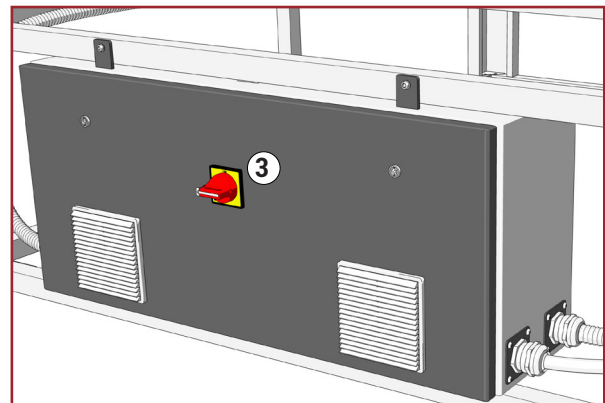


Fig.14

5.6 TOUCHSCREEN PANEL

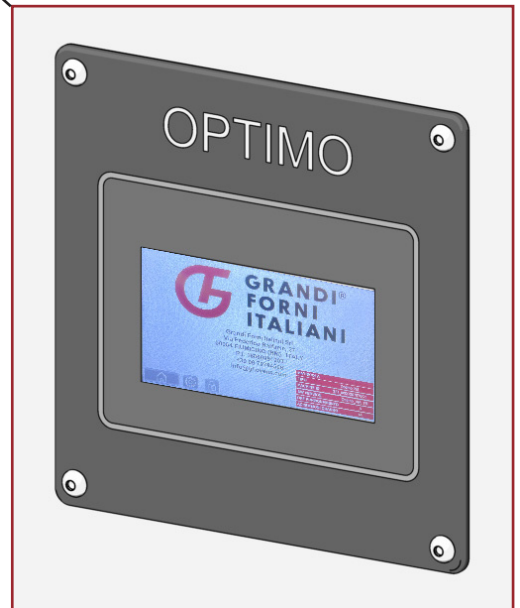
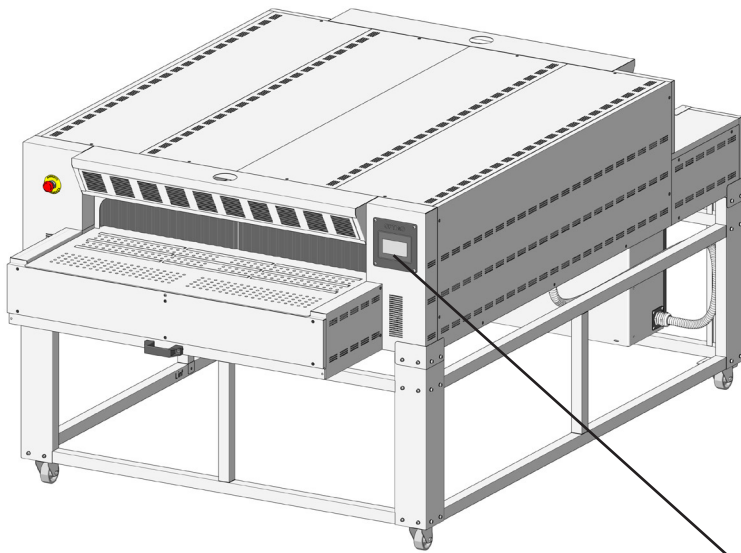


Fig.15

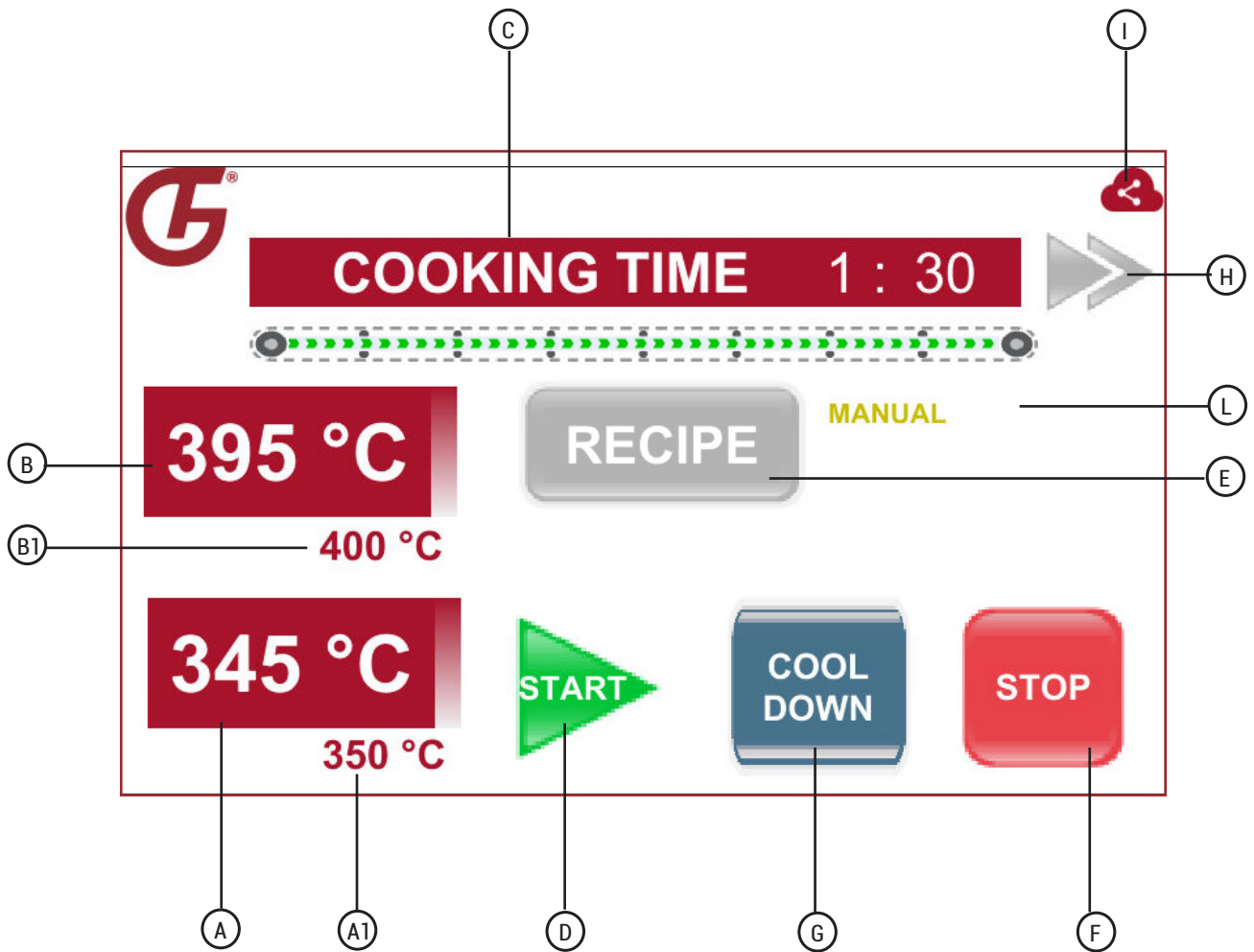
ELECTRIC TUNNEL OVEN OPTIMO

A touchscreen panel is mounted on the oven in the unloading area. Thanks to this panel it is possible to manage the machine operation, set the main parameters and display machine-related values.

5.6.1 HOME PAGE

When the oven is switched on, the system displays the main page, from which all operating parameters can be managed.

ELECTRIC TUNNEL OVEN OPTIMO



REFERENCE	DESCRIPTION	FUNCTION
A	ACTUAL BOTTOM TEMPERATURE	SET-POINT BUTTON FOR BOTTOM TEMPERATURE
A1	SET BOTTOM TEMPERATURE - SET-POINT	-
B	ACTUAL TOP TEMPERATURE	SET-POINT BUTTON FOR TOP TEMPERATURE
B1	SET BOTTOM TEMPERATURE - SET-POINT	-
C	COOKING TIME	COOKING TIME SETTING (BELT SPEED)
D	START	START OF THE COOKING CYCLE (THE HEATING ELEMENTS LIGHT UP AND THE COOKING BELT STARTS)
E	RECIPE	SETTING AND SELECTING RECIPES
F	STOP	MANUAL STOP OF THE OVEN
G	COOL DOWN	COOLING AND AUTOMATIC STOP OF THE OVEN (WHEN THIS BUTTON IS PRESSED, THE HEATING ELEMENTS SWITCH OFF AND THE BELT RUNS FOR ONE HOUR AUTOMATICALLY)
H	ACCELERATION BUTTON	BY HOLDING DOWN THIS BUTTON, THE BELT RUNS AT MAXIMUM SPEED. BY RELEASING IT, THE BELT RETURNS TO THE SET SPEED
I	INTERNET CONNECTION	IF IT IS DISPLAYED, THE OVEN IS CONNECTED TO THE NETWORK AND CAN BE CONTROLLED REMOTELY
L	MANUAL	IT INDICATES THAT THE OVEN IS WORKING WITH A MANUAL COOKING SETTING (NOT WITH A SAVED RECIPE)

5.7 SWITCHING ON AND USING THE OVEN IN MANUAL MODE



⚠ CAUTION

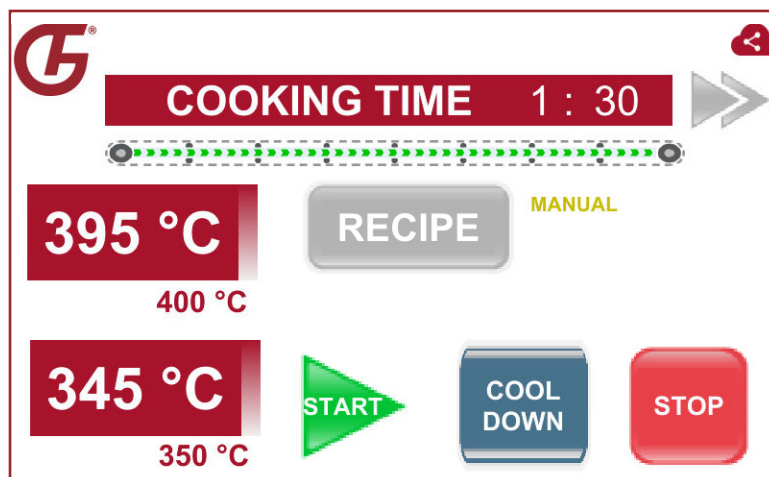
Before the first start-up of the oven, remove the protective film covering the stainless steel panels of the machine.

1 - Turn the main switch located on the electrical cabinet to position 1 (ON) to power the main circuit.

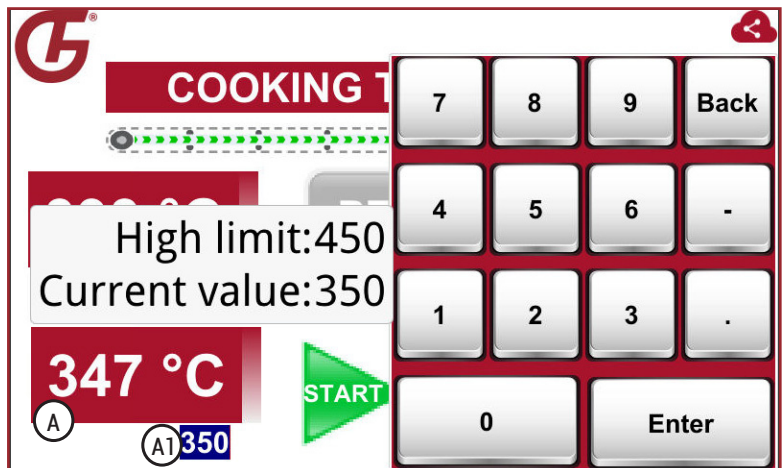
The initial page appears on the touch-screen panel through which the operation of the oven can be activated.



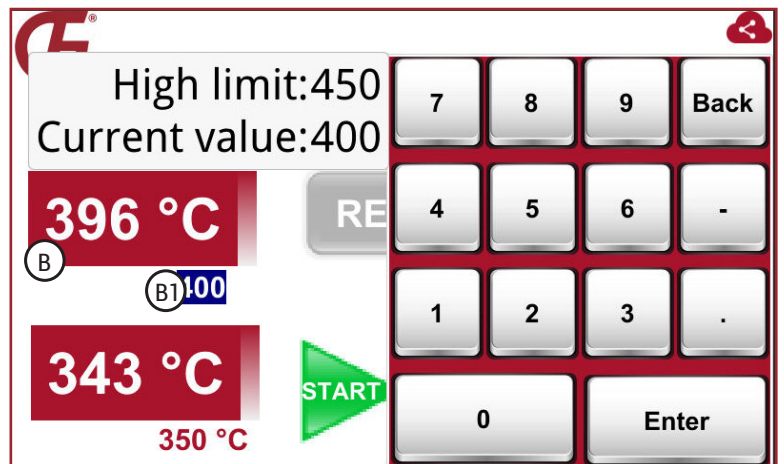
2 - When the system is activated, the initial page is shown and after about 20-30 seconds the home page is displayed (see par. 5.6.1). Now the oven is ready to be used.



- 3 - To set the bottom temperature, press button (A) and enter the desired value via the numeric keypad. After pressing **Enter**, the set-point value is indicated in the area (A1) (see par. 5.6.1).



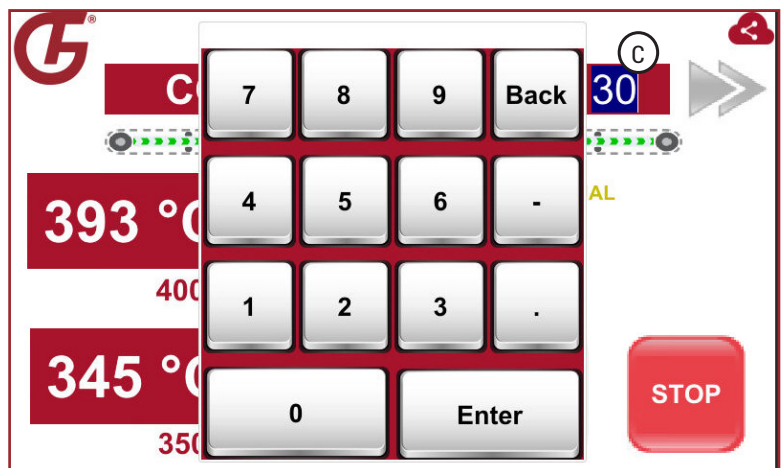
- 4 - To set the top temperature, press button (B) and enter the desired value via the numeric keypad. After pressing **Enter**, the set-point value is indicated in the area (B1) (see par. 5.6.1).




NOTICE

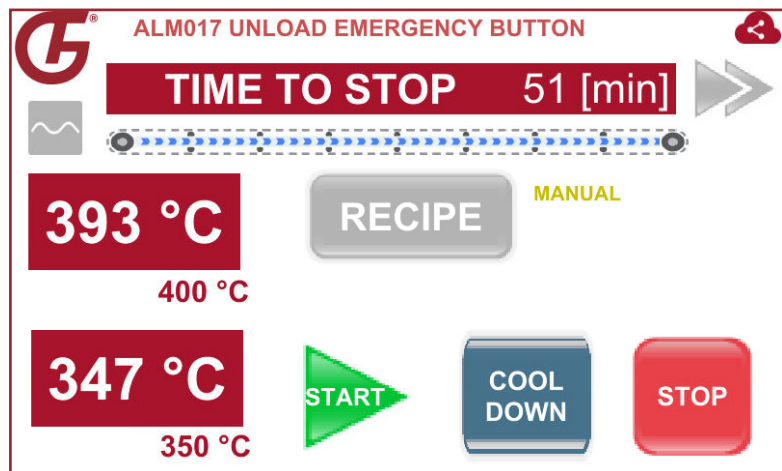
The system does not allow the setting of temperature values higher than those set by the manufacturer.

- 5 - To adjust the cooking time (belt speed), press button (C) and enter the desired value via the numeric keypad. After pressing **Enter**, the value is saved and displayed in window (C) (see par. 5.6.1).




6 - To start the oven with the set parameters, press the start button .

This activates the oven heating and the cooking belt.



7 - Wait until the set bottom and top temperatures are reached before using the oven.

NOTICE

To stop the oven, press , which turns off the heating elements and stops the cooking belt.

NOTICE

To speed up the product unloading, press and hold down , which increases the belt speed. By releasing the button, the speed returns to the set parameters.

WARNING

The loading and unloading of the pizza must be done by means of the special placement peel (1) and unloading peel (2) (available as accessories).

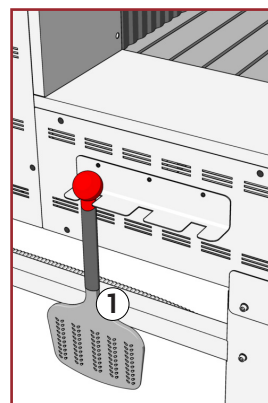


Fig.16

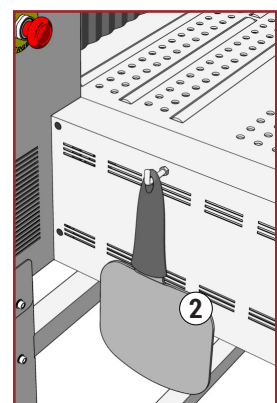



Fig.17

END OF THE COOKING CYCLE

At the end of the cooking cycle, press  to cool the belt. This operation is necessary in order not to damage the chain. This phase lasts about 60 minutes, during which the heating elements are off, but the movement of the belt remains active.

CAUTION

During this phase, although the heating elements are switched off, some parts of the oven maintain high temperatures. Great care must therefore be taken when working near the oven.

5.8 RECIPE SETTING



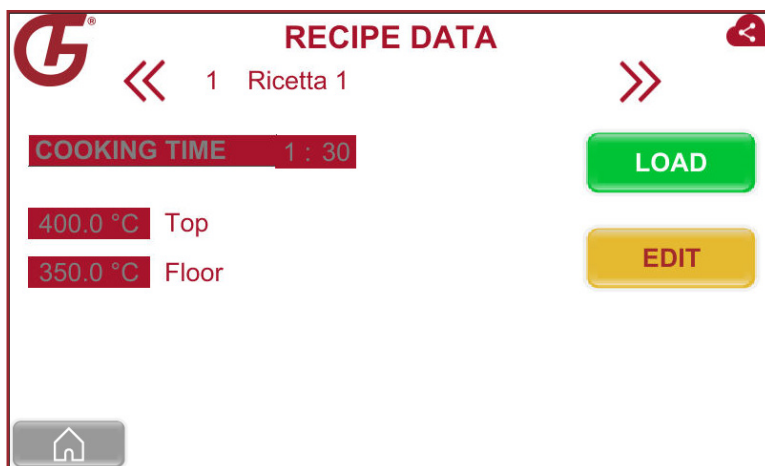
When using the oven in automatic mode, recipes can be set from the touchscreen panel.
Proceed as follows:

1 - To open the list of the recipes (RECIPES LIST page), press **RECIPE** on the home page (see par. 5.6.1).

2 - Pressing a recipe will display the RECIPE DATA page below.



3 - Pressing **EDIT** on the RECIPE DATA page will display the EDITING RECIPE page below.



4 - On this page, it is possible to set the cooking time (1) and the top and bottom temperature (2).

To carry out the setting operations, refer to paragraph 5.7 SWITCHING ON AND USING THE OVEN IN MANUAL MODE.



5.9 SWITCHING ON AND USING THE OVEN IN AUTOMATIC MODE



⚠ CAUTION

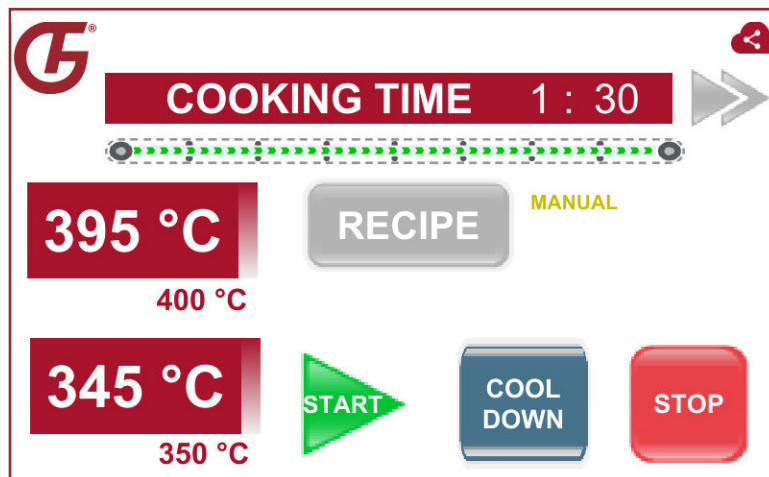
Before the first start-up of the oven, remove the protective film covering the stainless steel panels of the machine.

1 - Turn the main switch located on the electrical cabinet to position 1 (ON) to power the main circuit.

The initial page appears on the touch-screen panel through which the operation of the oven can be activated.



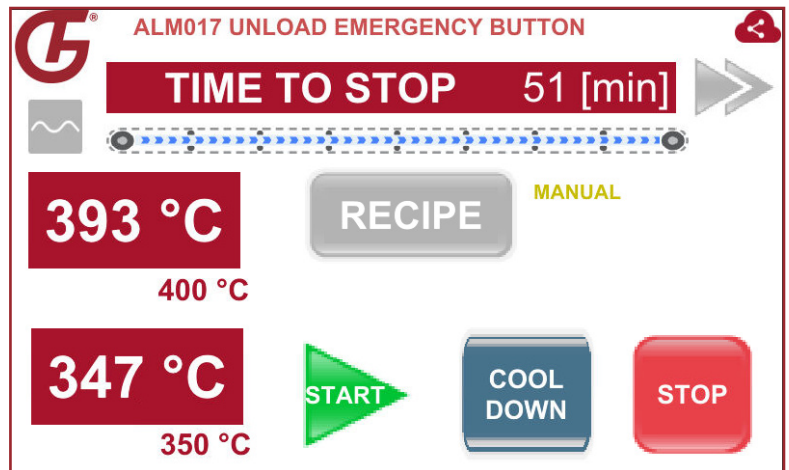
2 - When the system is activated, the initial page is shown and after about 20-30 seconds the home page is displayed (see par. 5.6.1). Now the oven is ready to be used.



- 3 - Press **RECIPE** to display the RECIPES LIST page.
Select the desired recipe and press **ACTIVATE RECIPE**.



- 4 - To start the oven with the set parameters, press the start button **START**.
This activates the oven heating and the cooking belt.



- 5 - Wait until the set bottom and top temperatures are reached before using the oven.

NOTICE

To stop the oven, press **STOP**, which turns off the heating elements and stops the cooking belt.

NOTICE

To speed up the product unloading, press and hold down **>>**, which increases the belt speed. By releasing the button, the speed returns to the set parameters.

⚠ WARNING

The loading and unloading of the pizza must be done by means of the special placement peel (1) and unloading peel (2) (available as accessories).

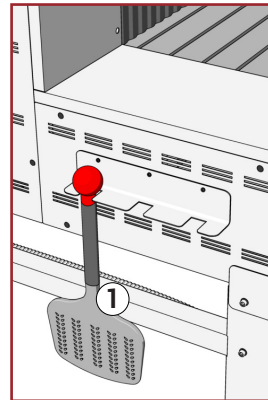


Fig.18

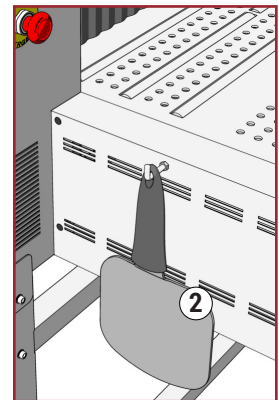


Fig.19

END OF THE COOKING CYCLE

At the end of the cooking cycle, press **COOL DOWN** to cool the belt. This operation is necessary in order not to damage the chain. This phase lasts about 60 minutes, during which the heating elements are off, but the movement of the belt remains active.

⚠ CAUTION

During this phase, although the heating elements are switched off, some parts of the oven maintain high temperatures. Great care must therefore be taken when working near the oven.

6 MAINTENANCE

6.1 SAFETY RULES DURING MAINTENANCE



SAFETY INSTRUCTIONS

Any operator in charge of the oven maintenance must comply with the instructions below before carrying out any operation.

- 1) Make sure that he has received the supervisor's authorization to carry out the adjustment/maintenance operations.
- 2) Make sure that a specific procedure has been defined for the type of operation to carry out. Carry it out after finishing the preliminary operations described in this paragraph.
- 3) Before carrying out any maintenance operation he must always place a warning sign indicating that "MAINTENANCE IS IN PROGRESS".
- 4) Make sure he has the tools required to carry out maintenance operations, checking that they are in good condition.
- 5) Always use the personal protective equipment (gloves, goggles, safety shoes, etc.) according to what is indicated in the specific procedure.
- 6) Disconnect the power supply from the machine to prevent accidental starting that could damage both the operators and the system.
- 7) Disconnect the power supply before removing any protective panel or replacing any component.

Now the operators can carry out the specific maintenance operations described in the following paragraphs. At the end of these operations, remove all tools and rags used and remove any material used for maintenance: there may be risks of fire ignition.

Finally, fill in the maintenance form with the date and the start time of the intervention and the type of maintenance operation carried out.

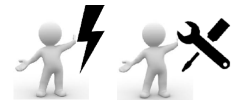
The operator must also observe the following bans in order to carry out the maintenance operations safely:

- ☞ Do not stand near loads or pallets with stacked materials.
- ☞ Do not wear rings, watches, chains, bracelets etc. during maintenance operations.
- ☞ Do not use naked flames, points or pins for cleaning.

⚠ CAUTION

It is forbidden to carry out extraordinary repairs. Any extraordinary repairs carried out in-house or in unauthorised workshops may lead to malfunctions, which may result in personal injury or damage to property. In such cases, the manufacturer is released from any liability. Any repairs or extraordinary maintenance carried out in-house or in unauthorised workshops during the warranty period shall automatically render the warranty null and void. On request, the manufacturer is willing to provide the machine user with specific extraordinary maintenance sheets.

6.2 LOTO PROCEDURE



LOTO procedure stands for Lockout-Tagout and is an industrial safety practice to isolate hazardous energy before performing maintenance or repairs on a machine.

This procedure is used to ensure that the machine is disabled and cannot restart while someone is working on it.

The following general procedure must be applied before any maintenance operation is carried out:

1. Position the various moving parts of the machine in the most convenient condition for the maintenance work to be carried out;
2. Disconnect the electrical power supply;
3. Turn the main switch to position 0. The key must be kept by the maintenance manager, who will not give it to anyone;
4. Carry out maintenance or repair work as specified in the respective description in this manual;
5. Once all operations have been completed, switch on the electrical supply again and make sure, before putting the machine back into operation, that:
 - a) all safety devices are working;
 - b) all tools used have been stowed;
 - c) all fixed guards are correctly positioned;
 - d) all movable guards are securely closed;
 - e) all the people have left the danger zones;
6. Check that the machine is working properly before putting it back into production.

6.3 ORDINARY CLEANING

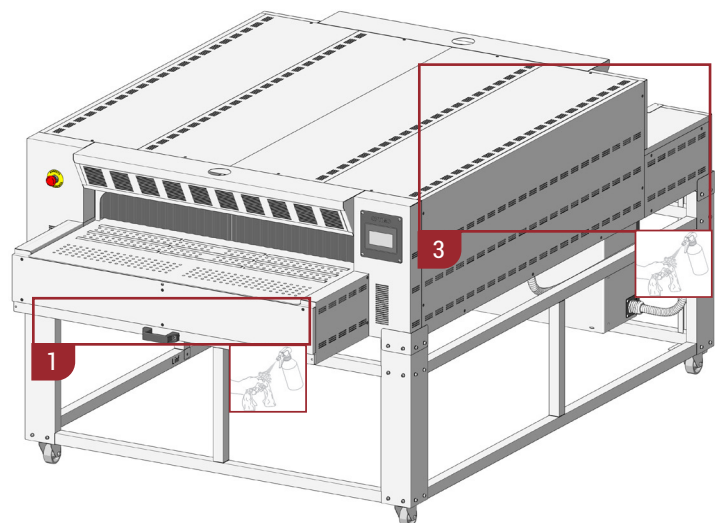
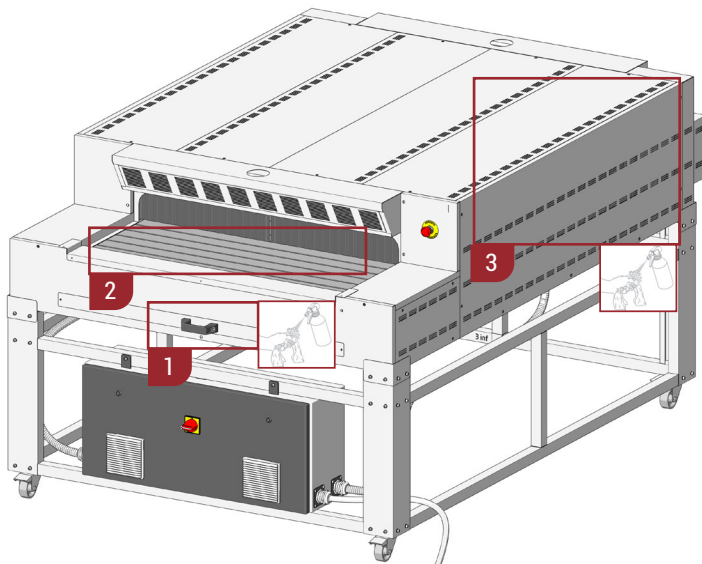


The operator is responsible for the ordinary cleaning of the oven, which must be carried out every day. This allows keeping the oven in good working conditions.

The figure below shows the parts that must be cleaned:

- ☞ Removable parts (collection trays) (1)
- ☞ Cooking belt (2)
- ☞ External surfaces (3)

To clean the machine use a soft cloth and suitable detergent products.



6.3.1 CLEANING OF REMOVABLE PARTS (TRAYS)



To clean the removable parts, such as the crumb trays (1) mounted under the cooking belt (front and back) and the one located under the discharge shelf, simply empty them every morning with the oven off before use.

They can be washed with water, a sponge and common detergents or in the dishwasher and before reassembling them, it is recommended to rinse everything with a jet of water to remove any dirt or residues of cleaning products in the parts of the oven that are particularly difficult to reach, as they could contaminate the products. The use of abrasive items is not recommended, as they may damage the brilliance and integrity of the parts in the long term.

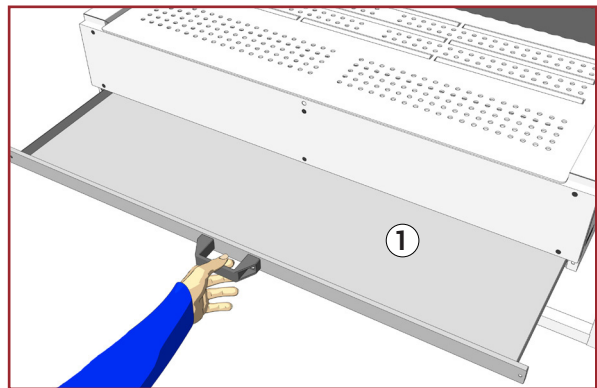


Fig. 20

6.3.2 CLEANING OF THE COOKING BELT



CAUTION

It is absolutely forbidden to use water and/or detergents to clean the cooking belt.

For proper cleaning of natural stone and stainless steel (cooking belt), a common brush with steel bristles (see Fig. 21), available as an accessory, must be used.

The brush must be passed on the belt, from right to left and vice versa, applying light pressure. The extracted dirt should be removed by means of a vacuum cleaner in order to prevent harmful residue of dirt from remaining in the oven base.

In case of material build-up, it is recommended to use a spatula, carefully and gently, to avoid damage to the equipment and heating elements.

This operation must be carried out at least once a day at the end of the cooking cycles.

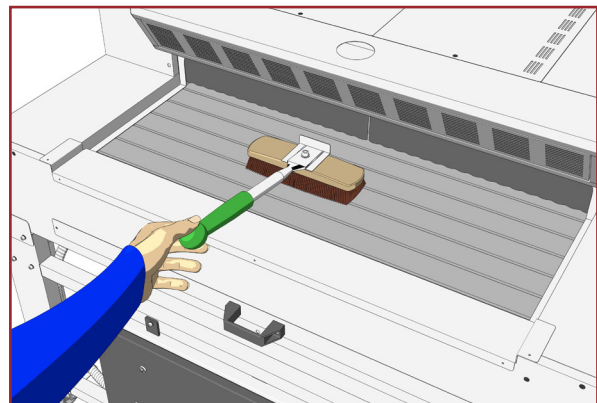


Fig. 21

6.3.3 CLEANING OF EXTERNAL SURFACES



To clean the external surfaces of the oven, simply wash them with a wet sponge and common detergents.

⚠ DANGER

Do not use jets of water or other liquids directly on surfaces. These could penetrate electrical components or heating elements and cause severe damage to the oven or lethal electrocution.

THE COMPANY IS NOT LIABLE FOR DAMAGE RESULTING FROM FAILURE TO OBSERVE THE INSTRUCTIONS GIVEN IN THIS USE AND MAINTENANCE MANUAL OR IF MAINTENANCE IS CARRIED OUT BY UNQUALIFIED PERSONNEL.

6.4 BEARING MAINTENANCE



⚠ CAUTION

Wait for the oven to cool down completely before carrying out this operation.

⚠ CAUTION

Disconnect the oven from the power supply.

Every 500 working hours lubricate the bearings (1) (see Fig. 22) of the belt drive system.
To reach the bearings remove the protection guards.

ELECTRIC TUNNEL OVEN OPTIMO

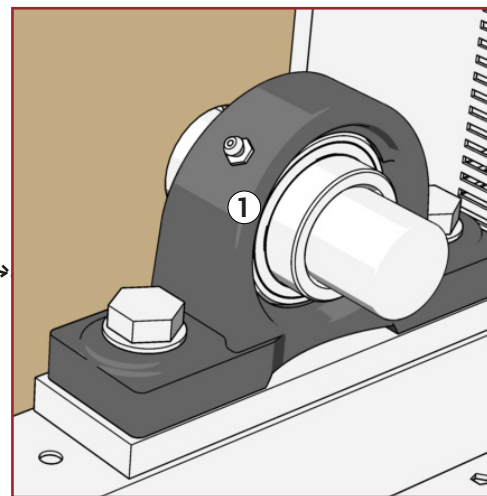
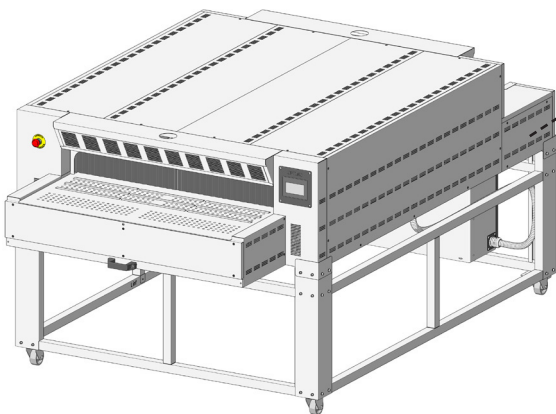
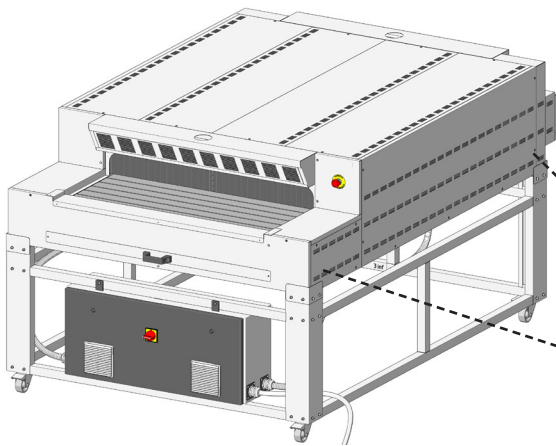


Fig. 22

6.5 TROUBLESHOOTING

This chapter describes how to solve the most common problems which may arise in the machine.

ERROR CODE	ERROR DESCRIPTION	SOLUTION
017	EMERGENCY STOP BUTTON - UNLOADING AREA	Release the emergency stop button (unloading area)
020	EMERGENCY STOP BUTTON - LOADING AREA	Release the emergency stop button (loading area)
021	SAFETY THERMOSTAT INTERVENTION	Manual reset on thermostat body located inside the oven, motor side (only for USA version ovens - UL marking)
010	MOTOR DRIVE ALARM	It appears if the motor overloads, the cooking belt may be blocked (contact technical service)
032	TOP PROBE ERROR	Check whether the probe is correctly connected to the PLC, if the alarm persists despite being correctly connected, replace the probe following the instructions in the wiring diagram
033	FLOOR PROBE ERROR	Check whether the probe is correctly connected to the PLC, if the alarm persists despite being correctly connected, replace the probe following the instructions in the wiring diagram

6.7 SPARE PART LIST

The list of OPTIMO oven spare parts is indicated below.

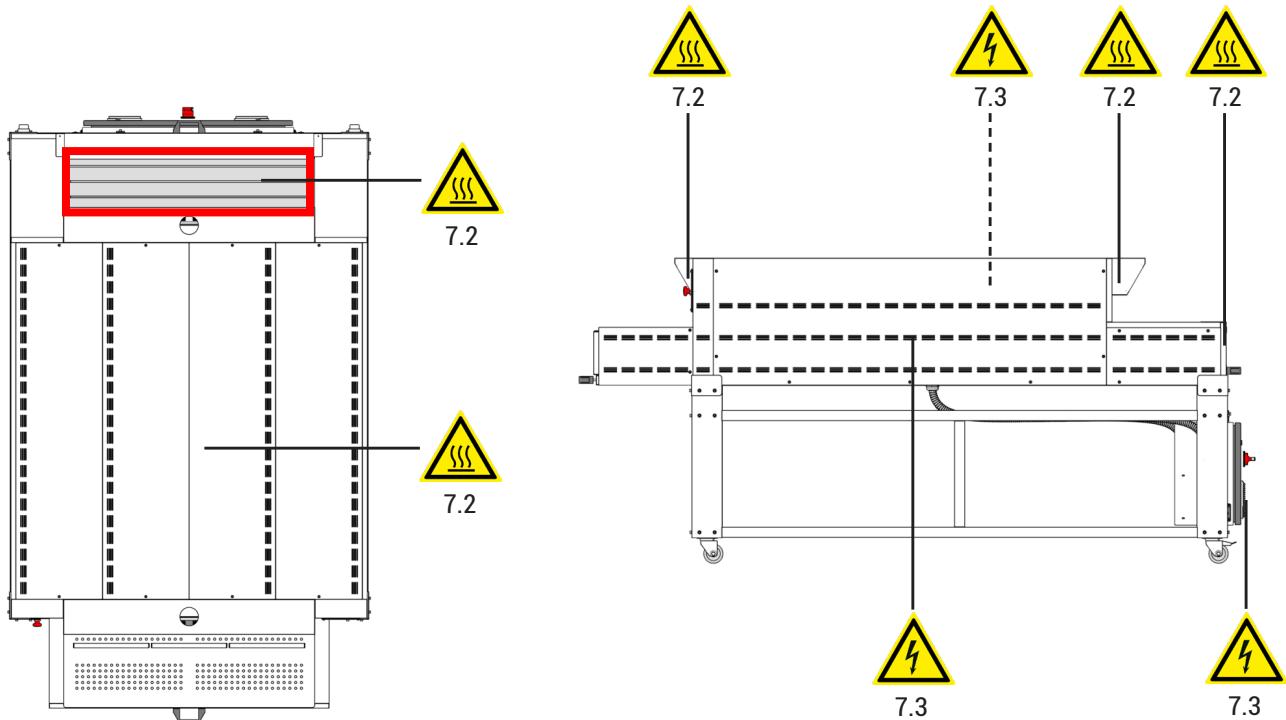
PROGR.	ITEM CODE	DESCRIPTION	QUANTITY
1	OP.MO001	MOTOR	1
2	OP.RC002	HEATING ELEMENT - TOP	according to the oven of reference
3	OP.RP003	HEATING ELEMENT - BOTTOM	according to the oven of reference
4	OP.PE004	EMERGENCY BUTTON	2
5	OP.CU005	DRIVE SHAFT BEARING	4
6	OP.CA006	DRIVE CHAIN OF THE COOKING BELT	according to the oven of reference
7	OP.PNC007	STONE OF THE COOKING BELT	according to the oven of reference
8	OP.SO008	TEMPERATURE CONTROL PROBES "K"	1
9	OP.SC009	TOUCHSCREEN PANEL	1
10	OP.RS010	STATIC RELAY - TOP	1
11	OP.RS011	STATIC RELAY - BOTTOM	1
12	OP.FU012	STATIC RELAY FUSE	1
13	OP.FU013	MOTOR FUSE	1
14	OP.TE014	TEFLON STRIP - LOADING AREA	1
15	OP.TE015	TEFLON STRIP - UNLOADING AREA	1

7 RESIDUAL RISKS

7.1 RESIDUAL RISKS



The residual risks indicated below are particular conditions which could not be eliminated technically. They are inherent risks due to the production process or to the machine conditions. They are indicated by safety pictograms that the operators become familiar with during the training.



ELECTRIC TUNNEL OVEN OPTIMO

7.2 HIGH TEMPERATURE RISK

⚠ WARNING

During normal operation, some external parts of the oven can reach high temperatures. Pay attention to the hot parts of the oven indicated by the appropriate pictograms. For this reason, it is absolutely forbidden to touch them.

⚠ WARNING

After stopping the machine at the end of the cooking cycle, during the cooling phase, although the heating elements are off, some parts maintain high temperatures. At the end of the work cycle, make sure that no one can accidentally touch these parts for a period of time to allow the heat to dissipate to a temperature below about 40-50 °C. In any case, great care must be taken when working near the oven.

⚠ WARNING

During normal operation of the oven, the cooking belt reaches high temperatures. For this reason, the pizza should only be loaded by means of the appropriate placement peel (1) (see Fig. 23).

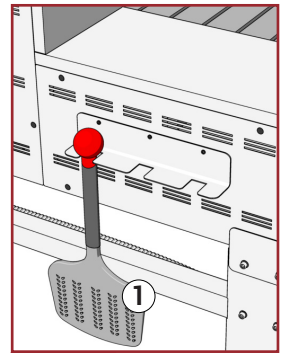


Fig. 23

⚠ WARNING

To avoid accidental contact with hot parts in the unloading area, use the appropriate unloading peel (2) (see Fig. 24).

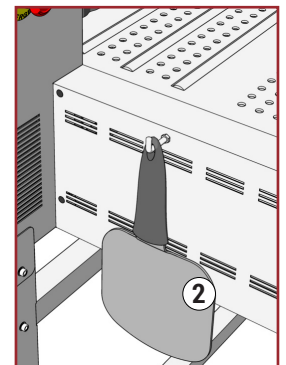


Fig. 24

7.3 HIGH VOLTAGE RISK

⚠ DANGER

For any maintenance operation on the electrical system, it is mandatory to cut the power supply to the electrical cabinet (1). It is not sufficient to switch off the main switch mounted on the door. Please remember that the replacement of components must only be carried out by specialised personnel and only and exclusively original spare parts must be used.

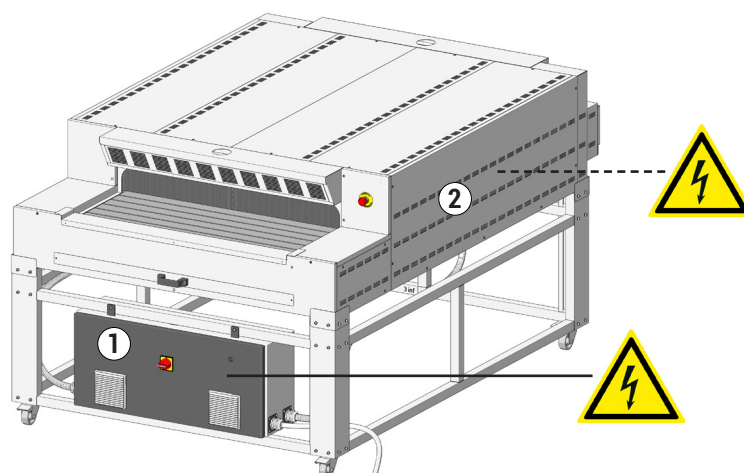
⚠ DANGER

In case of intervention near the heating elements (2), disconnect the electrical cabinet from the power supply. Heating elements may only be replaced by specialised personnel authorised by Grandi Forni Italiani.

Only use original spare parts.

⚠ CAUTION

When wiring, take care to observe the identification labels.



8 PUTTING OUT OF SERVICE

8.1 MACHINE STORAGE

If the machine is not to be used for a certain period, carry out the following operations:

- ☞ Disconnect the machine from the power supply.
- ☞ Clean the equipment removing any food residues.
- ☞ Cover the equipment with waterproof and shockproof material.
- ☞ Keep the equipment in a dry place.

8.2 PUTTING OUT OF SERVICE

If, for any reason, the machine must be put out of service, follow some important rules to safeguard the environment.

Sheaths, flexible ducts, plastic or non-metal components will have to be disassembled and disposed of separately.

Grandi Forni Italiani is not liable for any improper disposal.



RECYCLE
BECYCLE

ROCK 'N' ROLL OVENS



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