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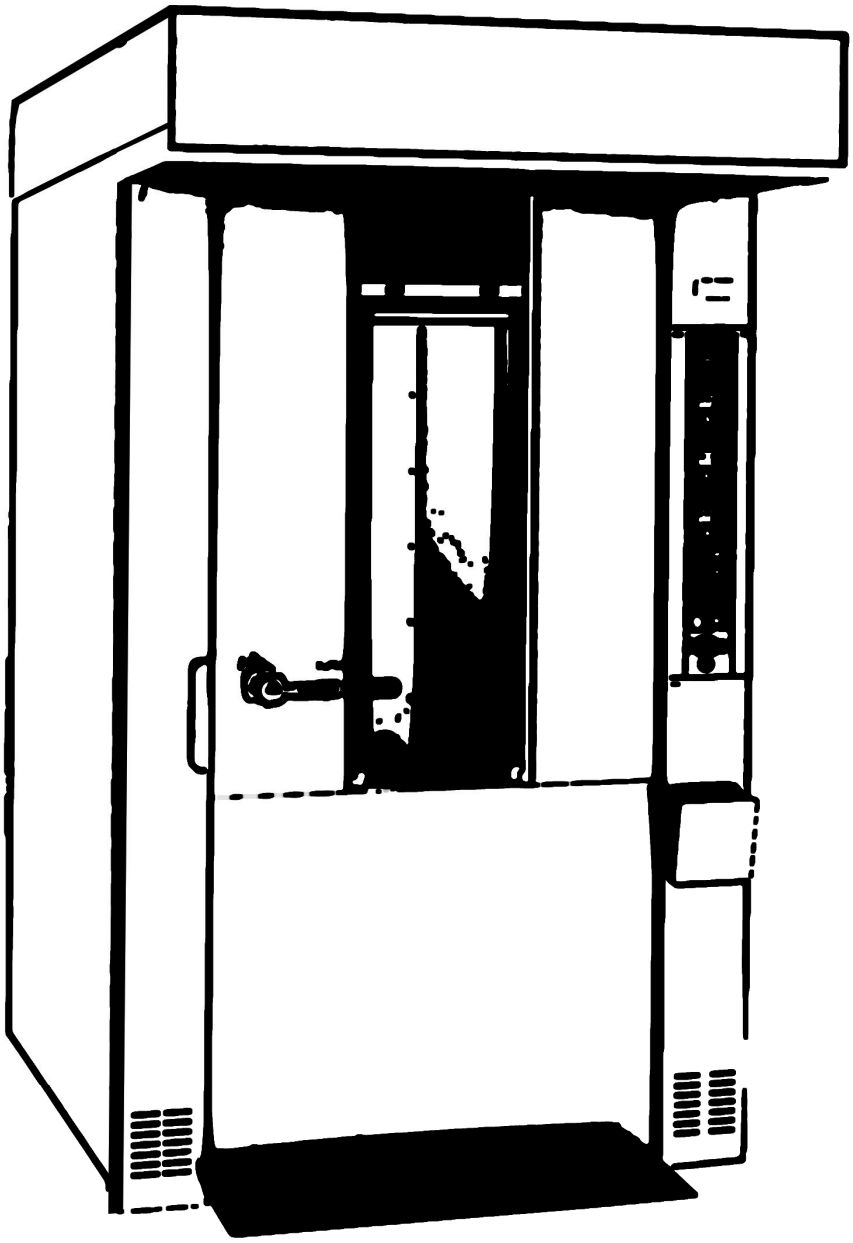
user and maintenance **manual**



CE

Rotary **oven**
PHANTON 8

PHANTON EL8

mac.pan

chapter 1

Generality

FN
REV.0-0
ENG

MADE IN ITALY

1.1 Warnings

General warnings

The instructions manual is an integral part of the oven and must be kept close at hand, for consulting and/or reference in a protected, dry area.The instructions manual must be kept until the oven is dismantled.A copy of the instructions manual can be obtained from the manufacturer maintaining sales conditions unaltered for regular spare parts.

The manual is usually sent with each oven, inside the oven taped to the door glass.

The manual is an integral part of a professional appliance but cannot be used to replace by no means the appropriate training the user needs. The manual contains all the instructions from installation to final disposal of the oven. It also contains all details for a safe and correct use, maintenance and clearing. Line and cable sizing have to be executed according to the technical data as well as any optional of the machine.

SYMBOLS

NOTES contain important info on the oven management.

WARNING contain procedures to be applied. Failure to comply with them can cause damages to the appliances.

CAUTION include special procedures. Failure to comply with them can cause damages to the operator.

ENCLOSURES report to the side the letter of reference.

Safety warnings

Before running the oven, carefully read this manual, and fully comply with all the safety regulations and recommen_ dations included.

It is compulsory that you spread and make known the content of this manual to the persons concerned.

STAFF ROLE AND COMPETENCE

To assure the safety conditions of the general operations of the ovens, it is necessary to define all the professional roles here below:

QUALIFIED TECHNICIAN
Technician professionally qualified in oven connections (electrical, water, etc.) enabled to issue the necessary certifications.

ASSEMBLER/SERVICEMAN
Qualified technician of the oven manufacturer responsible for oven assembling and starting-up as well as any extraordinary maintenance operations

OPERATOR
Fully involved in running the oven. The operator loads the oven, and assists in processing. The operator must be informed of any danger from processing and read well the chapters of this manual referring to the operations to be carried out

ORDINARY SERVICEMAN
Qualified technician well trained for carrying out ordinary maintenance operations of the oven

GENERAL NOTES

The operator and anyone authorized to work with the machine must carefully and thoroughly read the general safety and caution principles here below in order to avoid any damages caused by the improper use of the machine. Failure to comply with safety regulations and/or improper use of the machine may cause accidents to operators and other persons. It is necessary to comply with the safety regulations included in this manual and displayed on the machine; to maintain the safety devices installed in efficient conditions; to operate the machine as recommended and specified by the manufacturer. It is also recommended that you follow the maintenance plans as specified in this manual.

Cautions alone are not sufficient to avoid danger!

All the instructions in this manual refer to both new and reconditioned machines.
Instructions and warnings are not replacing effective safety regulations but integrate them and urge to their compliance.

CAUTION AND SAFETY PRINCIPLES

It is strictly forbidden to have operators run the oven who have not learnt safety instructions. This refers to the oven operators and also to any other oven user. Access to the area where the machine is running is forbidden to persons who are not operating the oven, and they should not be allowed to control and adjust it. The operator is not allowed to remove running failures or alter the type of processing.

Anyone who is preparing for maintenance operations should be well visible in order to signal any danger that may occur. When searching the cause of any trouble or failure of the machine, or for any ordinary maintenance intervention, all reasonable precautions should be taken to avoid damages to surrounding people and objects, i.e. switching off all oven connections (electrical, water and fuel). At the end of any extraordinary intervention requiring the removal of protections, barriers or similar, make sure that all is re-installed, reset and positioned, and efficiently working. It is strictly forbidden to tamper, neutralize, remove, modify or make inefficient any safety devices, protections or controls of the oven (limit switches, protections, casing panels). All protection and safety devices should be kept in perfect and efficient working conditions. Caution and danger plates must be kept in their position maintaining their original features. Remember to tight well all screws, bolts or fixing nuts of all mechanical parts that has been adjusted.

In case of sudden danger, immediately power off the system by means of the main switch positioned outside the oven. This operation causes the immediate halting of the machine

Position the oven on a flat, heat-resistant surface and set to support the expected load, and far from any flammable surface.

Never bring inside the baking area flammable products that may cause explosions or toxic fumes. It is forbidden to walk over the oven top casing or rest any material on it, as it is not suited to support any load. The oven should undergo periodical maintenance in compliance with the instructions contained in the relevant chapter of this manual. Never clean the oven glasses with water jets. Always use spare parts certified by the oven manufacturer. Premises should be well ventilated, considering the total number of machines installed. Check the earthing efficiency. Use protective gloves to move hot racks and trays. It is forbidden to install accessories not complying with the safety regulations. In case of fire, never use liquid extinguishing agents but only dry powder extinguishers. Max working temperature should never exceed 300°C. When fully loaded, the rack weight should not exceed that written in the technical data sheet. It is forbidden to block air vents/openings of the oven (front columns, casing) which are designed to properly cool electrical parts.

1.2 General instructions

Operations

The rotative convection oven has been designed to be used in the bakery and pasta industry and workshops to bake compounds made with flour of wheat and/or other cereals, water and other additives for human nutrition.

Compounds used for baking should not cause or release explosive and/or flammable mixtures.

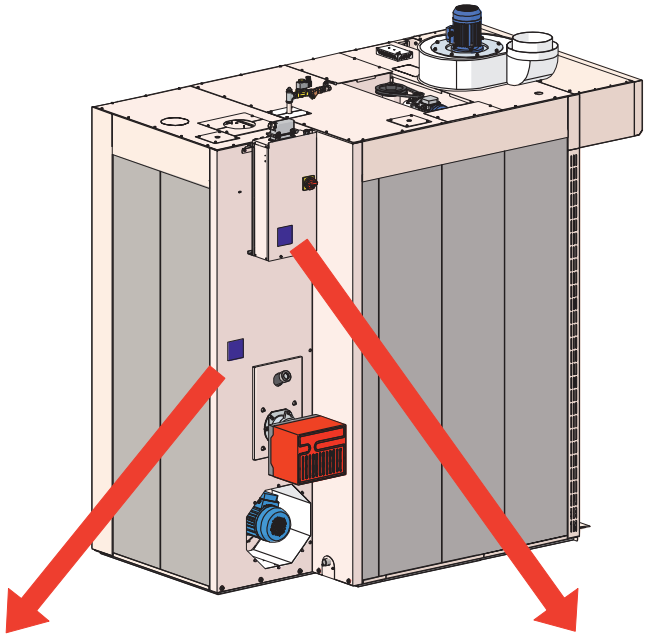
No other use of the oven is allowed unless for its original application. Any other use must be approved in writing by the manufacturer. The manufacturer waives any and all liabilities for damages caused by improper and unskilled use, such as:

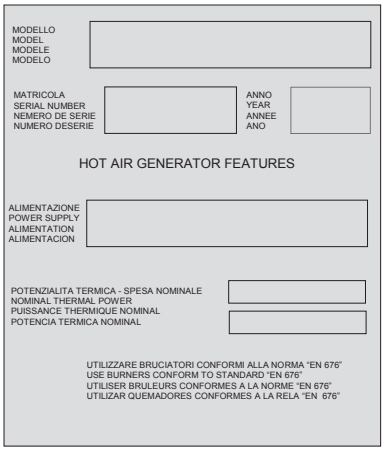
- Use of the oven for baking non-food products
- Improper use of the machine by untrained staff
- Unauthorized modifications or interventions
- Use of non original spare parts or not fitting the model
- Failure to respect instructions (also in part).
- Lack of maintenance

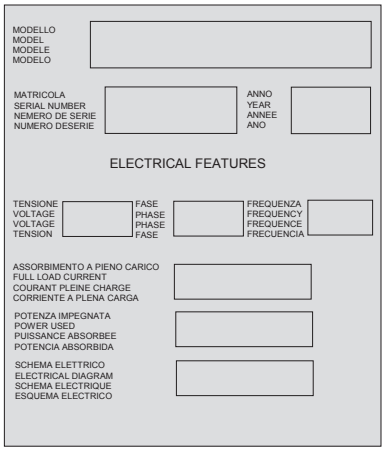
Identification Data

Near every energy inlet (electricity, gas/gas oil…) a plate is applied showing oven identification data (model, serial number,…), technical specifications and power calibration values.

FIG.1







Storage

The machine as supplied must not be stacked on other ovens or goods unless a special support and/or shelter has been installed in order to avoid any deformation

Temperature in the storage area should range from -5°C and +60°C

Humidity caused by weather conditions should in no case generate condensation

The machine and its parts should never been exposed to the bad weather conditions.

Handling

Handling, loading and unloading from the truck should be carried out with a fork-lift or with rope/chain elevator that can bear the machine weight.
When handling the machine with the fork lift, make sure it is secured to the fork lift with strong ropes fixed in the appropriate clamps.

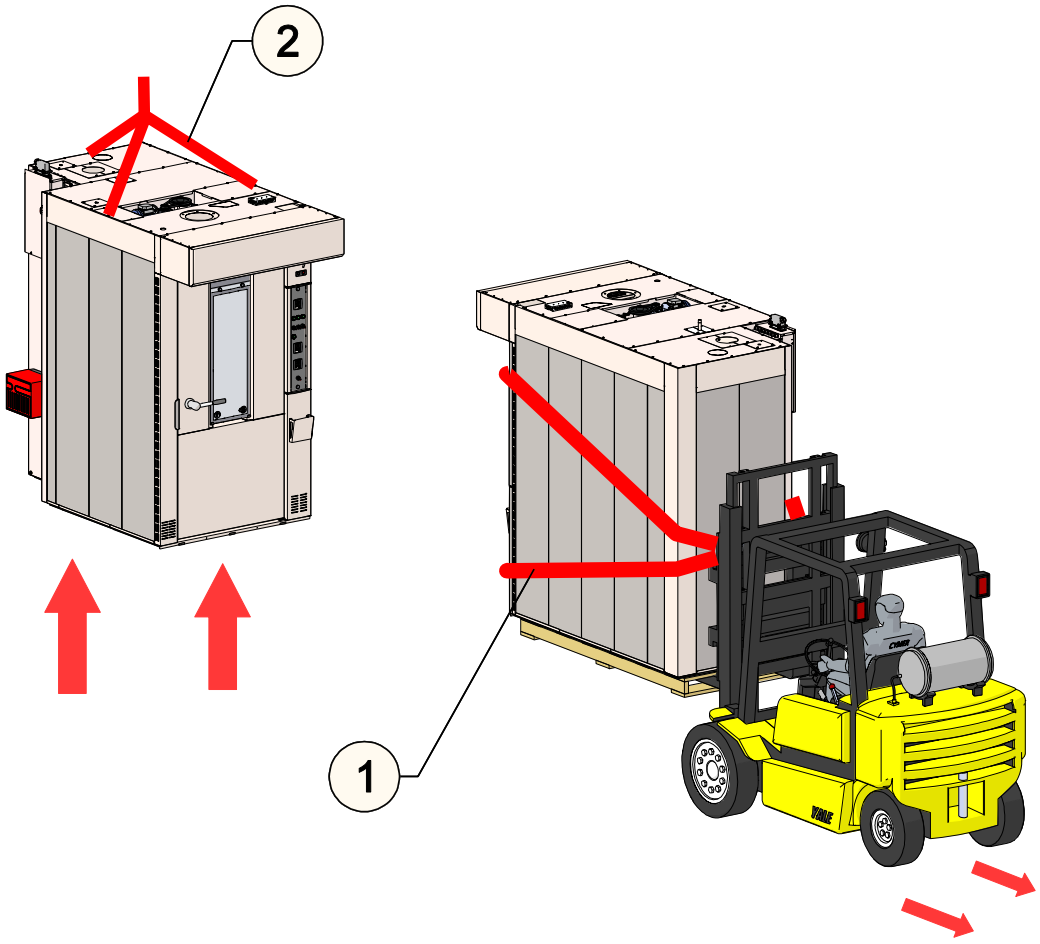
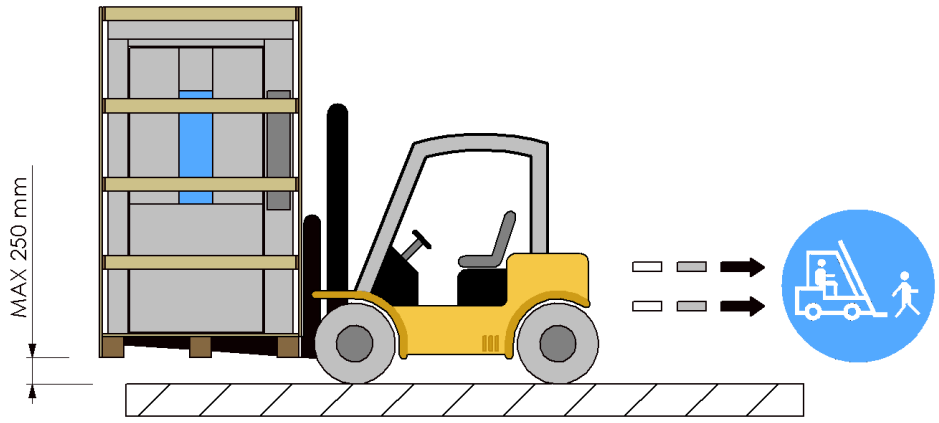


FIG.2

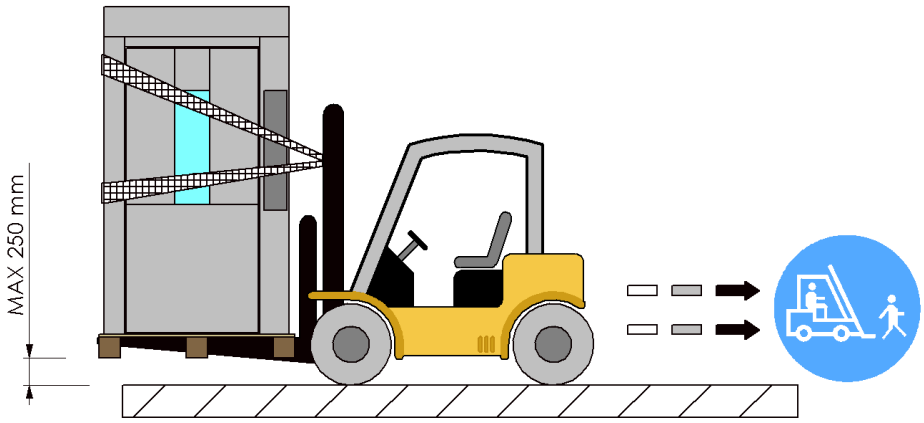
The machine should be moved by qualified and thoroughly trained staff

When handling the machine, take all the necessary precautions to avoid any kind of damages.

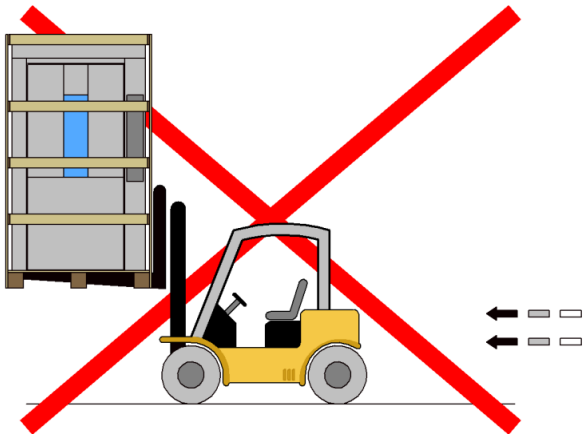
HANDLING



For ovens in create or case



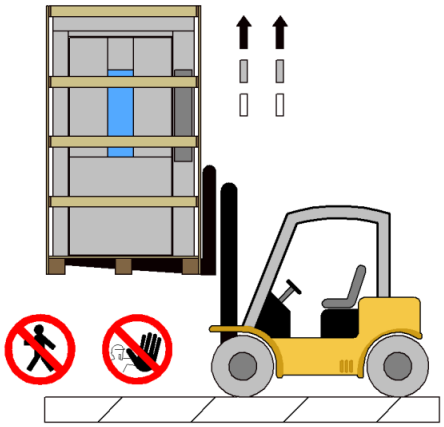
For palletized ovens



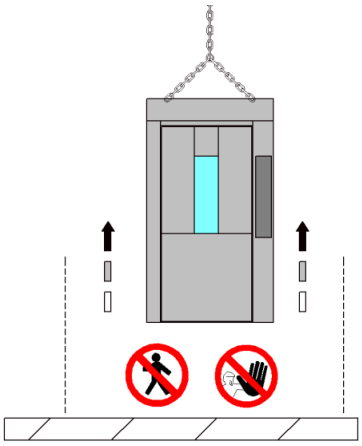
For any type of packing

Warning !! unbalanced load

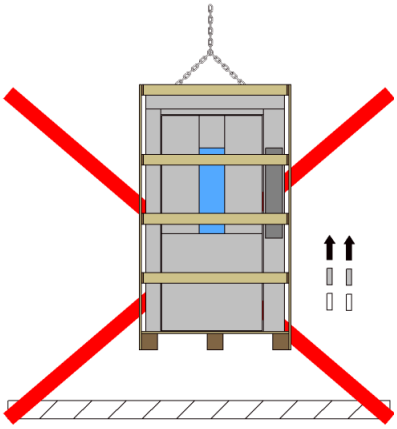
LIFTING



With fork lift handle the oven with any type of packing



With ropes or chains keeping the oven unpacked



Ropes ao chains keeping the oven packed

Warning !! unbalanced load

Shipment

Oven can be shipped, according to contract, in two different ways:
ASSEMBLED OR DISASSEMBLED

ASSEMBLED OVEN

Oven is supplied fully assembled. Only few parts, for shipment and storage reasons, are disassembled and inserted inside the oven. see ATTACHMENT “A”

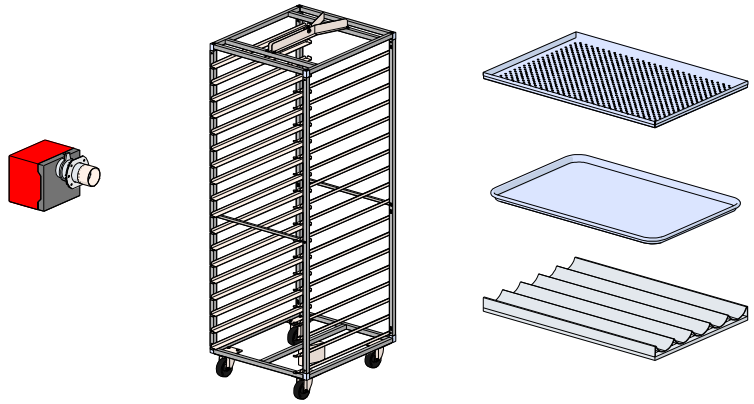
DISASSEMBLED OVEN

Oven is supplied fully disassembled. Oven structure is kept together only by some screws. see ATTACHMENT “A”

SHIPMENT OF ACCESSORIES

The following accessories are not supplied standard, but can be added to the main order.

FIG.3



Out-of-order

TEMPORARY HALT

On occasion of holidays, extraordinary maintenance, where the machine needs to be stopped, follow the instructions here below:

- Turn off power, fuel and water.
- Leave the oven door slightly open to allow a minimum air ventilation and avoid non-hygienic conditions.
- When doing it, also consider the installation of a mouse trap next to the door opening (which should never exceed 5 mm).
- Make sure room to be well ventilated.

Every 2-3 days, start the machine engine for approx. 30’ to make motors run. This is very important to guarantee their duration and proper functioning.

PROLONGED DOWNTIME

For long-term stops, follow the instructions here below:

- Turn off power, fuel and water.
- Thoroughly clean the oven making sure to accurately lubricate all mechanical parts.
- Close oven door
- Wrap the oven with a water-proof cover in order to protect it from dust and animals.
- Position the oven in a dry and sheltered place.

To re-start the oven, contact qualified personnel.

Residual Risks

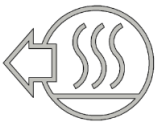
Residual risks are all potential dangers that cannot be partially or totally eliminated, and that can cause damages if operator assumes incorrect working methods/procedures.
Despite all safety devices installed, some residual risks are still present, as described hereafter:

Impact risk

When accessing a baking chamber (for cleaning and/or maintenance reasons) be careful not to bump into the rack supporting hook protruding from the ceiling.

Tripping risk

When accessing a baking chamber (for cleaning and/or maintenance reasons) be careful not to trip into the lower centering pin of the rack protruding from the oven floor.



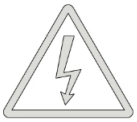
Risk of burns

Although provided with a system that considerably reduces the exit of hot air from oven door, it is recommended that you cautiously open the door while extracting the rack at the end of baking time.
The glass door is also provided with a warning sign.

Risk of burns

While handling hot racks and trays, use protective gloves. Also open and close oven door with protective gloves. The glass door is provided with a well visible sign making this procedure mandatory.

To prevent trapping from inside the oven, door is provided with an internal panic handle.



The oven electrical system has been designed and tested as set out by the law in order to reduce electrical risks as much as possible. Powered parts are marked with the correct sign of danger.

Prevention of accidents

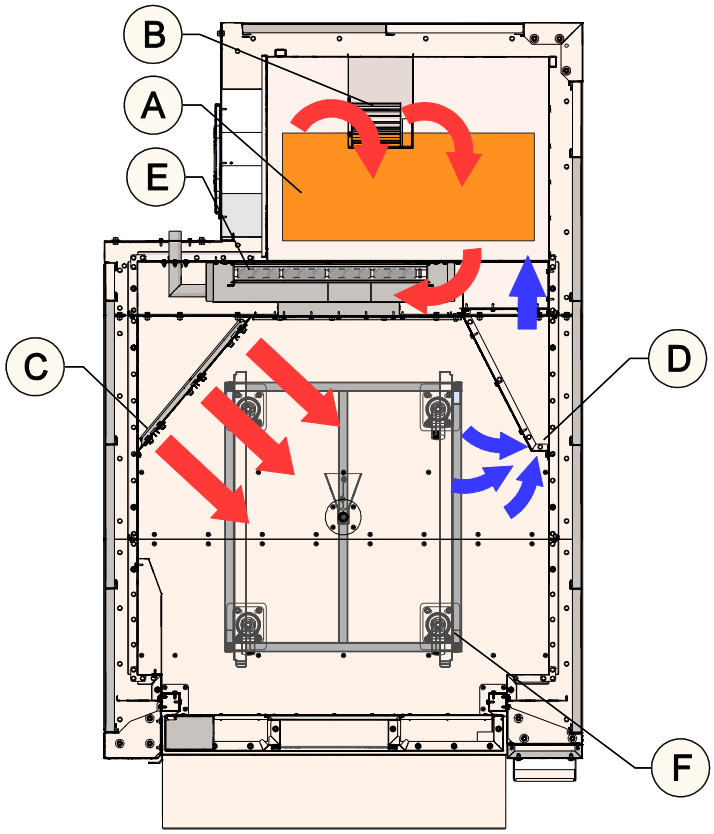
This paragraph lists the appropriate behaviour to follow in order to reduce the risk of accidents.

- Always keep all safety and protection devices of the oven in perfect efficient conditions.
- Use the appropriate protection gloves to handle racks and trays as well as for door opening and closing.
- Should any dangerous situation occur or maintenance be required, turn off the oven power by means of the magneto-thermic switch outside the oven.
- Never stay in front of the door when vapor is injected in the chamber.
- Keep the oven plates, posters and signs readable.
- Make the fumes and steam exhaust system periodically inspected by qualified technicians.
- Only qualified technicians are allowed to work on the burner.
- Keep the premises correctly ventilated.
- Maintenance should be carried out periodically.
- NEVER use the appliance if unauthorized persons are present in the surrounding dangerous areas.
- Before working, make the devices run idle to ensure they work efficiently.

1.3 Technical data

Operation description

FIG.4



The working principle consists in conveying heat to food being baked or defrosted by forcing the circulation of pre-heated air.
By combining correct temperature and speed of the air and the even distribution of heat, the rotor convection oven becomes an ideal equipment for optimum results. The rear wall houses a source of heat (Pos.A) is combined with a fan (Pos.B) which evenly conveys heated air to the compound to be baked by means of special devices (Pos.C). Once exploited, air is exhausted through special slots (Pos.D) and re-conveyed inside the source of heat to be thermally regenerated and put again into circulation.
If needed, oven can be provided with a humidifier (Pos.E) suited for processing and conveying vaporized water under atmospheric pressure to the compound to be baked.
Oven is supplied with a mechanical rack rotating unit with top hoist for manual lifting (Pos.F).
As an alternative, oven can be provided with a rotating platform or with a hoist for automating lifting (which is usually the recommended version for heavy loads).

Data sheet and technical specifications

All dimensions, technical specifications and potentiality of the oven are included in the attached technical data sheet.
see ATTACHMENT “B”

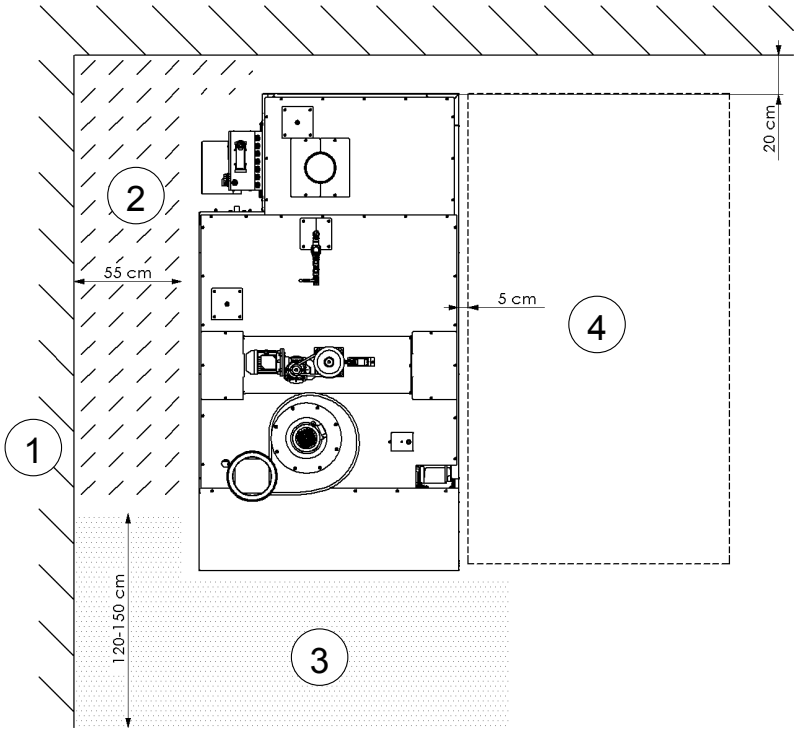
Place Requirements

The instructions given by the manufacturer for a correct installation do not include the qualification of the oven installation area and/or nearby areas. This is the reason why it is recommended to consult a professional technician in order to comply with the local laws and/or regulations in force. Installation areas must be provided with openings large enough to allow the passage of the bulkiest parts of the machine (see the technical specs and data). Premises must be permanently ventilated in order to maintain the appropriate inlet of combustive and ventilation air in compliance with the safety regulations applied to thermal systems. Once defined the oven positioning, the base (floor) must be smooth, flat, heat resistant and leveled to the surrounding area. It must also be suitable to support the weight of the machine. The oven must be positioned far from flammable surfaces. Make sure that room is fitted with all the oven connections as shown in the relevant diagrams, before installing the machine.

User zone

It is important to preserve a free surface area of at least 55cms. all around the oven to allow burner interventions and installation of the panelling.
Double of the above space (120-150cms) must be left available in front of the oven to facilitate processing operations (rack loading/unloading).

FIG.5



1	Room walls
2	Maintenance area
3	Rack loading/unloading area
4	Other machines, if any

Connections

OVEN CONNECTIONS

The electrical, water and thermal connection must be carried out in compliance with the regulations in force.

Connections must be executed by skilled staff who can issue the declarations of conformity as per law.

The room complies with all the eligibility requirements previously described and according to current legislation

For more information, consult the attached documentation on electrical connections.

Electrical connection

Client is responsible and take care of installation, oven power, differential magneto-thermal switch, which needs to be :

- connected to the earth system
- installed at a reasonable distance from the oven
- visible and easily accessible

The electrical system of the room must be rated to the max power absorbed by the oven as shown in the plate. The section of the oven feeding cables must meet the max power absorbed by the machine as shown in the plate.

It is of fundamental importance for safety reasons that the earth system is efficiently working.

It is strictly forbidden to modify and/or tamper safety systems or electrical circuits made by the manufacturer.

HUMIDIFIER FEEDING

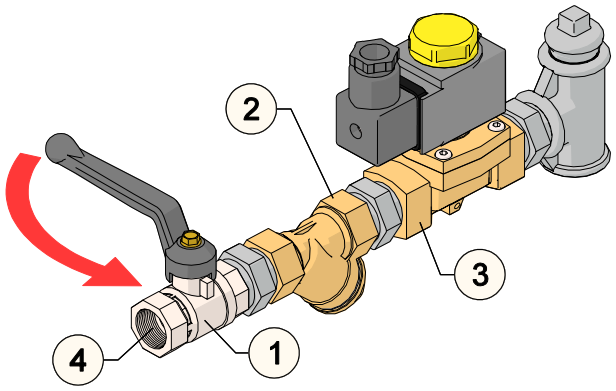
The machine should be connected only to the main water supply and maintain the same pressure. This connection is needed to produce steam under room pressure by means of the humidifier located in the baking chamber.

The feeding pipe diameter and the max/min pipeline pressure values are shown in the technical data sheet of the oven (see attachment “B”).

Should the pipeline pressure be higher, the shutter positioned on the oven (see figure) can be used In case pressure is lower, a water pump unit should be installed for loading water.

It is recommended that you install a water softener on the feeding line in order to prevent the formation of lime deposits.

FIG.6



1 Shutter
2 Filter
3 Solenoid valve
4 Water feeding

HUMIDIFIER DRAIN

Water in excess is discharged through a pipe located in the left rear side of the oven. Diameter and precise position of the drain pipe are included in the technical data sheet. It is recommended that discharge pipes is slightly pointing downwards and does not exceed 2-3mts length.

Unpleasant smells can be avoided by including a syphon in the sewage connection

FUEL

(only for combustion oven)

The dimension of the fuel feeding pipe is carried out as specified in the instructions manual of the burner and in compliance with the current regulations. The diameter described in the technical data sheet is purely a reference value and it should be modified according to external elements such as:

installed power

distance from the gas meter

gas system pressure

BURNER

(only for combustion oven)

The oven has been designed to house burners with the following specifications:

Type :

blown air SINGLE STAGE

Nozzle:

max legth 120 mm

Electric power:

220V single-stage

Burners which do not comply with at least one of the above requirements are not suitable. For more detailed technical specifications, refer to the technical data given by the manufacturer. Installation, calibration, testing and guarantee documentation are taken care by the closest service centre recommended by the burner manufacturer.

Before carrying our any connection, make sure that the burner is suitable with the feeding fuel.

Make sure that burner in use complies with the regulations in force in the Country where it is installed.

Risks for gas leakage should be prevented by installing a gas leak detector connected to a shut-off valve that, whenever needed, can stop gas flow.

DISCHARGE OF COMBUSTION PRODUCTS

(only for combustion oven)

Combustion products are released in the atmosphere through a special fume stack. The fume stack should be installed onto the oven protruding section. The stack and fume duct must be made of thermo-resistant material.

The use of stainless steel ducts is recommended and preferential.

Ideal draught is obtained making sure that the stack top is one meter higher than the surrounding roof ridges, parapets and any other obstacle or structure within a distance of 10 meters. Ensure that pipes are as linear as possible, with very few elbows and long linear sections.

When the burner is on, the smoke stack must guarantee a slight depression in the combustion chamber.

At the bottom of the stack, special openings must be arranged in order to facilitate the sample collection and inspections. A discharge chamber must always be included for each raising element of the stack for the collection of solid combustion materials. The smoke duct and the stack must be built in compliance with the technical specifications set out by the current regulations.

STEAM EXHAUST

Vapour expelled from the baking chamber is released in the atmosphere through the vapour duct which must be installed on the top pressing part of the exhauster.

The vapours discharge duct must not be connected to the fume stack, and must have its own exit which can be near but should not communicate with the combustion fume stack.

We recommend that you build a duct as linear as possible, with very few elbows and long linear sections. At the bottom of each rising element of the vapour exhauster, a collecting chamber must be included with a condensation draining pipe. Special openings must be arranged in order to facilitate inspections and cleaning.

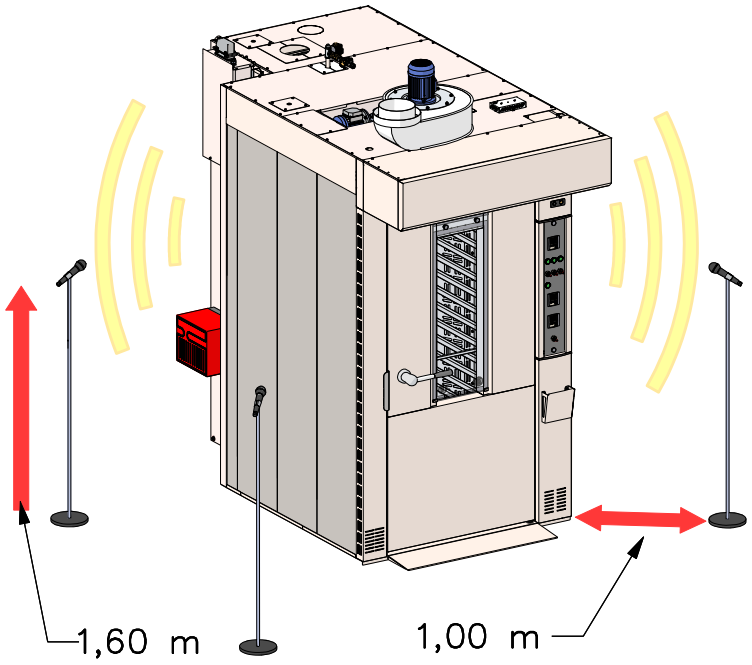
The use of stainless steel ducts is recommended and preferential.

Noise Level

The oven has been designed to reduce risks from noise emissions to the minimum possible. Surveys and inspections done on our ovens at the worst working conditions give the equivalent continuous A-weighted sound pressure to be LOWER than

70 dB (A).

FIG.7



The measurement has been taken at 1.6 mts height from the floor level and 1 mt from the front side

1.4 Demolition

When equipment is no more of use, all its parts must be removed and disposed of according to the current laws applied in the Country of installation. For this reason, the following procedure should be applied:

Have qualified staff disconnecting the electric, hydraulic and fuel feedings.

Start by draining all fluids. The oven should be disassembled by following backwards the instructions included in the chapter "Assembling instructions".

Equipment must be decommissioned by a qualified waste disposal company.

The appointed company should take care of decommissioning the oven, separating and dividing all components by type of material, and send them to their final destination. The insulating material contained in the machine cavities and inside the entrance door must be collected in strong plastic bags and stored in special refuse disposal site.

The insulating material contained in the machine cavities can irritate skin and respiratory system

It is recommended that you wear protective garments including masks and gloves.

DOOR DISASSEMBLY

Instructions to disassemble the door:

- Remove nuts and plates of the door hinges, and take it off its position.
- Remove the internal handle by unscrewing the fixing bolt.
- Detach the lower seal.
- Remove the seals and external glass.
- Remove the door sheet metal by counter-drilling the rivets until you reach the insulating material.

1.5 Accessories

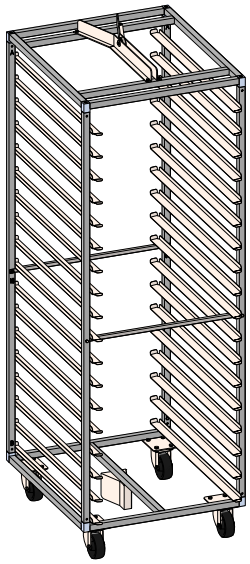
Racks

In convention ovens, the compound to be baked is arranged in trays loaded on the racks and later pushed into the baking chamber. The rack is supplied complete with the pulling system completing the oven system (hooking, platform or automatic lifting system). For all specifications regarding the baking rack, consult the section of this manual on the handling system. The rack can hold 18 (standard) or 15 (tailor made) baking trays.

Always secure trays on the rack with the closing bar in order to prevent that they slide out when loading/unloading in the oven.

Racks should be cleaned with hot water and normal dishwashing detergent.

FIG.8

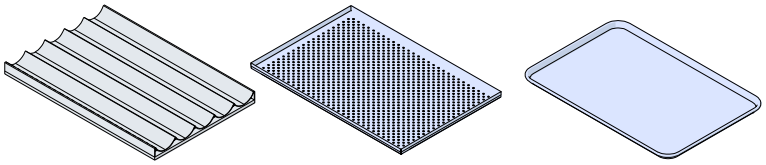


Trays

They are designed to hold the compound to be baked and come in different shapes, materials and coating. We recommend not to use racks loaded with trays of different material and/or shape, because this could compromise baking results. The upper side should be coated with non-stick material to avoid hard maintenance operations and get better hygiene results.

Clean trays with hot water and canvas. Do not use rough or scouring pads for trays with non-stick treatments.

FIG.9



The trays of the picture above can be supplied with or without food-grade non-stick coating. Trays are available: flat, with or without rounded edges, and perforated (on request).

Should you notice that trays non-stick coating is worn, do not try to repair it but contact either qualified regenerating companies or the closest authorized dealer.

1.6 Electrical Equipment

Description

The electrical supply includes:

ENCLOSURE

Pre-painted sheet metal enclosure with hand-operated disconnector with handle; designed to house all the oven control devices. The IP54 enclosure must be secured to the oven with the support provided.

BUNCHED CABLES

Steel-sheathed self-extinguishing bunched cables with tight fittings. The wiring boasts an IP65 protection level.

CONTROL PANEL

Control panel protected by an IP54 pre-painted sheet metal or plastic enclosure.

APPLICATIONS

The fixtures installed on board of the machine (motors, solenoid valve, limit switches) boast an IP54 protection level).

Electrical connection

The machine is provided with an electronic equipment and controls in compliance with the European Directive on Low Voltage and Electromagnetic Compatibility. The power electronic, the presence of autotransformers and/or transformers can generate ineffective earthing current but always within the limits set by the Electromagnetic Compatibility Directive. The magneto-thermal and/or differential protection of the machine must be sized and tested on the basis of the TT or TN distribution system and relevant impedance resistant fault-loop in the installation point as set out by IEC 60364-6-61. We recommend that you install a device with minimum intervention threshold of 300 mA for TT distribution systems and 500 mA – 1 A for TN distribution systems. The line and cable sizing must be carried out in compliance with the technical specifications of the machine and written in the CE plate.

Connections should be made directly on the main disconnector of the machine.

The electrical connection must be carried out by qualified personnel.

We remind that the client is fully responsible for the electrical supply up to the machine terminal board; connection instructions are given in the wiring diagram. The protection level of the electrical panel should not be altered by holes drilled by the client who must always install cable glands or fittings for sheaths.

Electrical Testing

General requirements for electrical appliances in compliance with IEC 60204-1 are listed here below:

a) **Check that the electrical equipment meets the specifications contained in the technical documentation**

b) **Continuity of the protection circuit**

c) **Testing insulation resistance**

d) **Voltage testing**

e) **Functional tests**

Electrical testing must be performed by qualified technicians and with special and perfectly efficient instruments only once the installation has been completed but before start up. Testing results must be filled in the testing form to be kept by the manufacturer. In-house testing is conducted during the test on the machine. Should the oven be shipped disassembled to meet the contract provisions, and be reassembled by the client, the client himself must repeat steps a) , b) and e) of this chaper. As for the continuity test on the equipotential protection circuit, when not conducted at the manufacturer's site, we recommend that you use a multimeter capable to supply at least 200 mA current. The results of the tests conducted must be documented and forwarded to the manufacturing company giving evidence that the verification has been performed.

CONTINUITY OF THE EQUIPOTENTIAL CIRCUIT

The equipotential protection circuit must be sight-examined for compliance with the regulations. Also inspect how tight are fastened connections to the protection conductors. The resistance of each equipotential protection circuit between the terminal board PE and the corresponding points part of each equiptential protection circuit must be measured with at least 0.2 Amp current from a power source electrically separated. We recommend that you do not use PELV power because it can lead to misleading results. Measured resistance must be lower than 0.1Ω.

INSULATION RESISTANCE

When conducting insulation resistance tests, the insulation resistance measured at 500 V DC between the conductors of the power circuit and the equipotential protection circuit must not be lower than 1 MΩ. The test can be performer on individual sections of teh complete elettrica installation.

VOLTAGE TESTING

Max voltage testing should have the double value of the nominal power voltage of the equipment or 1000 V selecting the highest value. Max testing voltage should be applied between the conductors of the power circuit and the equipotential protection circuit for approx. 1 s. Requirements are met when no disruptive discharges occur.

FUNCTIONAL TESTS

The functions of the electrical equipment (limit switches, thermostat, etc.) must be tested. Consult the chapter “Functional Testing” for mor specific instructions on running tests. The functions of the electric safety circuits (motor protectors magneto-thermal switch, etc.)

TEST REPETITION

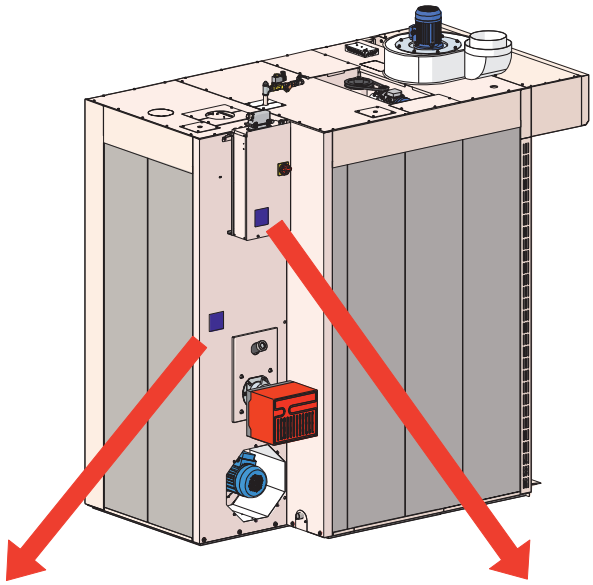
When a part of the machine and its related fittings are replaced or modified, they must be re-tested following the requirements provide in this chapter.

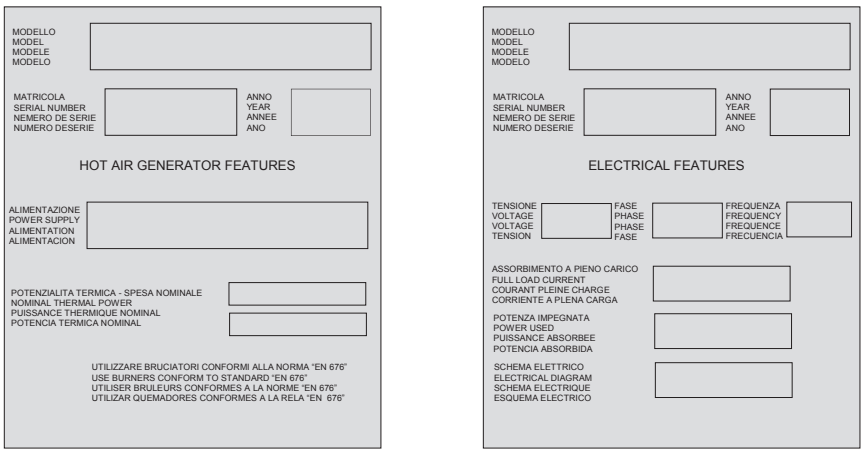
Electrical Data

FEATURES TABLE

The plate shows the nominal specifications referring to voltage, phases, frequency, absorbed current, power

FIG.10





FEATURES TABLE

Electromagnetic environment immunity EN 61000-6-2 and EN 61000-6-4	industrial	
Expected short circuit current at the power supply point of the machine	≤10	kA
Power supply earthing connection	TN	
Neutral switch-disconnector	n.a.	
Max impedance of the earthing connection at the point of installation (TN systems)	2,15	Ω
Power surge fittings of the machine power supply conductors	Client's task	
Room temperature	+5°C -40°C	°C
Max height	1000	m/slm
Relative humidity	< 50% (T_{amb} = 30°C) < 95% (T_{amb} = 25°C)	
Max allowed internal over-temperature versus internal temperature of 35°C	10	°C
Electrical cabinet protection level	IP54	
Control panel protection level	IP54	
Cabling protection level	IP65	
Motor protection level	IP54	

1.7 Wiring Diagram

see ATTACHMENT "F"

chapter 2

Installation

2.1	**Start-up**
2.2	**Assembly**
	Baking chamber assembling Casing Assembly Covering assembly Final assembly

2.1 Start-up

The oven must be installed by a technician authorized by the oven manufacturer.

Carefully comply with all accident-prevention regulations

Check that the premises are in conformity with the safety and stability parameters previously indicated

The floor must be flat, levelled and heat-resistant
Walls next to the oven must not be inflammable
Remove the packing and check the content integrity.
In case of doubts, contact the supplier.
Packing materials (wooden case; cardboard box; nails, staples, plastic bags, etc.) which are potential sources of danger and pollution, should not be abandoned but deposited in appropriate areas.
Empty the oven of all the materials in it.

Check the integrity of its content.

Depending on the version decided when ordering, the oven can be supplied :

- ASSEMBLED

Fully assembled oven. Given handling problems, only few parts are not installed. To finalize assembly of the oven, go directly to FINAL paragraph of this manual.

- DISASSEMBLED

The oven is supplied only partially assembled. This allows you to divide it into three parts to facilitate its final positioning.

2.2 Assembly

Baking chamber assembling

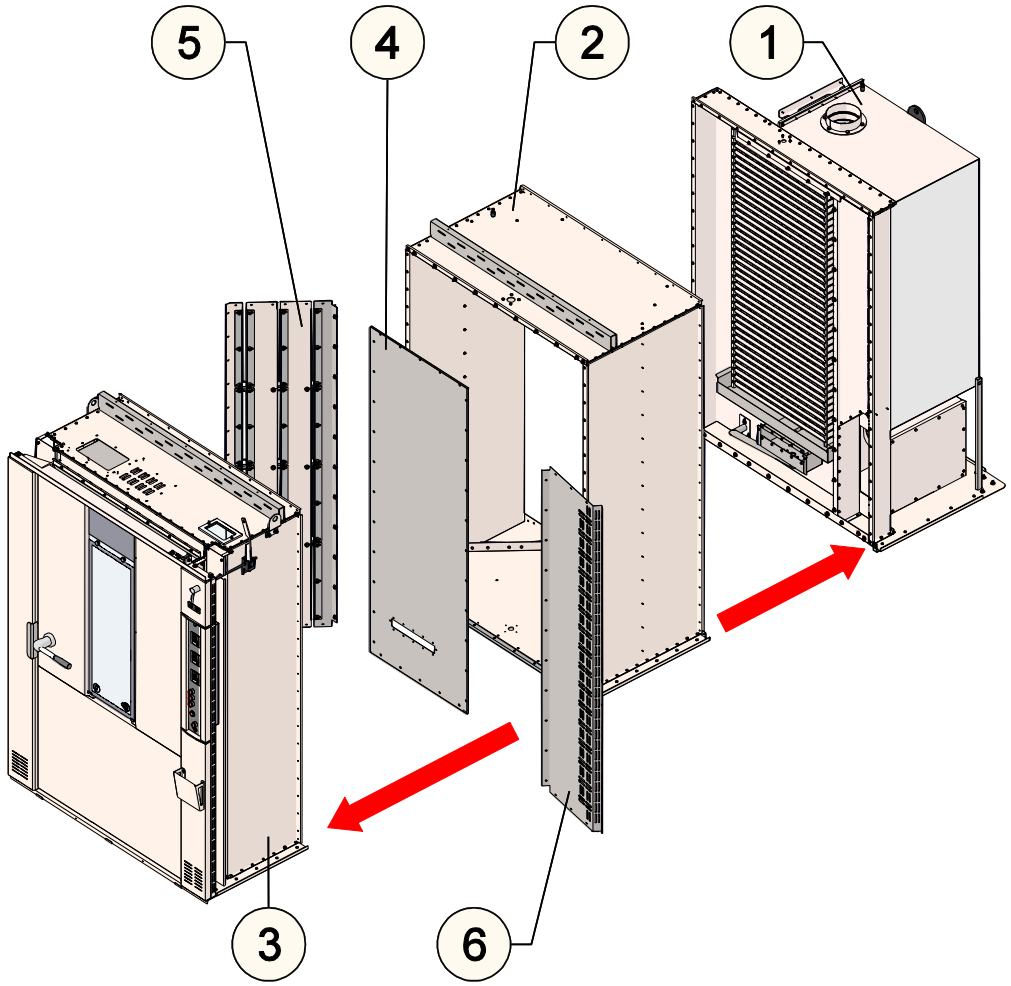
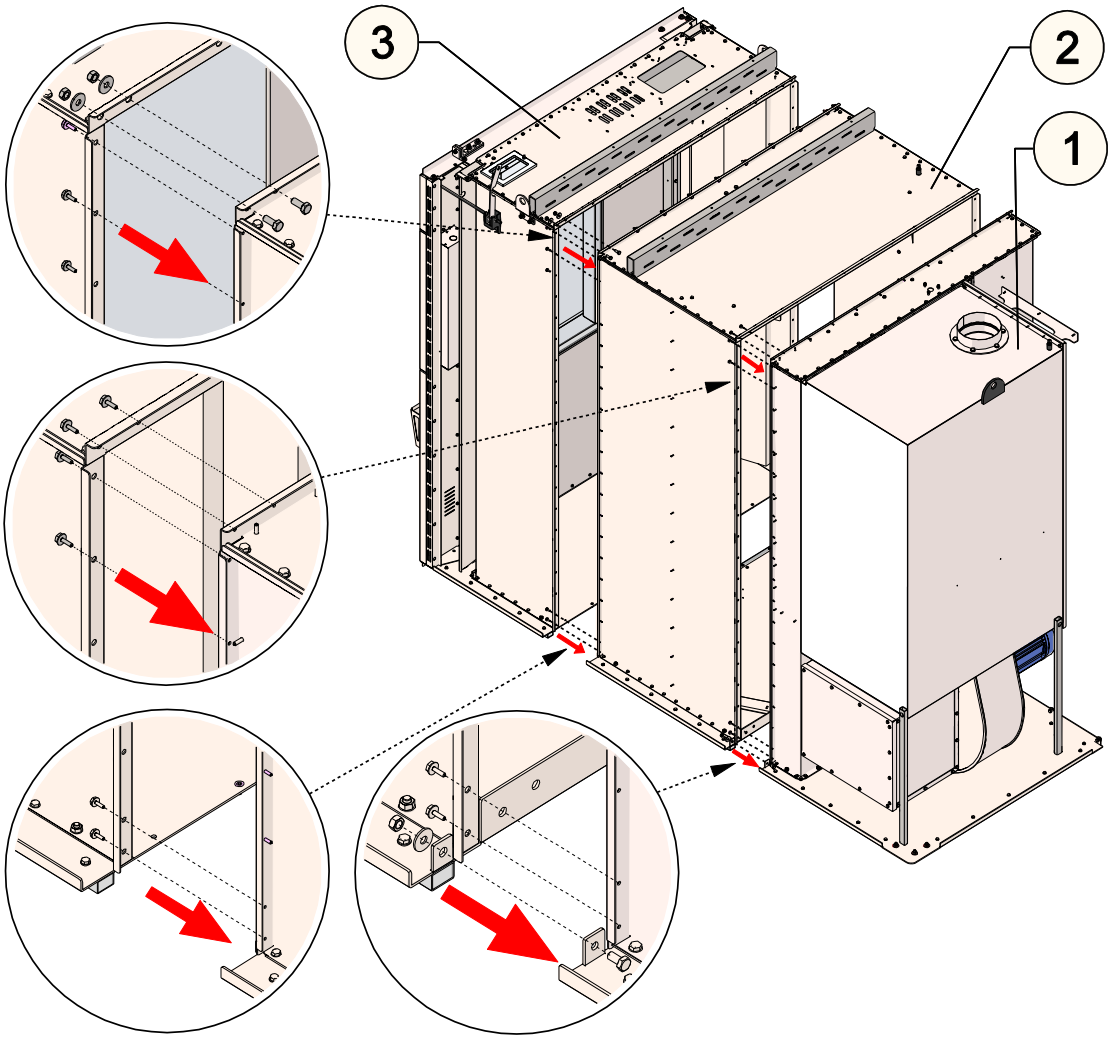


FIG.1

When handling parts to be assembled, wear protective gloves.

Remove the lower closing sheet of steam generator (Pos.4).
Remove internal air circulation slots (outlet sheet Pos.5 and return sheet Pos.6) .
Split the three oven units (rear Pos.1, centre Pos.2 and front Pos.3) which are kept together by some screws.
Unscrew them to separate the three oven units.

FIG.2



Place the rear unit of the oven in its location. (Pos.1)

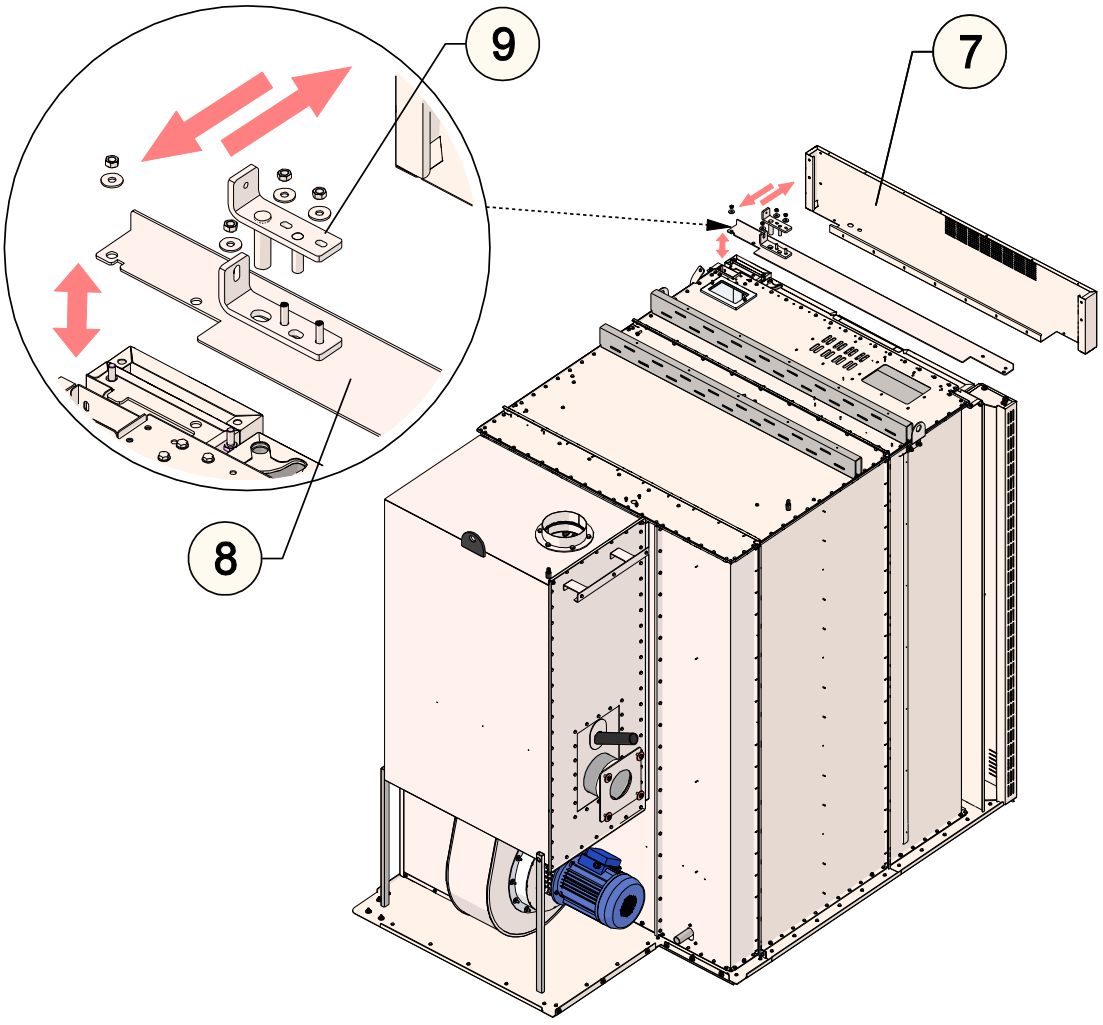
Lay a sealing rim on the perimeter joining base, side walls and ceiling.

Position the central part (Pos.2) and join it to the rear part, with self-threading screws (along the side walls and the ceiling) and screws M6 (along the base).
Put the front unit (Pos.3) and the central unit together.

Lay a sealing rim between the two perimeters.

Fix the two units with self-threading screws (along side walls), screws M8 (along the ceiling), and countersunk screws M6 along the floor.
Tighten and fit well.

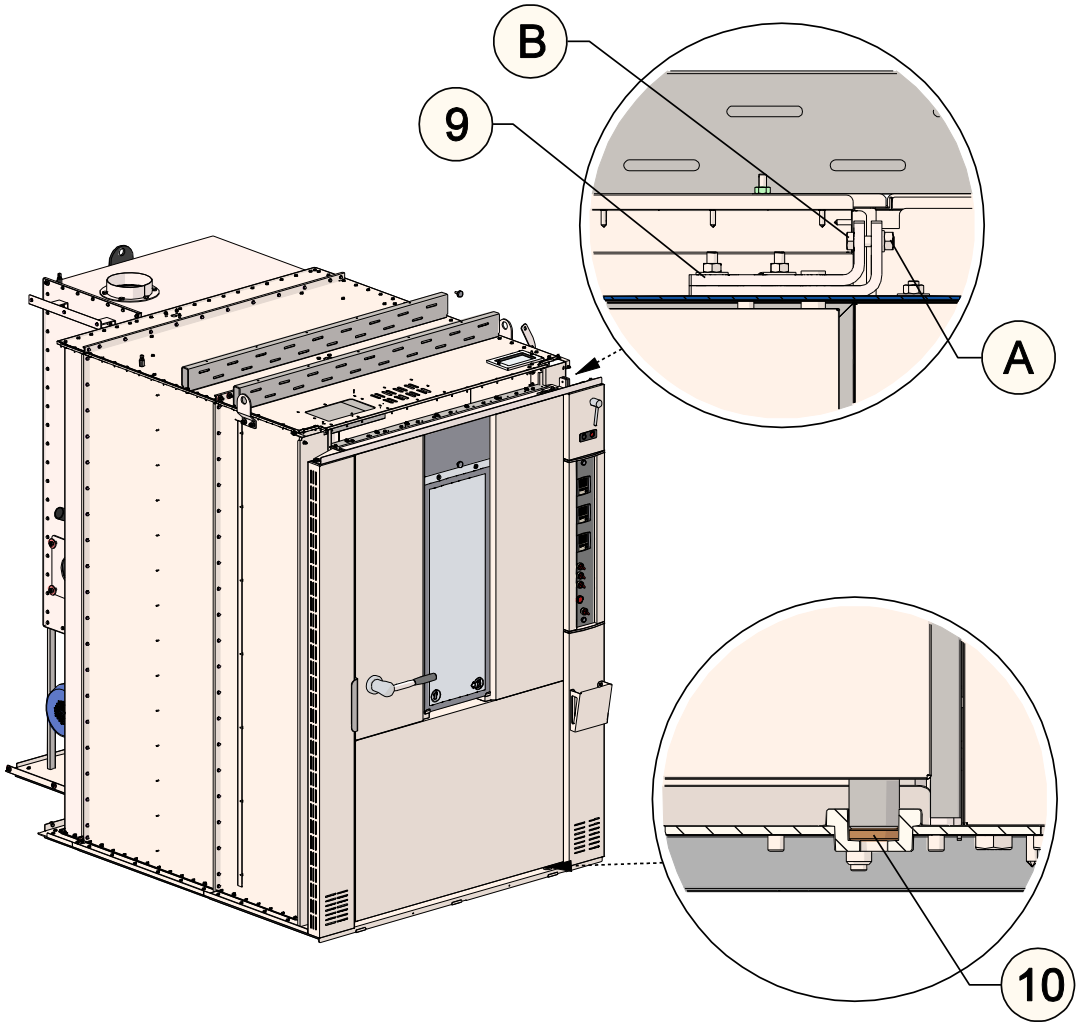
FIG.3



Check the stability of the oven.

Temporarily remove the door reinforcing support (Pos.8) and the door upper hinge (Pos.9) which help support the oven door during transport but must be removed when assembling the framing.
Place the framing (Pos.7)
Re-place the door reinforcing support (Pos.8)
Tighten and fit well.

FIG.4



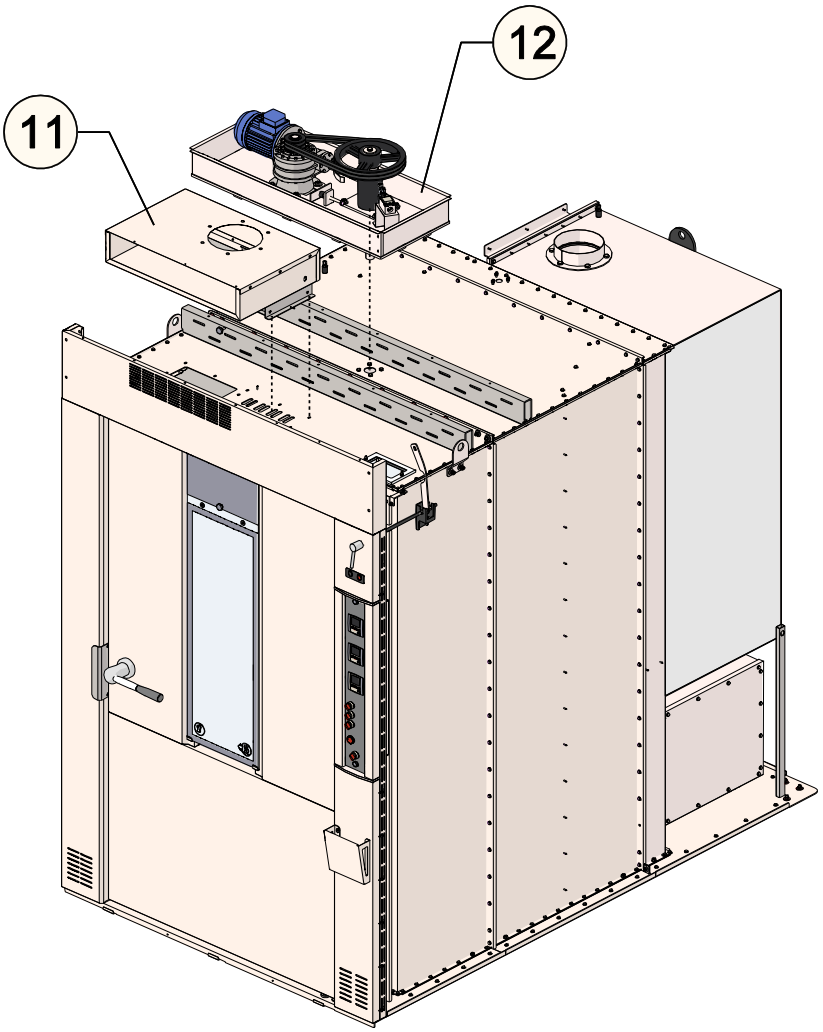
Place the door and fix it with the upper hinge (Pos.9).

Check stability of the door in all possible positions.

Should you need to adjust the door trim, make use of the adjusting screw positioned on upper hinge of the door

Loosen the rear nut (Pos.A)
Act on regulation screw (Pos.B) to obtain the correct door trim.
Fix definitively the adjustment by tightening the rear nut (Pos.A)
Check the bronce bushing (Pos.10) under the lower pivot of the door.
This bushing is of great importance to avoid early wear and tear of door lower pivot.

FIG.5



Lay a sealing rim on box flange of the steam exhauster. Place the box (Pos.11) and fix it with the corresponding self-threading screws.

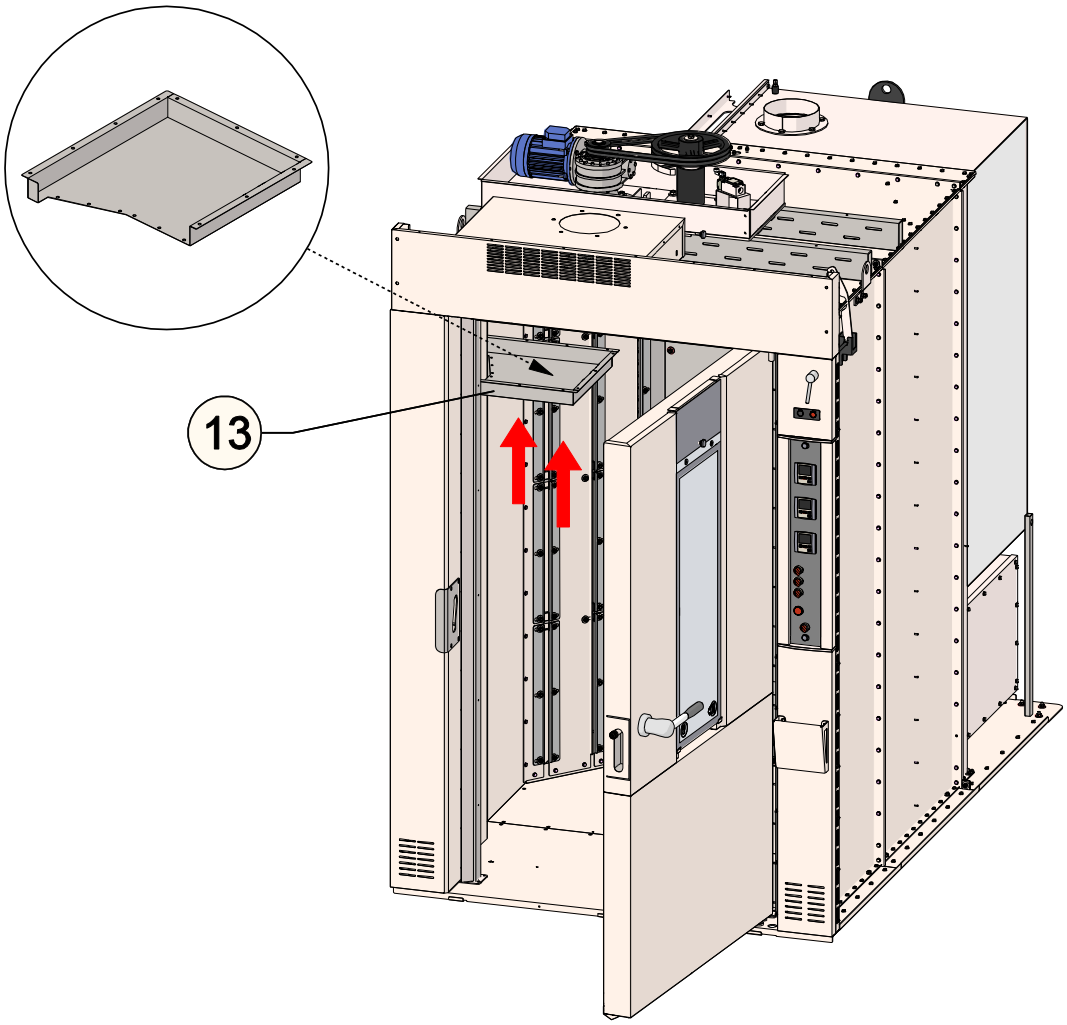
For further details on the steam extraction system see annex “C”

Install the rack rotation unit (Pos.12). Place it on the pre-arranged ceiling supports of the oven and fix it with the nuts supplied.

Compact and press the thermoinsulating material in the cavity between the oven ceiling and the handling unit to prevent wearing out the rotation gears.

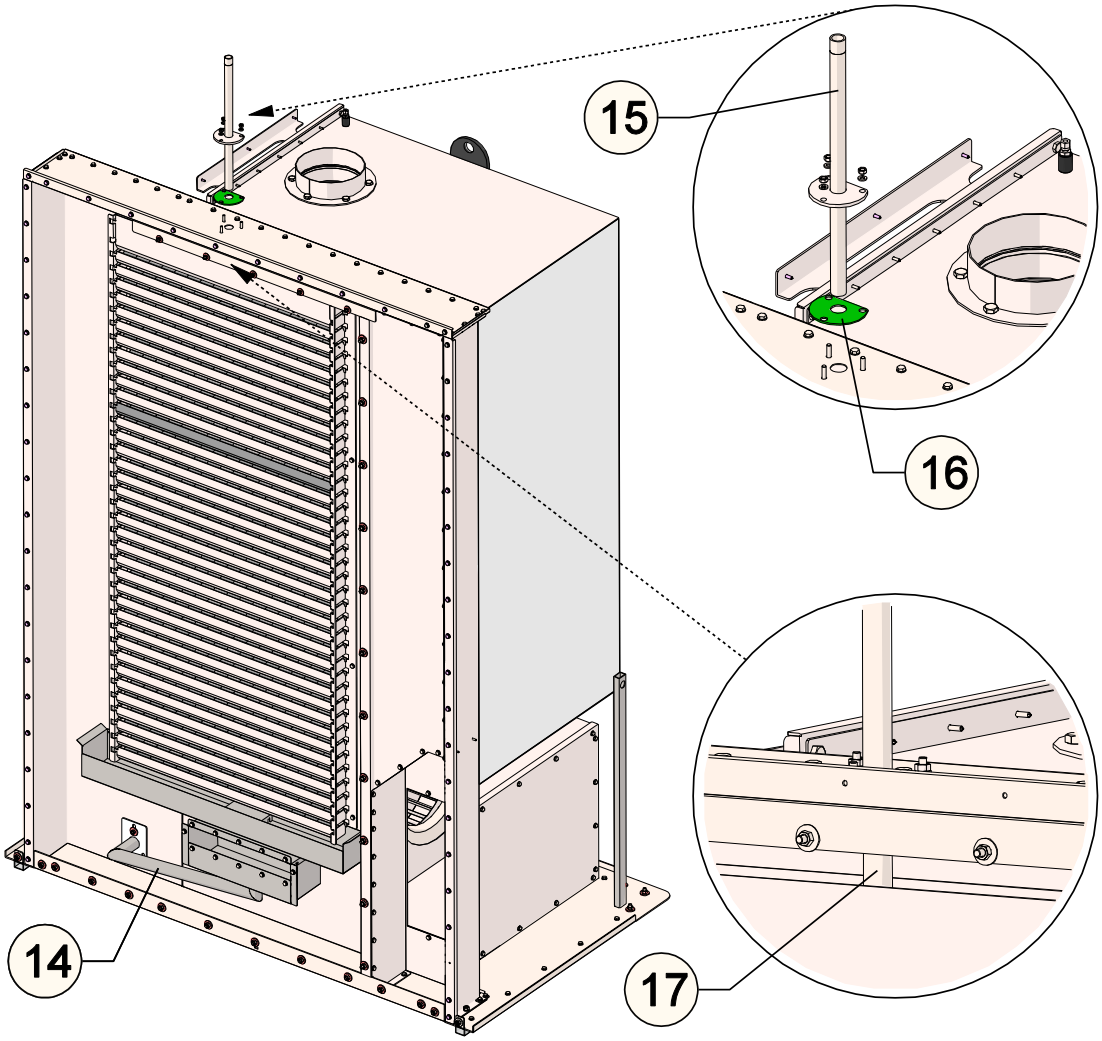
For further details on the rotation system see annex “D”

FIG.6



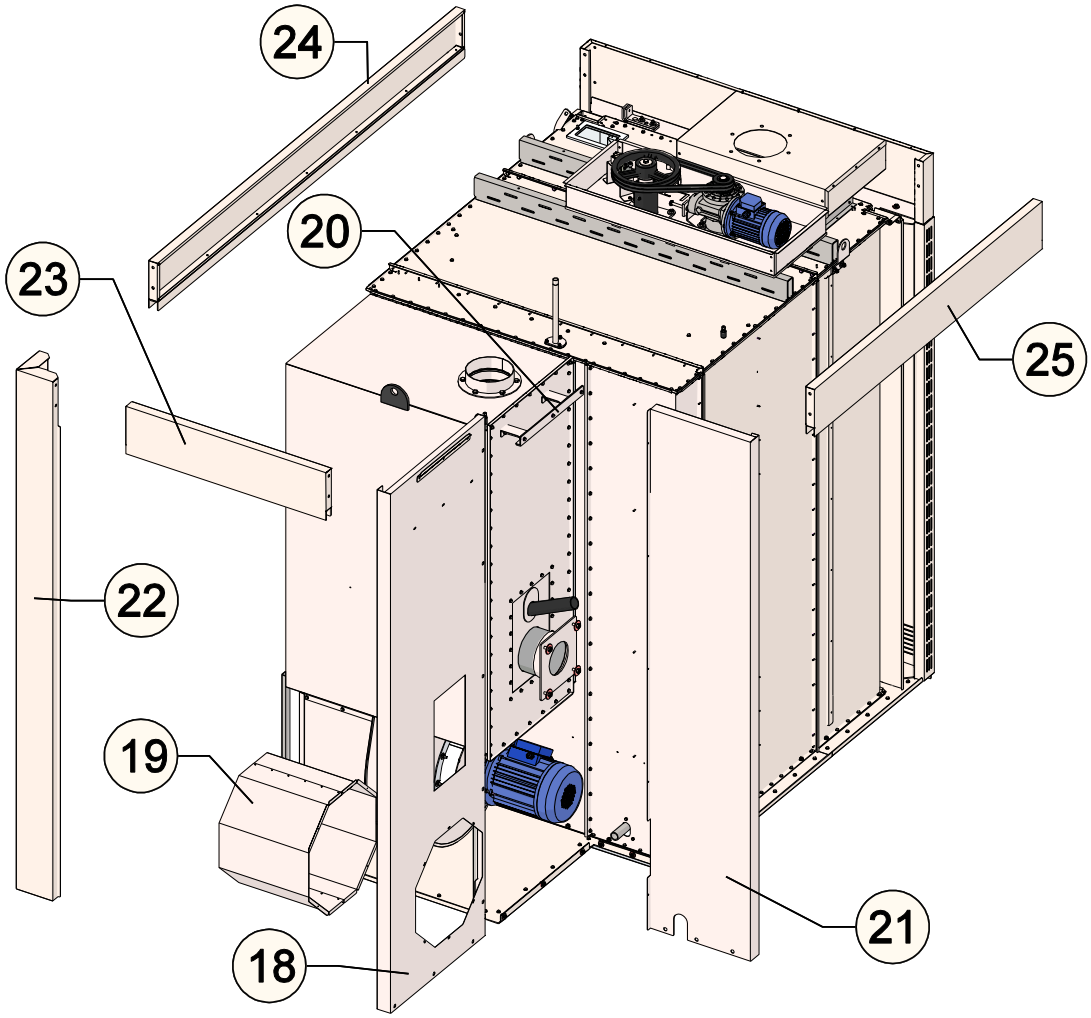
After having positioned the steam extraction box, install the sheet metal internally closing the cooking chamber (Pos.13).
Carefully seal the above mentioned sheet metal applying a bead of heat-resistant silicone all along the junction perimeter.

FIG.7



Despite the in-house pre-assembly, we recommend to check the correct installation of the humidification system.
Check position and fixing of water drainage pipes (Pos.14)
On the rear part of oven ceiling, install the water inlet flanged pipe (Pos.15), interposing the gasket supplied (Pos.16).
Make sure that this pipe is inserted in the upper hole (Pos.17) of the steam generator.
Complete baking chamber assembling by repositioning the three air circulation slots.
Consult annex “E” for all assembly, testing, and maintenance operations concerning the hunmidifier.

FIG.8



Hook the “pre-painted panel” (Pos.18) (complete with the ventilator insulating tube Pos.19) and position it between coating spacing profile (Pos.20) and oven base.
Starting from the bottom part of the heat exchanger, compact the rockwool contained in the bags and press it into the cavities of the structure.
Position the external rear column (Pos.22) and fix it to the base.
Install the upper cross beams (Pos.23-24-25).

Casing Assembly (for combustion oven)

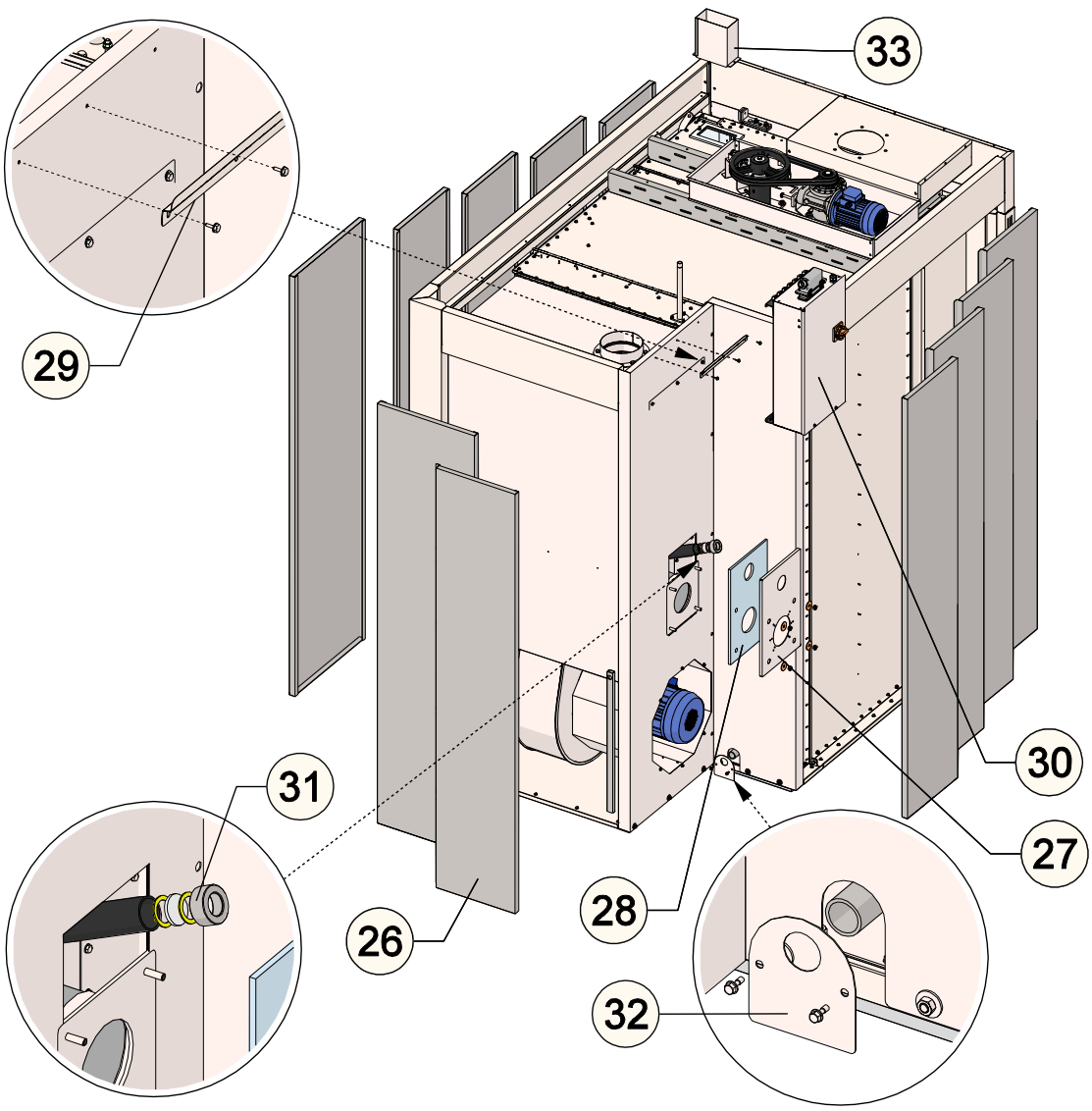
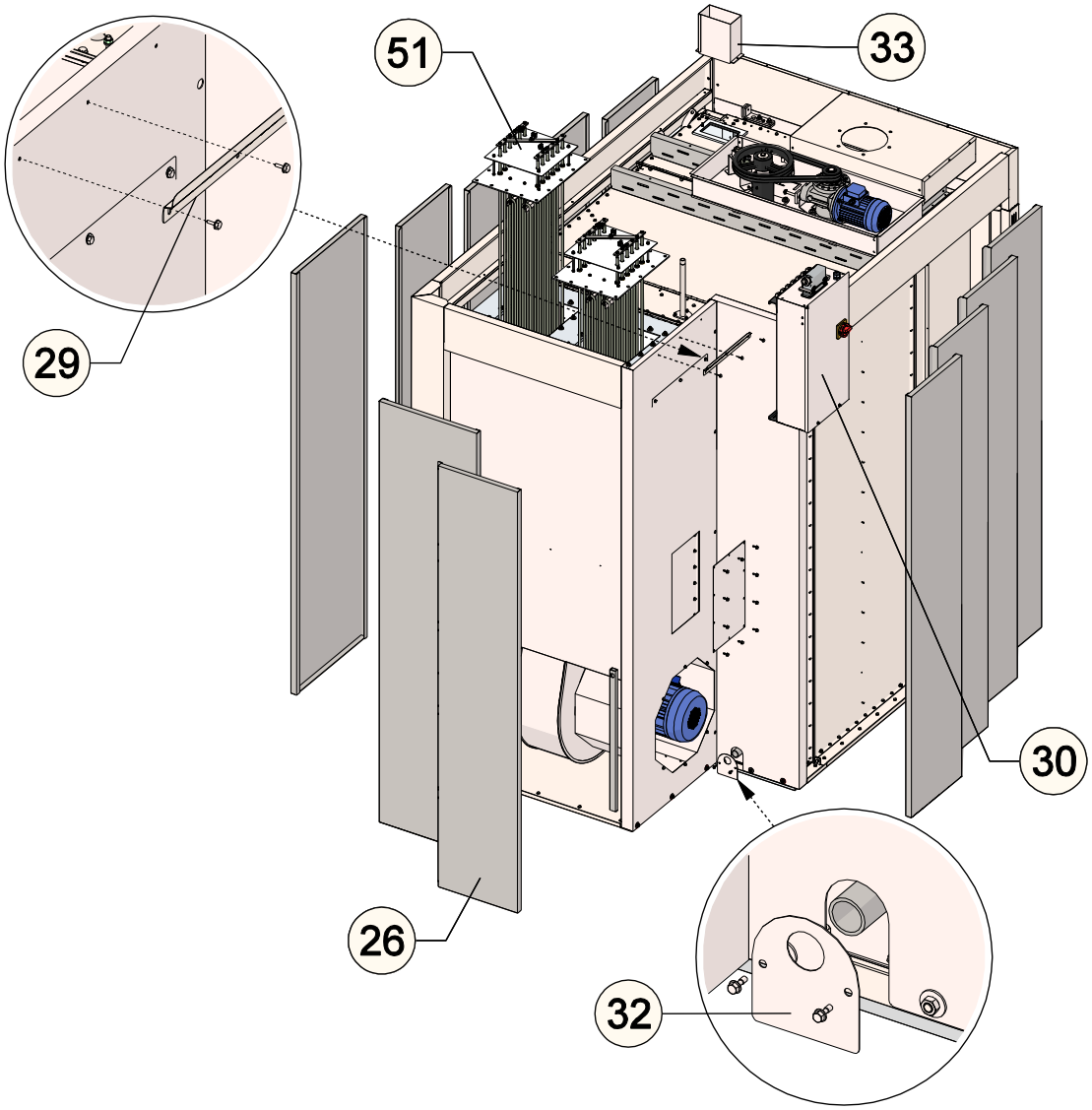


FIG.9-G

Install the external panels (Pos.26) inserting thermoinsulating material between them and the oven sides.
Continue installation of panels maintaining the panel / insulation alternation.
The diagram inserted in annex "A", includes, in addition to all the dimensions of the various panels, also the correct sequence to be observed for installation the panelling
Position and secure with screws the cover flange of the water drain hose (Pos.32).
Place in correspondence with the light glass the insulating containment tube (Pos.33).
With the remaining rockwool bags continue to insulate the upper part of the oven. Press the thermoinsulating material in all cavities.
Secure the burner support plate Pos.27) with insulation (Pos.28) onto the “pre-painted burner panel”
Screw the ring-nut complete with glass and gaskets (Pos.31) onto the inspection pipe of the combustion chamber
Always fix the supporting profile (Pos.29) of the electric box onto the "pre-painted panel”.
Hook the electric box on the profile (Pos.30)

Casing Assembly (for electrical oven)

FIG.9-E



Install the external panels (Pos.26) inserting thermoinsulating material between them and the oven sides.
Continue installation of panels maintaining the panel / insulation alternation.
The diagram inserted in annex "A", includes, in addition to all the dimensions of the various panels, also the correct sequence to be observed for installation the panelling
Position and secure with screws the cover flange of the water drain hose (Pos.32).
Place in correspondence with the light glass the insulating containment tube (Pos.33).
With the remaining rockwool bags continue to insulate the upper part of the oven. Press the thermoinsulating material in all cavities.
Insert the battery of resistors (Pos.51) in the heating chamber by carefully applying their flange with silicone.
Always fix the supporting profile (Pos.29) of the electric box onto the "pre-painted panel".
Hook the electric box on the profile (Pos.30)

Covering assembly (for combustion oven)

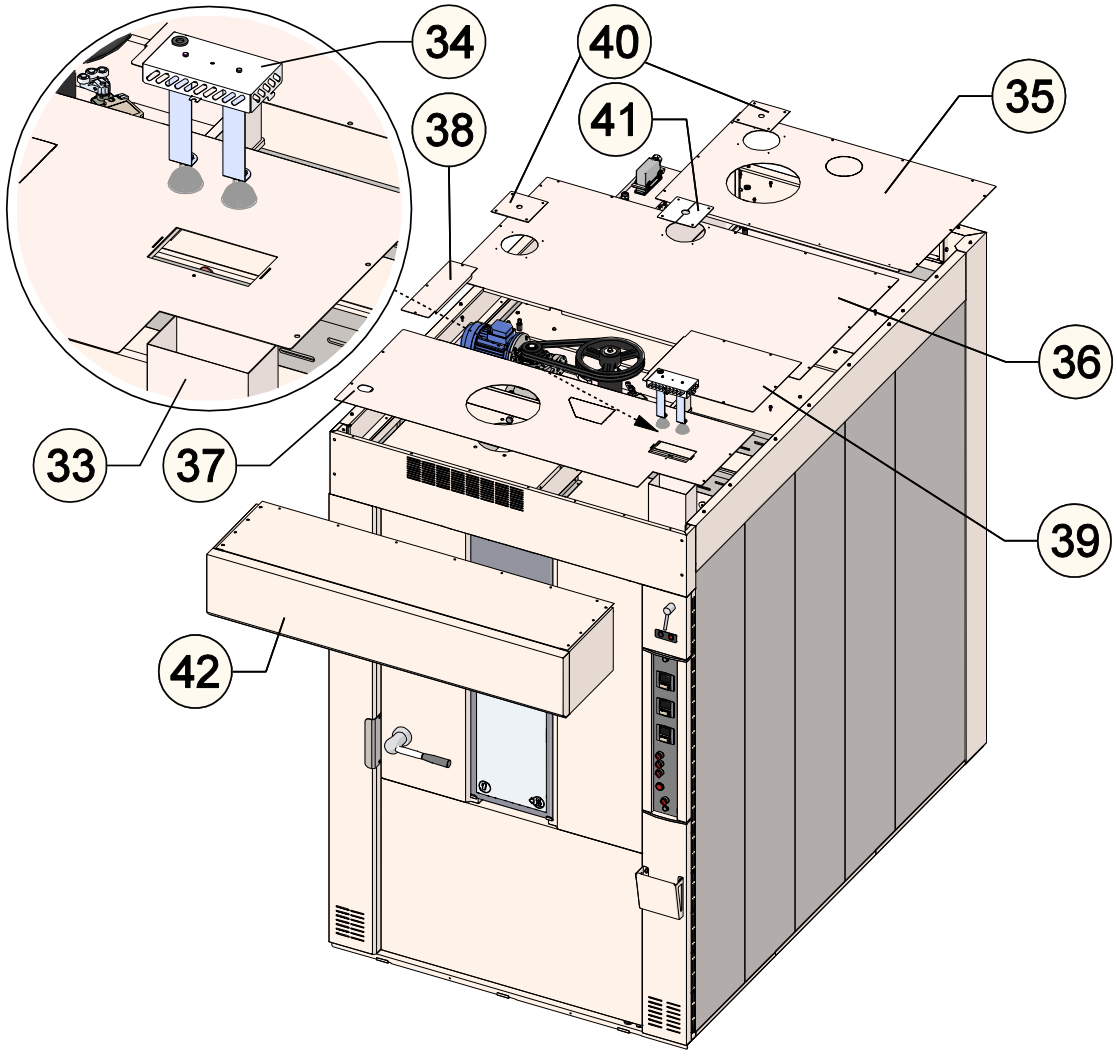


FIG.10-G

Install the covering following the sequence: combustion chamber (Pos.35); rear covering (Pos.36); front covering (Pos.37); left and right panels (Pos.38-39).
Install the covering following the sequence: combustion chamber (Pos.35); rear covering (Pos.36); front covering (Pos.37); left and right panels (Pos.38-39).
Probe covers (Pos.40) are secured to the covering after their connections have passed through the hole and positioned in the arranged housing.
Fix the closing covering of the water inlet pipe (Pos.41)
Mount oven lamp (Pos.34) on the relevant bracket.
The diagram included in annex "A", shows the dimensions of each individual part of the cover.
Refer to the above diagram for the recognition and proper installation of the various pieces of the cover.
Position the hood (Pos.42) and fix it to the framing.
Fix the electrical system sheaths to the oven casing by means of the brackets supplied.

Covering assembly (for electrical oven)

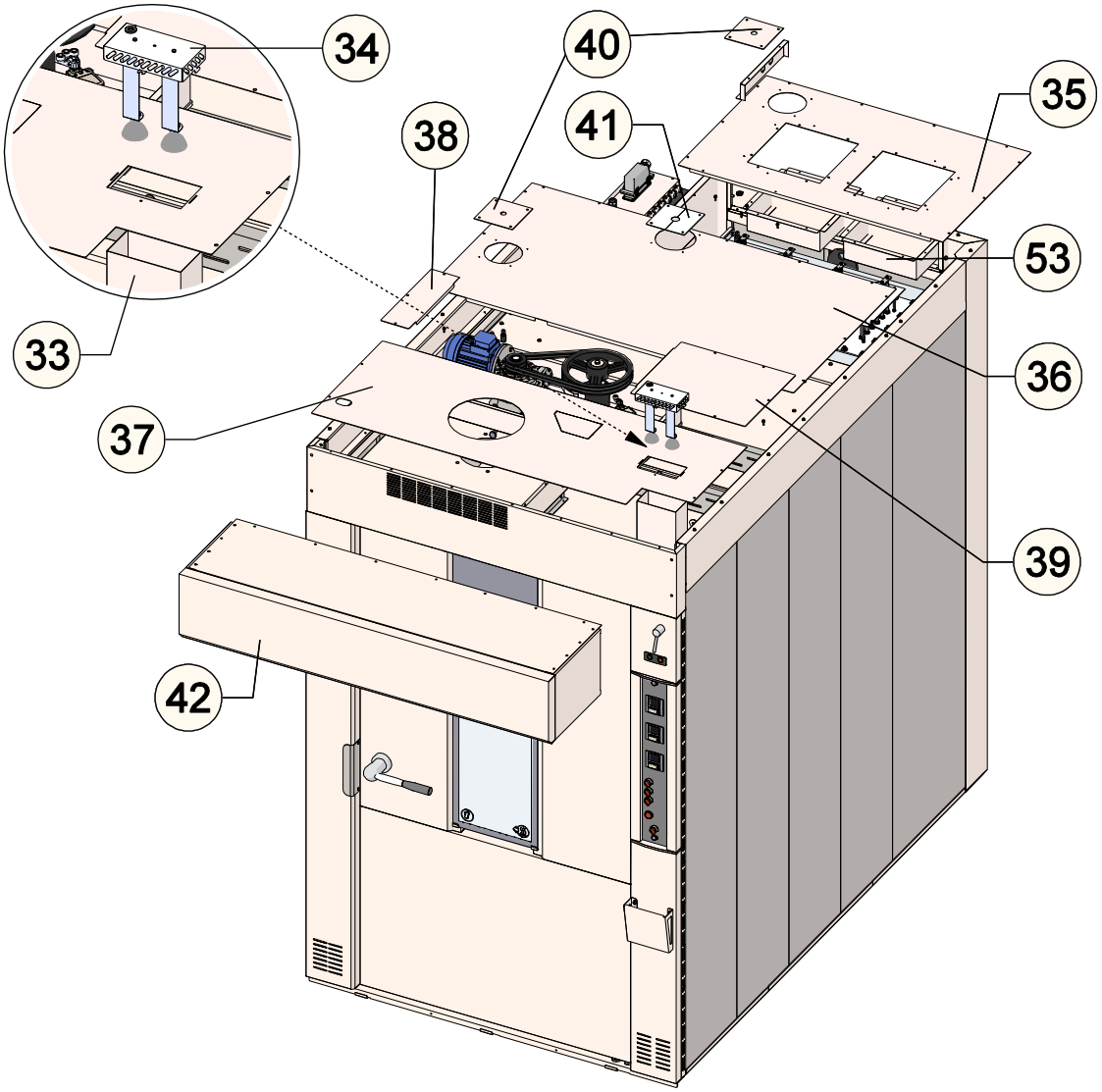


FIG.10-E

Attach the insulation containment of resistances (Pos.53) to the back cover (Pos.35) and place the aforementioned coverage in its final location.
Then place the details of the cover remaining in the sequence: central cover (Pos.36); front cover (Pos.37); right compensation (Pos.39) and left compensation (Pos.38).

Install the covering following the sequence: combustion chamber (Pos.35); rear covering (Pos.36); front covering (Pos.37); left and right panels (Pos.38-39).
Probe covers (Pos.40) are secured to the covering after their connections have passed through the hole and positioned in the arranged housing.
Fix the closing covering of the water inlet pipe (Pos.41)
Mount oven lamp (Pos.34) on the relevant bracket.
The diagram included in annex "A", shows the dimensions of each individual part of the cover.
Refer to the above diagram for the recognition and proper installation of the various pieces of the cover.
Position the hood (Pos.42) and fix it to the framing.
Fix the electrical system sheaths to the oven casing by means of the brackets supplied.

Final assembly (for combustion oven)

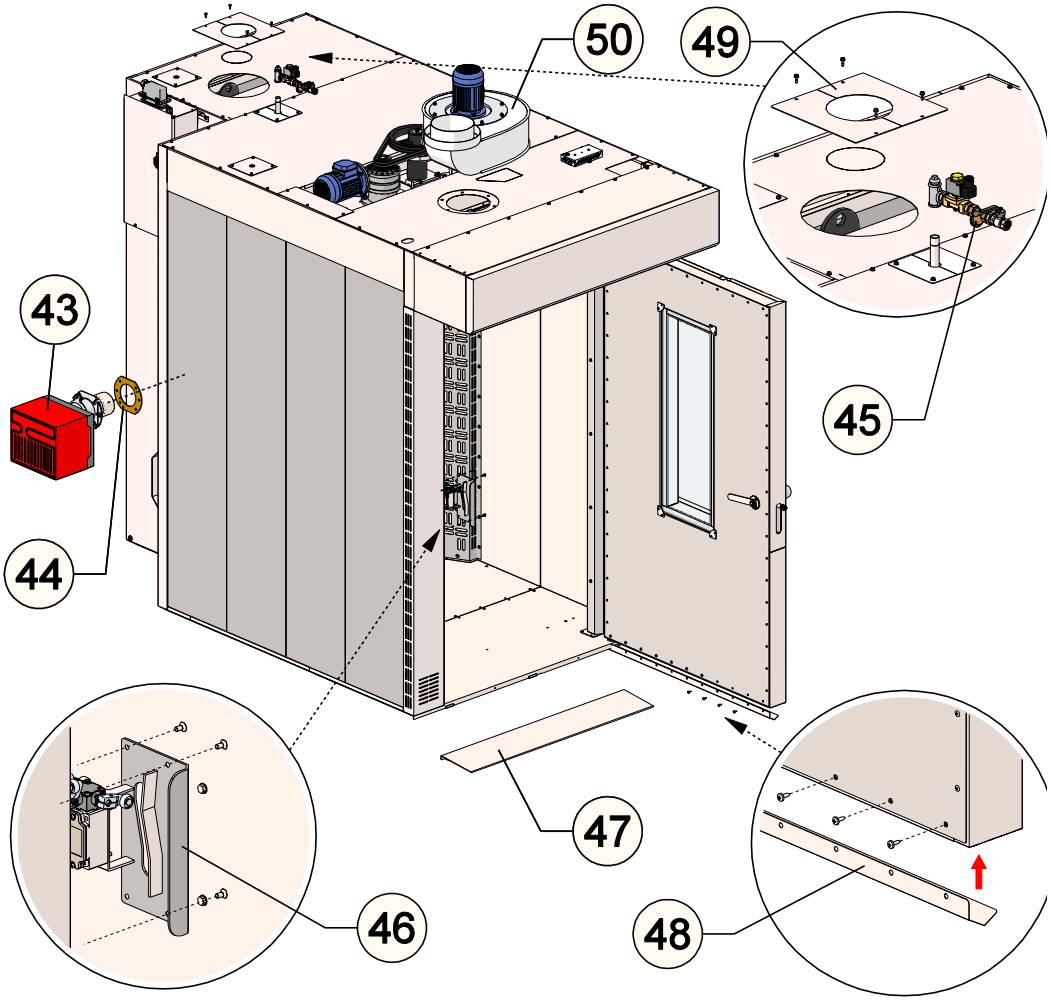


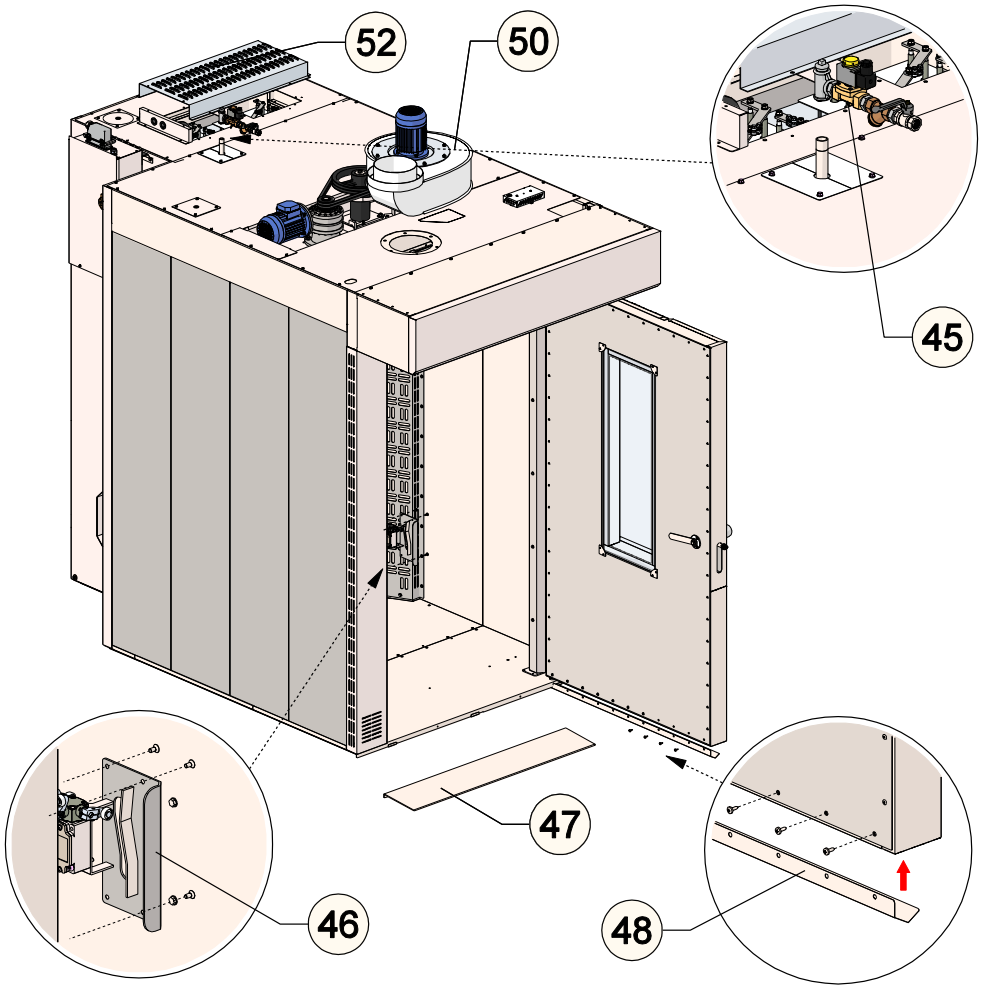
FIG.11-G

Check if the burner is compatible with the fuel fired.

Once you have inserted the insulating bracket (Pos.44) contained in the packing, fix the burn (Pos.43) to the supporting plate.
Connect the inlet unit (Pos.45) consisting in solenoid valve, filter and shutter to the water inle pipe.
Fix the closing cover for the fume exhausting stack (Pos.49).
Position and fix the steam exhauster (Pos.50)
Following the oven wiring diagram (Attachment "F") connect all the utilities (motors, solenoid valve, lights etc.)
To get to the limit switch remove the protection plate (Pos.46) on the oven column.Hook the r raising ramp (Pos.47)Accurately remove the special protective films from pre-painted stainles steel sheets.Close the perimeter connecting base and ground with a sealing rim.Position the identification plates.Install and fix the lower door gasket (Pos.48) with self-tapping screws.This gasket has to be placed between the door internal sheet and the door itself.Ensure if carried c and, if needed, seal the internal riveting of the oven door.Ensure that all the oven connections have been correctly made in compliance with the technical specifications included in the instructions manual.

Final assembly (for electrical oven)

FIG.11-E



Connect the inlet unit (Pos.45) consisting in solenoid valve, filter and shutter to the water inlet pipe.
Position and fix the steam exhauster (Pos.50)
Place the casing cover of the resistances (Pos.52)
Following the oven wiring diagram (Attachment "F") connect all the utilities (motors, solenoid valve, lights etc.)
To get to the limit switch remove the protection plate (Pos.46) on the oven column.Hook the rack raising ramp (Pos.47)Accurately remove the special protective films from pre-painted stainless steel sheets.Close the perimeter connecting base and ground with a sealing rim.Position the identification plates.Install and fix the lower door gasket (Pos.48) with self-tapping screws.This gasket has to be placed between the door internal sheet and the door itself.Ensure if carried out and, if needed, seal the internal riveting of the oven door.Ensure that all the oven connections have been correctly made in compliance with the technical specifications included in the instructions manual.

mac.pan

chapter 3

Testing
Adjustments
Maintenance
Malfunctioning

F60
REV.0-0
ENG

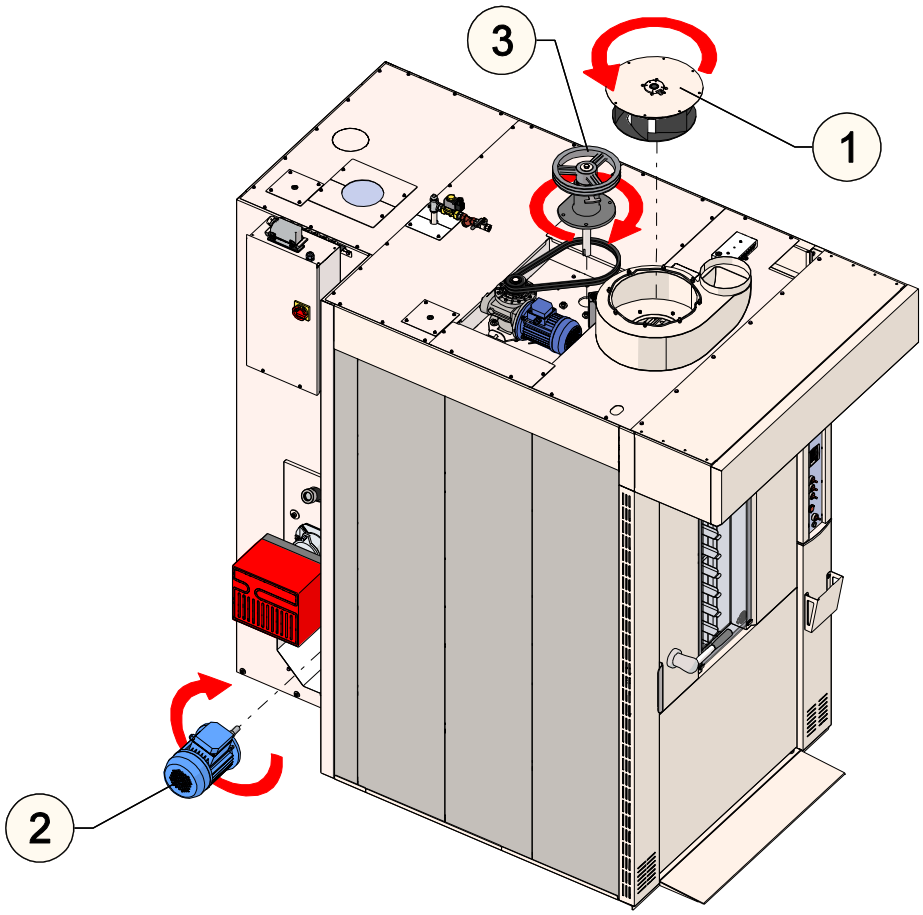
MADE IN ITALY

3.1	**Operation checks**
	Motor rotation
	Water Feeding Circuit
	Baking timer
	Thermostatation
3.2	**security checks**
	Safety thermostat
	Door safety
	Rack removal
3.3	**Air flow regulation**
3.4	**Safety thermostat calibration**
3.5	**Final test**
	Oven heating
	Baking test
3.6	**Maintenance**
	Weekly maintenance
	Six-months maintenance
	Cleaning the door rubber protections
	Lamp replacement
	Replacement of the transmission belt
3.7	**Malfunctions**
3.8	**Assistance**

3.1 Operation checks

Motor rotation

FIG.1



Zero the thermoregulator
Close the door and actuate the various utilities
Steam exhauster (Pos.1)
Ventilator (Pos.2)
Rack rotation (Pos.3)
and check the correct direction of rotation as in the figure
If the rotation goes in the opposite direction, power off the machine immediately and correct the motor sense of rotation.

Water Feeding Circuit

Check the water circuit with cold humidifier
The water flow must not be subject to stops and eliminate any deposit of scale or other materials.

For all details refer to annex “E”

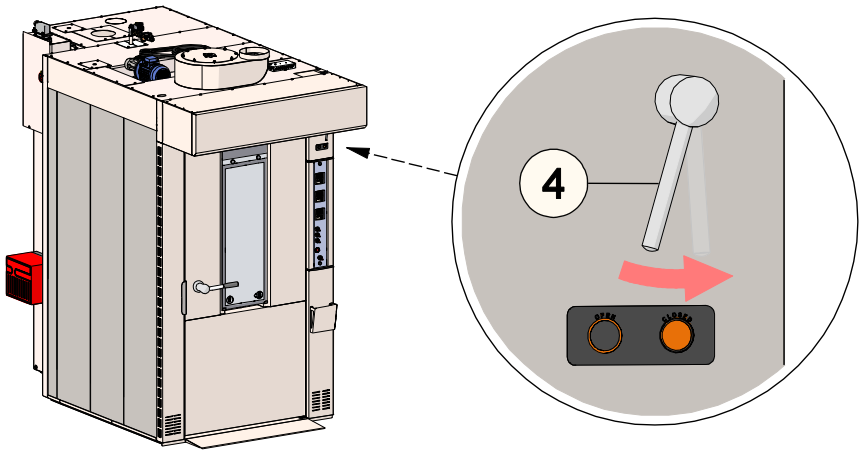
Baking timer

Check the end-of-cycle buzzer setting a baking time of 5 minutes.
Start counting the baking time
After 5 minutes the buzzer will be enabled.
Silence it by means of the relevant control.

Thermostatation

Thermostatation is the capacity of the oven to modulate the heating system (burner or resistances) ignition according to the baking temperature you have set.
Close and lock the door and close the manual damperr of the steam box (Pos. 4).

FIG.2

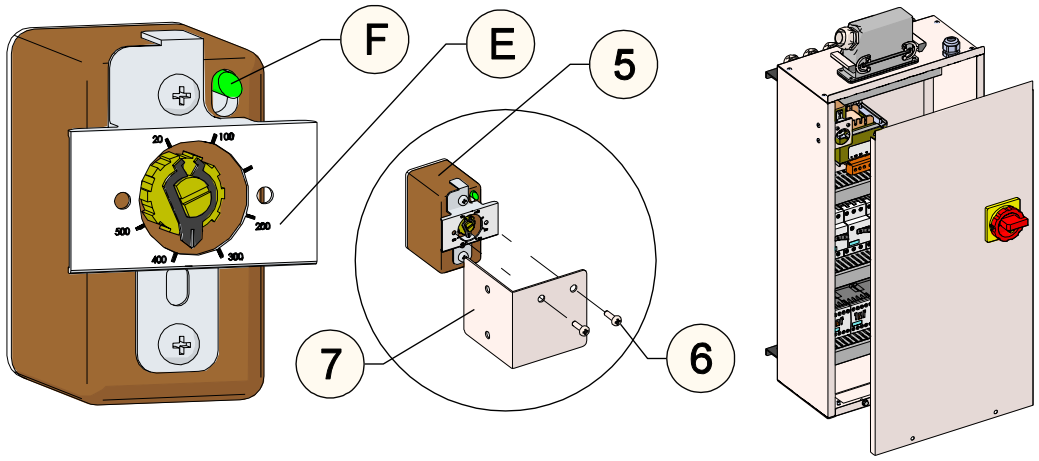


Set 60°C temperature on the thermoregulator
The heating system starts working and stops after a few minutes, as soon as the expected temperature has been reached.
Now set 120°C temperature.
If the heating system restarts, the thermostatation is efficiently working.

3.2 security checks

Safety thermostat

FIG.3



Remove the thermostat (Pos.5) by opening the two fixing screws (Pos.6)
To prevent tampering , the thermostat is purposely installed to be adjusted only if removed from its support (Pos.7).
Adjust the safety thermostat at 200 °C (Pos.E), close and lock the door
Set 250°C temperature on the thermoregulator
The heating system starts. The thermoregulator records the rise in temperature. Wait some minutes to check if the heating system stops before the thermoregulator has reached set temperature. In this case, the safety thermostat is considered efficient. Wait until temperature drops down the threshold of the value set on the safety thermostat

Power off the machine and reset the safety thermostat by pressing the green button (Pos.F).

After inspecting the safety thermostat, take care of the correct calibration.

Door safety

Start up the empty oven (without dough to be processed) like a normal production cycle:

Cautiously unlock the door!

This must stop immediately the operation of the heating system and fan air recycling.
It should also inhibit the operation of the solenoid valve water inlet to the humidifier and start the steam ventilator.

Open the door

At the opening of the door the cart turning is immediately stopped.

Close and lock the door.

Closing and locking the door allow for resetting the operations stopped with opening.
If the checks described are found then the safety functions of the door are to be considered efficient

Rack removal

- HOOKING - PLATFORM

The stopping of the cart is made automatically provided the door is unlocked but not open. At door unlocking the cart keeps on rotating uo to its extraction position
By opening the door the cart stops instantly.

- AUTOMATIC LIFTING

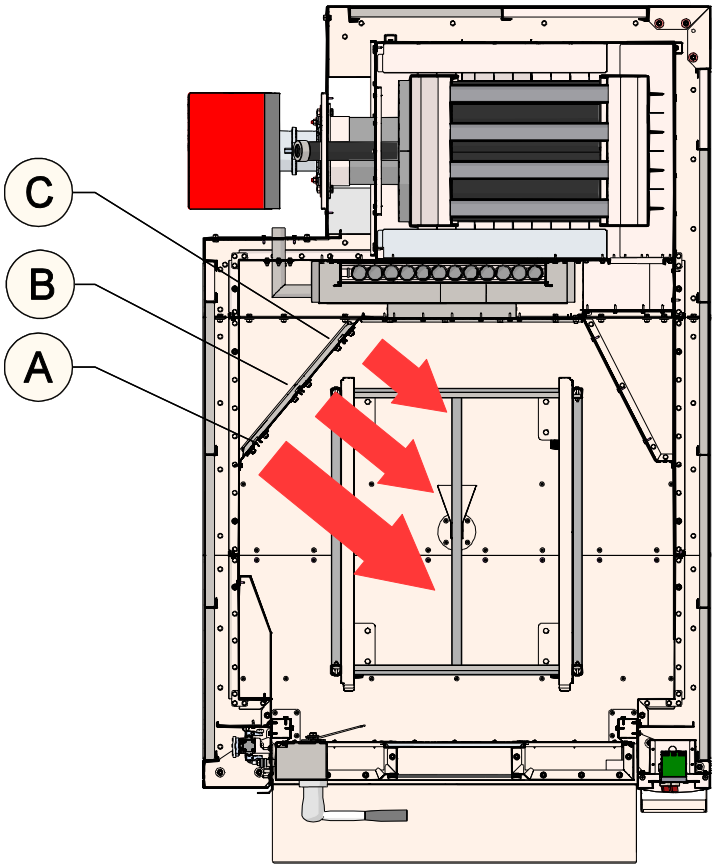
The rotation of the cart is made automatically thus allowing the descent of the cart in its extraction position.
Check and, if needed, adjust with the bracket of the towing system, the rack stop in release-removal position.

3.3 Air flow regulation

The air flow adjustment is of crucial importance in order to obtain an even cooking all along the high of the rack.

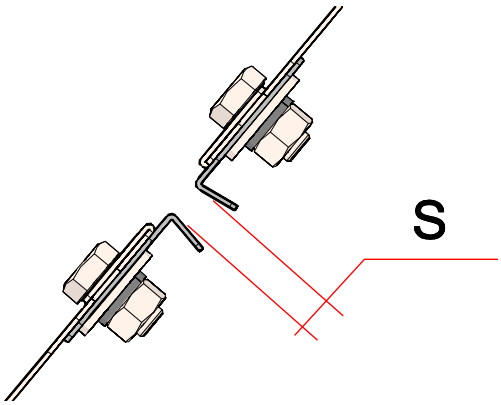
Check that all dampers have flow vents heading inside the baking chamber and are positioned in the middle of the slot.

FIG.4



Slot A adjusts the dough baking in the central part of the trays; the others slots regulate baking in the lateral section.

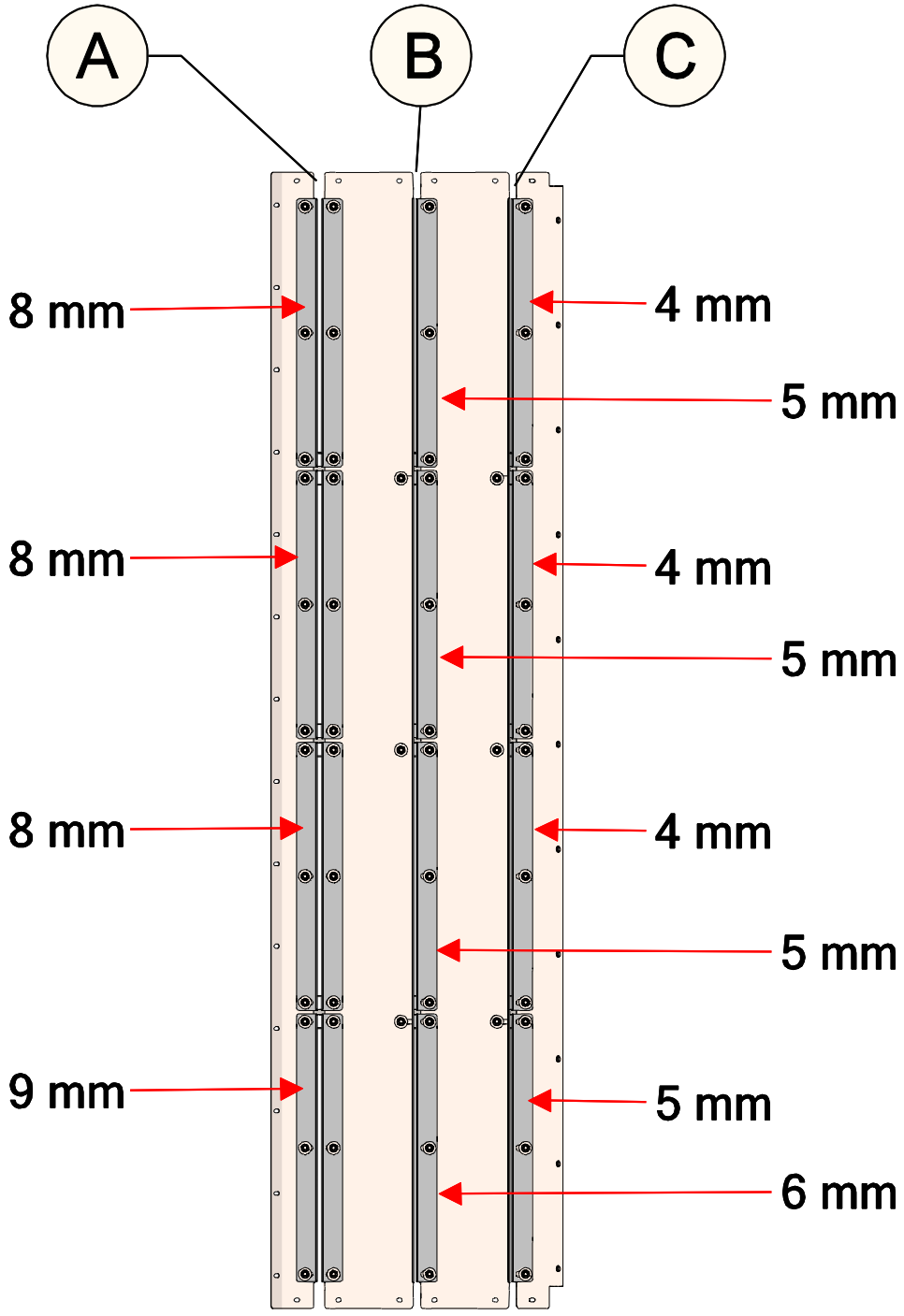
FIG.4A



Shutters are bent and kept under-square, therefore the standard regulation shown in the figure must be taken in the narrowest part (section "S").

This page shows the “recommended” adjustment of dampers.
These value are to be considered merely indicative, as different processing methods may require adjustment other than those shown.

FIG.4B



Max opening of air slots must not exceed 10mms.

Regulation procedures

All the operations described below must be performed when oven is cold

Regulate shutters in compliance with the values of the Drawing.
Use the proper selector switch to start air circulation fans.
Enter the baking chamber and close the door From there check that the air flow from the shutters is directed to the center of the rack rotation.
If not, move the slots of the unit, to the right or to the left (as needed) in order to centre the air flow on the middle rack.

When moving them, never modify their opening which must remain the standard one.

Examples of regulations

Once the standard regulation has been done, if products after baking appear:

White in the centre of all or some trays

Intervention:

Move slots to the right or to the left trying to direct air flow to the middle of the rack. If the baking result is not good on all trays, move all slots Pos.A; While, if trays not well baked are only few, move only relevant slots.

Overbaked in the centre of all or some trays:

Intervention:

Move slots to the right or to the left in order to direct the air flow to the middle of the rack. If overbaking affects all trays move all slots Pos.A; While, if overbaked trays are only few, move only relevant slots.

This operation must be carried out on both gates maintaining the opening unchanged.

White on the sides of all trays

Intervention:

Increase the opening of the gates Pos.B

The air flow regulation must be carried out mainly on gates Pos.A

When moving slots never exceed 1 mm for each regulation cycle.

3.4 Safety thermostat calibration

Before opening the electrical panel, electrically insulate the machine

Based on max running temperatures, the calibration is conducted during the installation and testing phase.
This operation is to protect operators from any machine overheating.
After detecting max running temperatures (max. 300° C) to be set on the thermoregulator of the control panel, adjust the safety thermostat in the electric box and bring it to a value of 50° C over max detected running temperatures.
Example:
Dough A baking
running temperature 220°C
Dough B baking
running temperature 260°C
Dough C baking
Running temperature 250°C
Select the highest temperature (260°C) and ideally increase it by 50°C; The reference calibration of the thermostat will be 310°C (260°+50°).

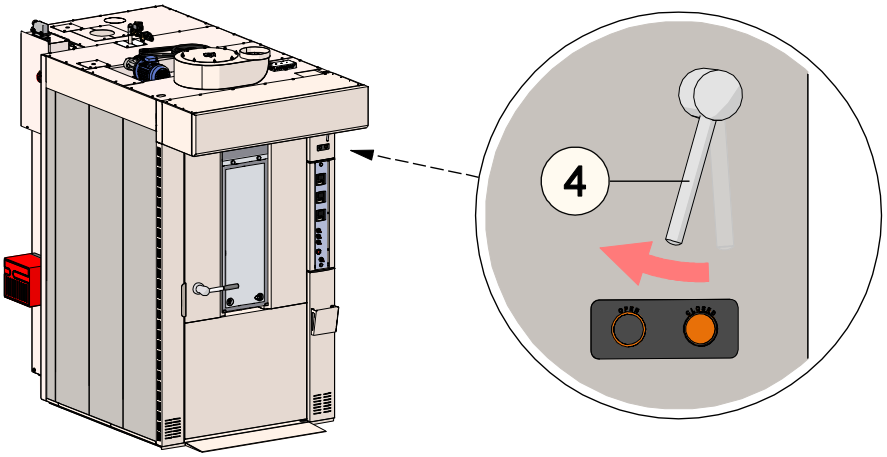
Use of oven at temperatures over 300° C (three hundred centigrade degrees) must be authorized in writing by the manufacturer.

All temperatures given are in grade centigrades.

3.5 Final test

Oven heating

FIG.5



With combustion ovens, burner regulation and combustion control must be carried out by an expert burner technician.

Fully open the steam discharge shutter (Pos.4)
Close and lock the door
Start the steam exhauster
Set the thermoregulator
Run the first ignition
Check the combustion chamber depression. With burner operating, the value detected should range from -1 and -4 mbar.
Gradually heat oven up, with passages of 60° C and hold times of 15 minutes, until temperature reaches 240° C and maintain it for 30 minutes.
This operation help eliminate all unpleasant odours and fumes generated by insulation drying and grease deposits left on the sheets.
When the burner is running, check the light indicator of the burner block by interrupting fuel-firing through the valve next to the burner.
Reset the burner by opening the firing valve and press button on its frame.

Baking test

Make sure that the electrical tests described in the relevant paragraph have been properly done and that the technician filled and signed the proper form.

• Check the motor protector calibration (must never exceed the plate values).
• Adjust the timer of the fan stop after 30-second vaporization • Adjust the safety thermostat calibration • Check the correct installation of the flow regulating shutters.
Prepare some rack loaded with dough to be baked to start the first baking cycle.
Follow the instructions given in Chapter 4.1.
At the end of the cycle verify uniformity of the processed dough.
Correct – if needed – the air flow, by means of the regulation gates next to the trays (see Chapter "Air Flow Regulation").
Re-make tests and re-adjust until you reach perfect baking uniformity.

Fill the appropriate test form in all its parts and send it to the manufacturer.

Train the users on the correct use of the oven.

Make sure they learn the content of this instructions manual.

3.6 Malfunctions

For the ideal performance of the machine under safety conditions, the following maintenance and clearing operations must be followed

Weekly maintenance

The user is responsible for weekly maintenance always in compliance of the safety regulations contained in this instructions manual.

Power off the oven

By means of a stiff-bristled vacuum cleaner, remove all powders from motors, transmission gears and control panel. In the most critical points, also use a stiff-bristled brush. For all the other oven parts, use a vacuum cleaner.
Clean oven front with suitable non-abrasive products, available on the market (detergents for cleaning stainless steel pans).
Apply the same procedures for internal baking areas.
In case of persistent spots, use warm vinegar.
Painted and chrome-plated parts must be cleaned with a cloth moistened with water and non-corrosive liquid detergent.
Do not make use of chlorine-based detergent substances (bleach, etc.)

Never clean glass parts when they are still hot.

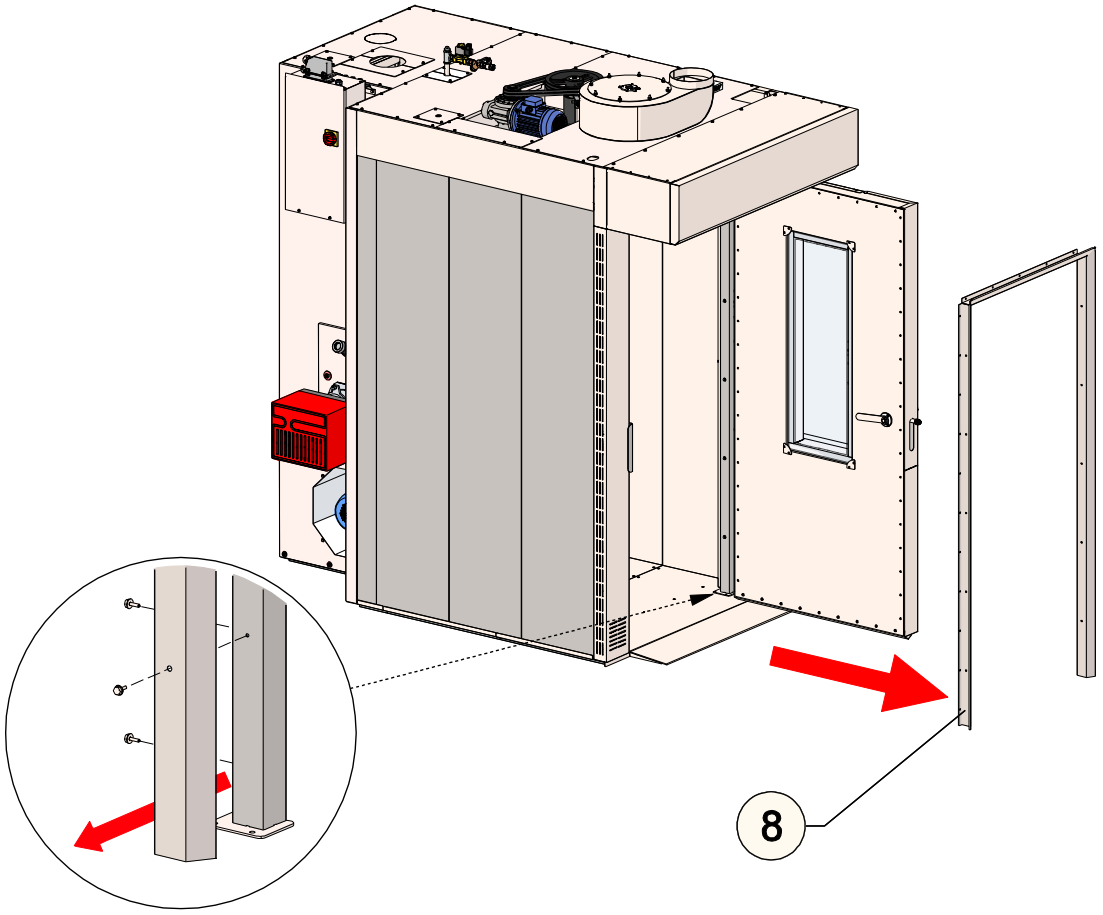
Six-months maintenance

Every six months the following intervention and controls should be effected by the installer technician:

	Inspection of all oven functions efficiency
	Inspection of all safety devices efficiency
	Cleaning the impeller and scroll of steam extractor See annex “C”
	Check the hydraulic system See annex “E”
	Clean the door gaskets
	Make the burner inspected by a qualified technician. • General cleaning of the burner and inspection of its adjustments. • Check the combustion. • Check the depression in the combustion chamber.

Cleaning the door rubber protections

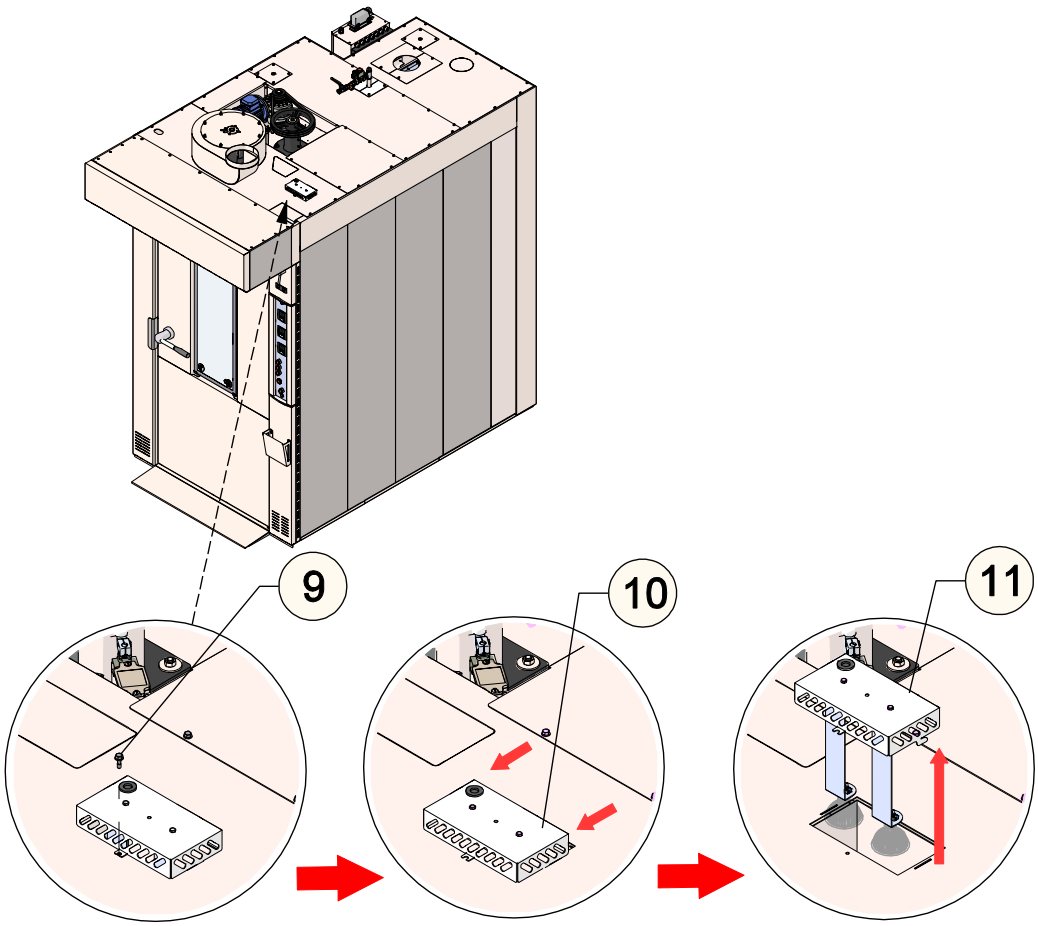
FIG.6



Dismantle the gaskets (8) secured with the self threading screws to the door and its edge.
Clean them and remove the deposits (if any) door and its edge with normal dishwasher detergent.
Re-assemble

Lamp replacement

FIG.7



Power off the oven

To reach the lamp:
- Remove the fixing screw (Pos.9) of the protection (Pos.10)
- Release the protection making (see arrow)
- Lift the protection and remove the lamp unit (Pos.11).
- Replace the lamp with a similar one.
- Re-assemble all the parts previously removed.

Replacement of the transmission belt

For the complete second procedure to follow see annex “D”

3.7 Malfunctions

Any intervention on the electrical and electronic components of the machine must be carried out only by qualified staff well trained in electrical parts functions and the measures to follow in order to handle them avoiding personal injuries and injuring others.

?	**Malfunctions**
!	*Probable Causes*
💡	Solutions
?	**The aspiration of the steam exhauster is not sufficient**
💡	See annex “C”
?	**The air re-cycling fan does not start**
!	*1) The motor protector has been enabled from the control panel.* *2) The door handle limit switch is broken or badly positioned.*
💡	a) Reset the automatic switch in the control panel b) Check the door limit switch and its position
?	**Insufficient humidification**
💡	See annex “E”
?	**Water leakage next to the humidifier**
💡	See annex “E”
?	**The rack does not stop when in removal mode**
💡	See annex “D”
?	**The rack does not rotate**
💡	See annex “D”
?	**The burner does not start**
!	*1) The air re-circulation ventilator does not start.* *2) Fuel does not reach burner.* *3) The thermoregulator does not work* *(the thermoregulator displays ---)* *4) The safety thermostat is tripped.* *5) The thermoregulator probe does not work* *(the thermoregulator displays eee)* *6) The burner is locked off* *(Consult the burner instructions)*
💡	a) See the next paragraph on “ignition problems of the ventilator” b) Check the fuel circuit c) Replace the thermoregulator d) Reset the thermostat by means of the appropriate key. e) Check the connections to the probe and, if needed, replace it f) Check the fuel supply

?	**Hot fluid leakage from the close door**
!	*Worn out protections.*
💡	Replace the door protections

?	**Uneven baking**
!	*1) The air re-circulation ventilator runs counter-clockwise* *2) The flow regulation gates are not properly oriented.* *3) The thermal power of the burner is insufficient (see technical data)*
💡	a) Reset the correct direction of rotation of the motor b) Regulate the air inlet gate as needed c) For regulation or maintenance operations of the burner, contact the service centre of the burner supplier

?	**Bread at the end of the baking cycle is matt and rough**
!	*1) Insufficient humidification* *2) The bread is not wet during the humidification process and the dough must be reconsidered.*
💡	a) See previous paragraph on “humidification problems” b) Check the dough

3.8 Assistance

Burner Service

If the cause is the burner malfunction, refer to the burner documentation or contact the service centre of the burner supplier.
Most of the burner manufacturers have sales and service centres which provide assistance and support for all their products.

Oven Service

If the cause is the oven malfunction, contact the authorized dealer who has sold the machine and who can provide information on a wide range of products and an appropriate service support.
The intervention for the service to be provided must be agreed according type of malfunction. In case of ordinary maintenance, the intervention will be planned on the short distance.

mac.pan

chapter 4

Instrumentation Production cycle

ELECTROMECHANICAL INSTRUMENTATION

ELM

REV.0-0

ENG

MADE IN ITALY

4.1 Useful Information

Cooking time in particular can vary according to the type of dough, its homogeneity and volume. Make sure you carefully monitor the first baking cycles and check the results achieved: using the same types of dough under the same conditions, you will obtain standard results.
The heat needed to process your dough depends on its preparation, ingredients and liquids. Setting the same processing temperatures you can bake different product at the same time. Disregarding their position, you can use all shelves, and also bake small batches with top results. Should bread not take on vapor, resulting matt and rough at the end of your baking cycle, check if during the vaporizing cycle the product gets wet. Should this be the case, you need to modify the dough. Keep in mind that you can achieve good results only if your batch is not too wet when ready to be moved inside the oven. For this reason, it is important that the rack loaded with the dough from the proofing chamber, is left to rest 1-2 minutes in the air before going into the oven.
Make sure that the oven door opens only for loading and unloading operations.
Keeping the oven access door open for too long, makes the baking chamber temperatures drop, i.e. uneconomically increases the consumption of fuel or energy.
As a consequence of the loading and unloading operations, temperature displayed on the thermoregulator drops of about 30°. The thermal difference is re-balanced within a maximum span of time of 8/10 minutes. This is quite a short time compared with the original heat exchange between dough and hot air which generates a remarkable drop in temperature of the circulating air

4.2 Instrumentation

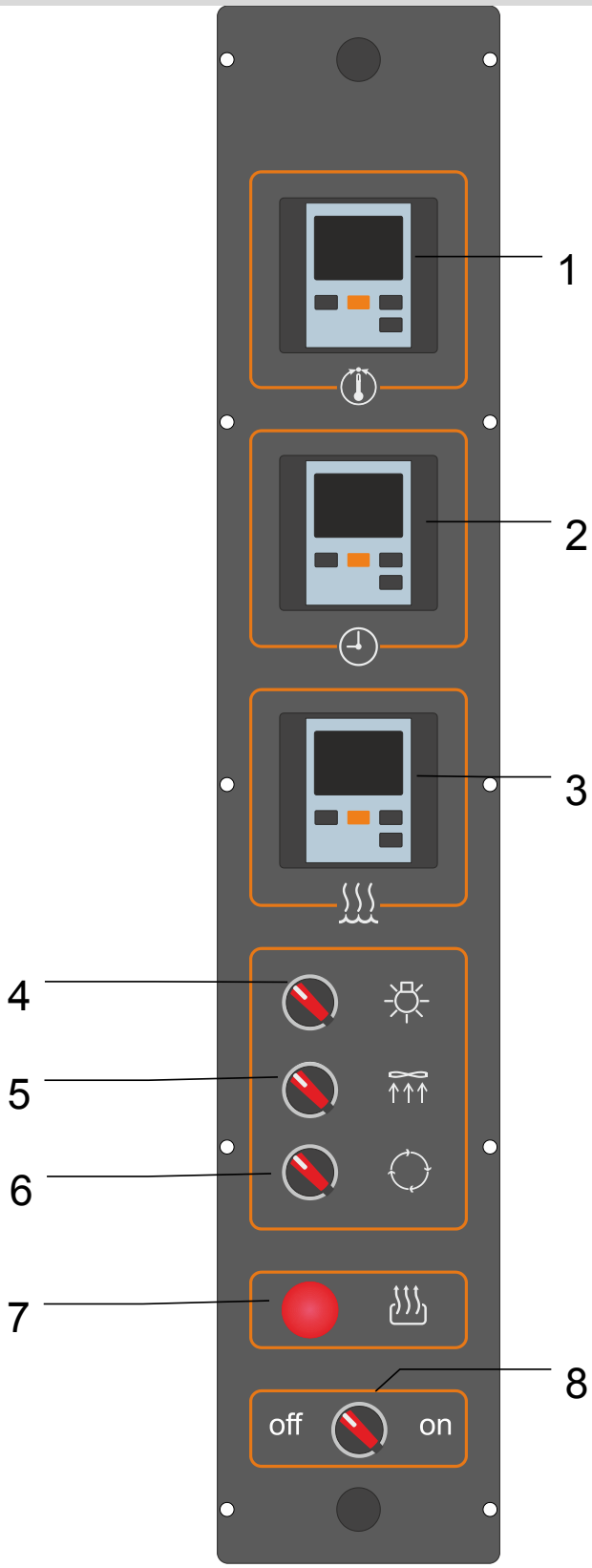


FIG.1

1	Thermoregulator 
2	Baking timer 
3	Humidification timer 
4	Oven light selector switch 
5	Vapor exhauster selector 
6	Rack rotation selector 
7	Heater warning light 
8	ON-OFF selector off  on

Thermoregulator

KEYS

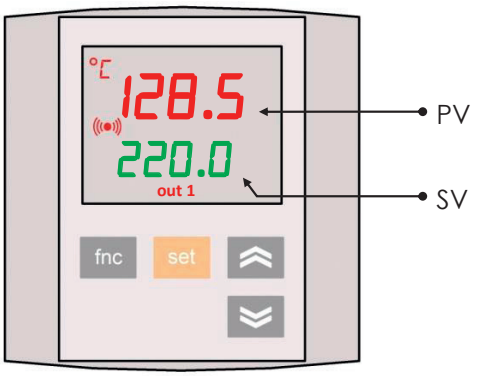
fnc — "fnc" exit function from setpoint and parameters setting

set — "set" function setting of setpoint and parameters

"up" scrolling function: scrolling of menu items and setpoints to increase parameter values

"down" scrolling function: scrolling of menu items and setpoints to decrease parameter values

DISPLAY and LED

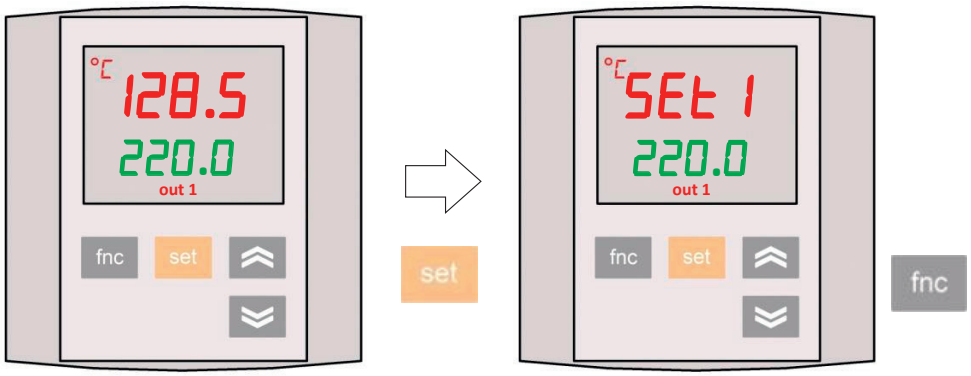


PV	Displays the temperature value in the baking room, names of parameters and alarms.
SV	Displays the setpoint and parametes values
out1	When the exit is on (running heating unit)
°C	This shows the °C or °F temperature scales displayed
((•))	It starts in case of alarm

ALARM SIGN

E1	Temperature probe to detect failures, short or open circuits.
HA1	The alarm is enabled when temperature exceeds the maximum detectable by the probe
LA1	The alarm is enabled when temperature exceeds the min detectable by the probe

PROGRAMMING SETPOINTS



Turn on the instrument

set — Press and release the "set" key

The PV display shows "Set 1" while the "SV" display shows the actual setpoint value

With the keys "up" and "down" you can modify the setpoint value on the "SV" display

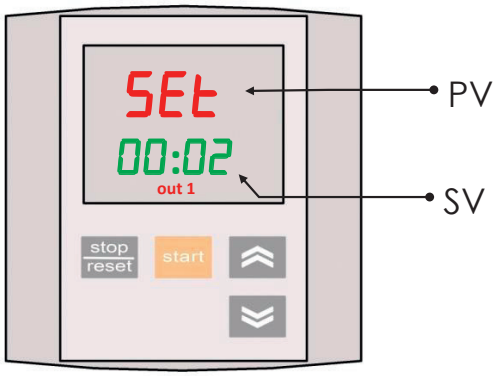
fnc — Pressing the "fnc" key or after 15 seconds, the new value will be stored bringing the instrument to the original value.

Timer

KEYS

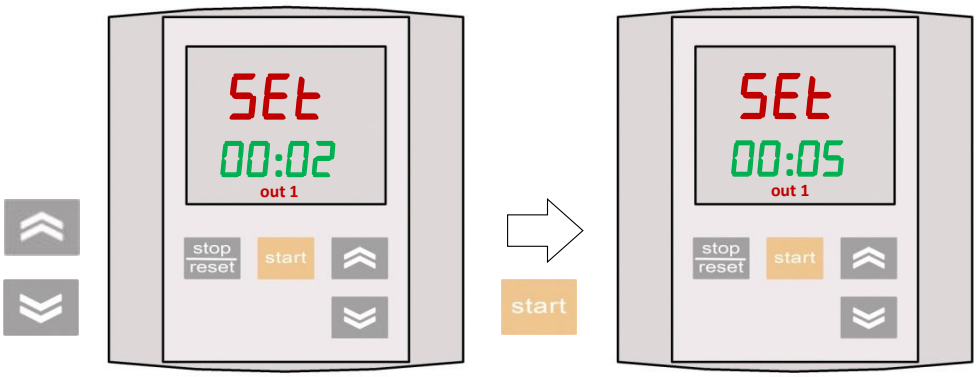
stop reset	"stop-reset" stops and restarts counting, exit function from programming parameters
start	"start" starts counting, gives access to the setting functions of the parameters
⌃	"up" scrolling function: scrolling of menu items and setpoints to increase parameter values
⌄	"down" scrolling function: scrolling of menu items and setpoints to decrease parameter values

DISPLAY and LED



PV	Displays counting progress, the parameters names and the alarms
SV	Displays the setpoint and parametes values
out1	When the exit is on (running heating unit)
((•))	Turns on when the baking cycle is over

PROGRAMMING SETPOINTS

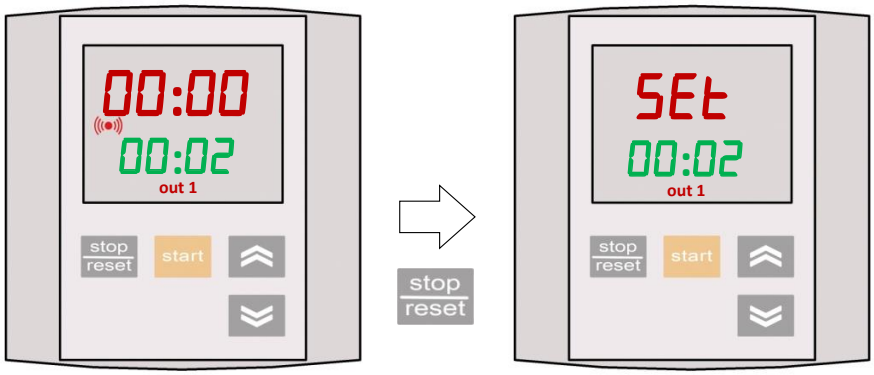


Turn on the instrument
The PV display shows "set" while the "SV" display shows the current setpoint

With the keys "up" and "down" you can modify the setpoint value on the "SV" display

start

Press and release the "start" key to start counting



stop reset

Once the counting is over, reset original conditions by pressing the "stop-reset" key

4.3 Production cycle

Startup

Activate the supply of the oven (power, fuel, water)
Power the oven turning on "ON" the main switch

Ensure that temperatures on the thermoregulator is as desired.

For the thermalstation tightly close the door

Start the rack rotation selector.

Wait approx. 30 minutes to allow the oven and the humidifier to reach the desired temperature.

Placing the rack

Open the manual gate to exhaust vapors

Set the timer for the humidification cycle

Fully open the door Ensure that the vapor exhauster runs.
Push the rack straight to its place.
Close back the door and lock it
The heating is enabled (activated fan and heater)

Make sure the rotation of the rack is activated.

Start the vapor intake control to enable humidification

Set and actuate baking time

Removing the rack

A sound signal warns that the set baking time is over.
Ensure that the dough is ready to be taken out of the oven and, if not, set the timer again to complete the baking cycle.
Start taking the racks out of the oven following this sequence:
Open the manual gate for vapor discharge Unlock and leave the door slightly open for a few instants: this will allow residual heat to be Make the racks rotate to its exit position exhausted.
Fully open the door and, wearing heat-resistant gloves, take out the racks Close and lock well the door handle Prepare the oven – if needed – for a new baking cycle

Turning off the oven

Zero the timer

Disable in sequence the following actuators:

rack rotation

vapor exhauster

and after 20 / 25 minutes posizion on “OFF” the main switch

off  on

Power off the machine (electrical Energy; fuel; water)

chapter 5

Spare parts

5.1	**Description**
5.2	**Spare parts**
	Casing
	Covering
	Rear section
	Ventilator
	Heating Elements
	Humidifier
	Water inlet unit
	Center section
	Front section
	Front
	Door
	Lock for door

5.1 Description

In replacing any components always use original replacements.
To order spare parts, identify the model and mention the serial number on the EC rating plate of the oven.
Cites the paragraph, position, reference and description of the part to be replaced as shown in this instruction book.
For electrical components, refer also to the descriptions contained in the "electrical information" section of this manual.
Inform the authorized retailer or our service office of the description and quantity desired.
Upon receipt of your communication we will supply you with all the information relative to your request and ask your authorization to ship.
In case of parts not contemplated in the spare parts section, contact our service office.

- Model
- Serial number
- Year of manufacture
- Part code number
- Denomination
- Quantity

5.2 Spare parts

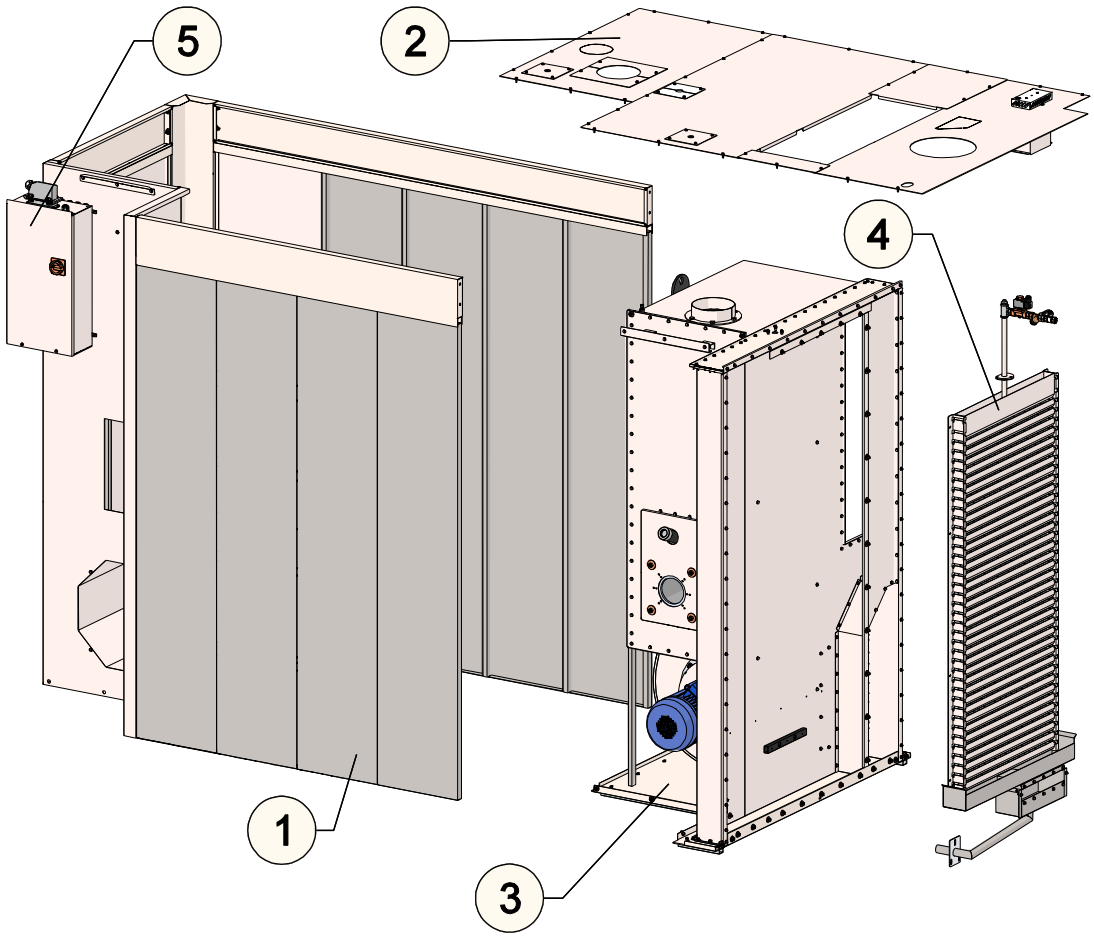
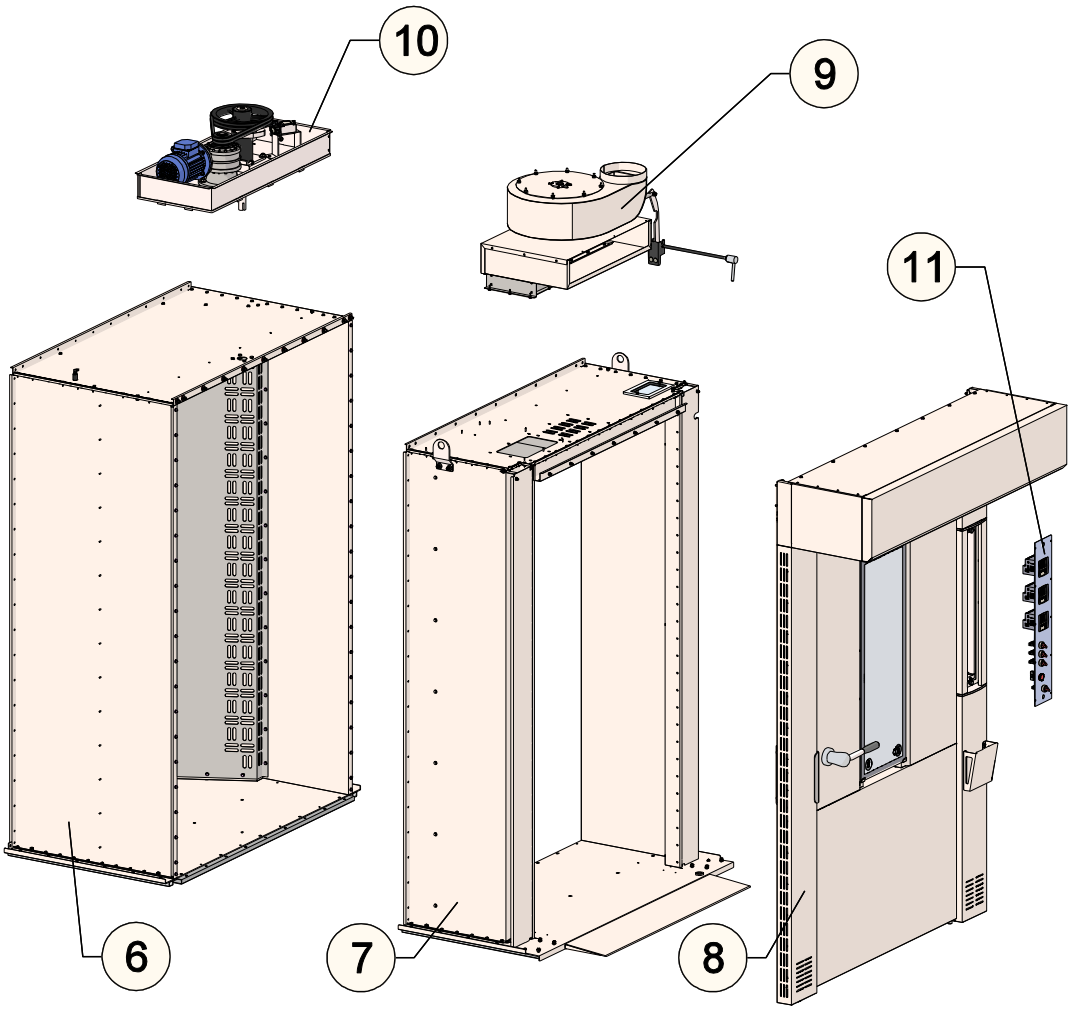


FIG.0

1	Casing	pagina 6
2	Covering	pagina 7
3	Rear section	pagina 8
4	Humidifier	pagina 12
5	Electric board (power section)	see annex **F**



6	Center section	Pagina 14
7	Front section	pagina 15
8	Front	Pagina 16
9	Steam exhauster assembly	see annex **C**
10	Rack rotation system	see annex **D**
11	Electric board (control section)	see annex **F**

Casing

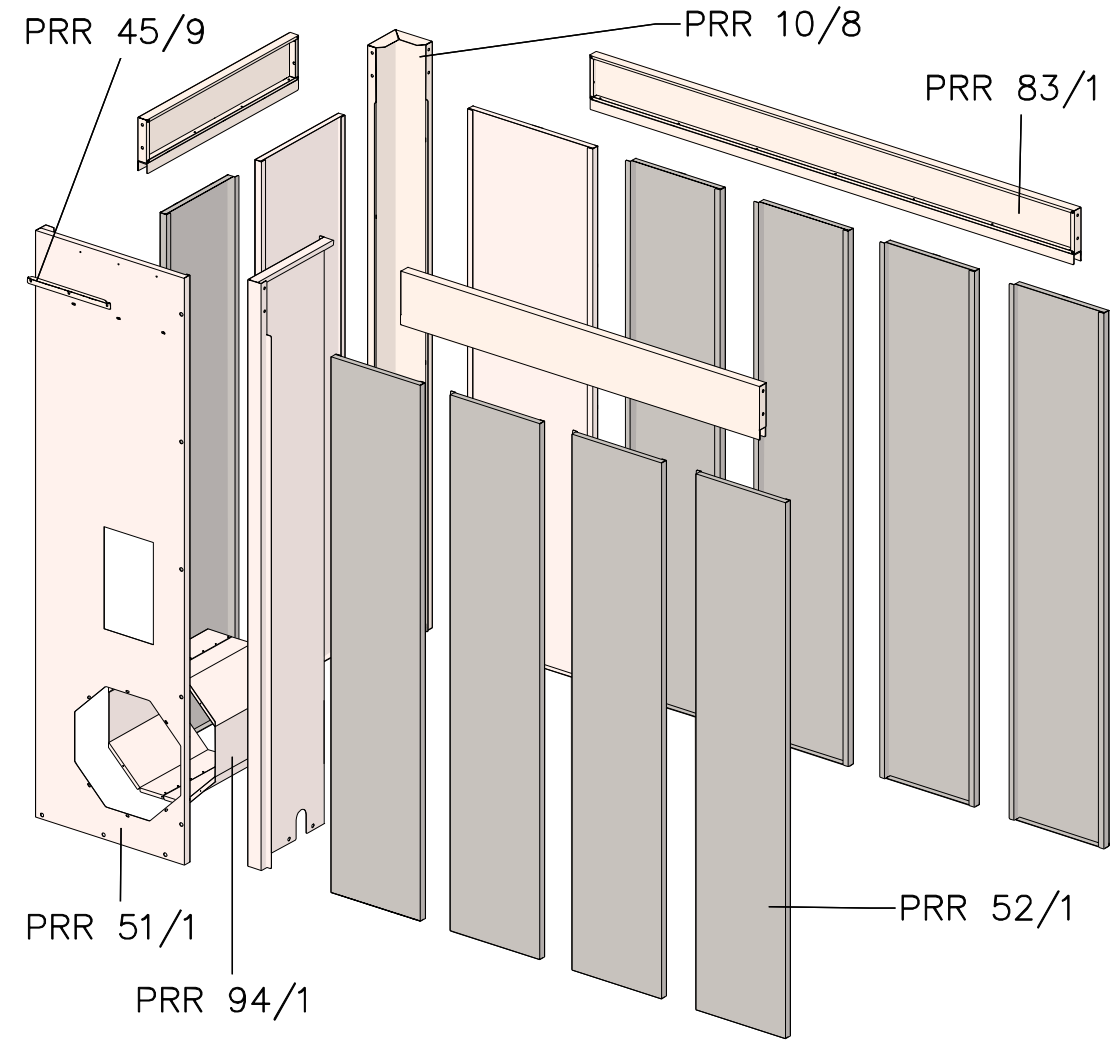


FIG.1

code	
PRR 45/9	CONTROL BOX SUPPORT
PRR 10/8	REAR COLUMN FOR EXTERNAL PANELLING
PRR 83/1	EDGE FOR OUTSIDE PANELLING "UPPER"
PRR 94/1	INSULATING PIPE FOR VENTILATOR
PRR 52/1	EXTERNAL FACING PANEL
PRR 51/1	INSULATING CONTAINMENT - PAINTED STEEL - FOR BURNER

Covering

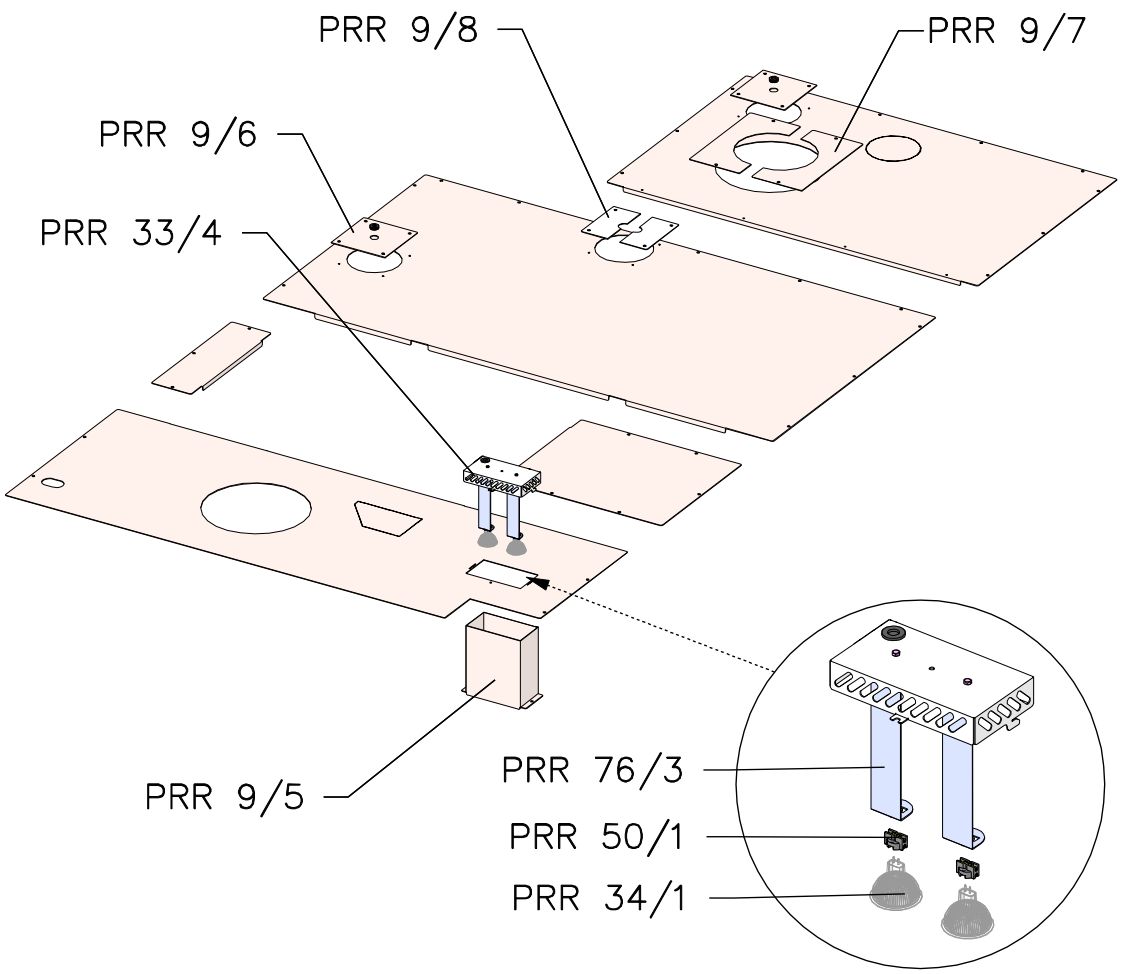


FIG.2

code	
PRR 9/6	COVER FOR FEELER HOLE
PRR 9/7	COVER FOR CHIMNEY PIPE HOLE
PRR 9/8	COVER FOR WATER INLET PIPE HOLE
PRR 9/5	INSULATING CONTAINMENT FOR OVEN ILLUMINATION UNIT
PRR 33/4	COMPLETE OVEN ILLUMINATION UNIT
PRR 76/3	BRACKET FOR HALOGENOUS LAMP HOLDER
PRR 50/1	LAMP HOLDER FOR HALOGENOUS LAMP
PRR 34/1	OVEN ILLUMINATION HALOGENOUS LAMP

Rear section (for combustionn oven)

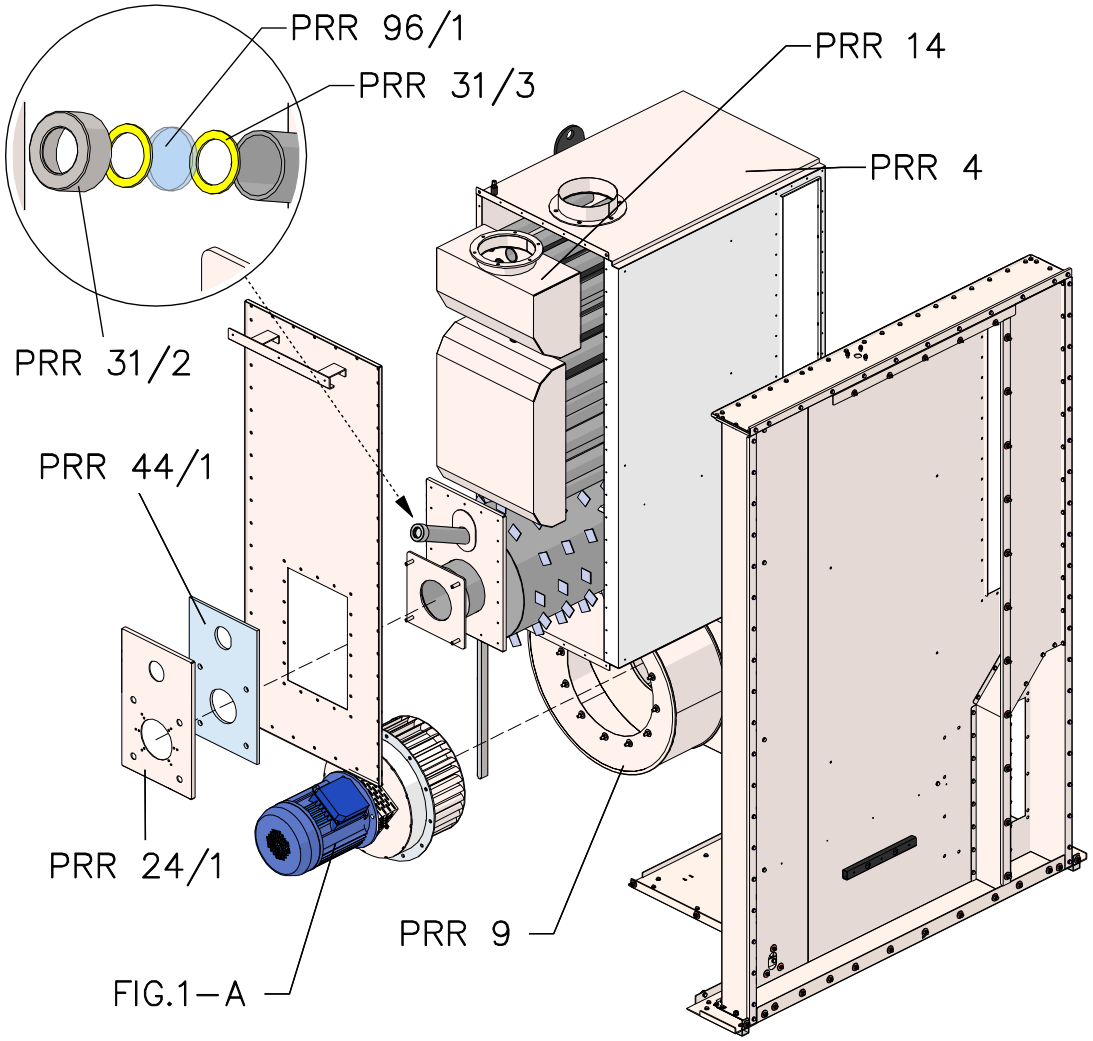
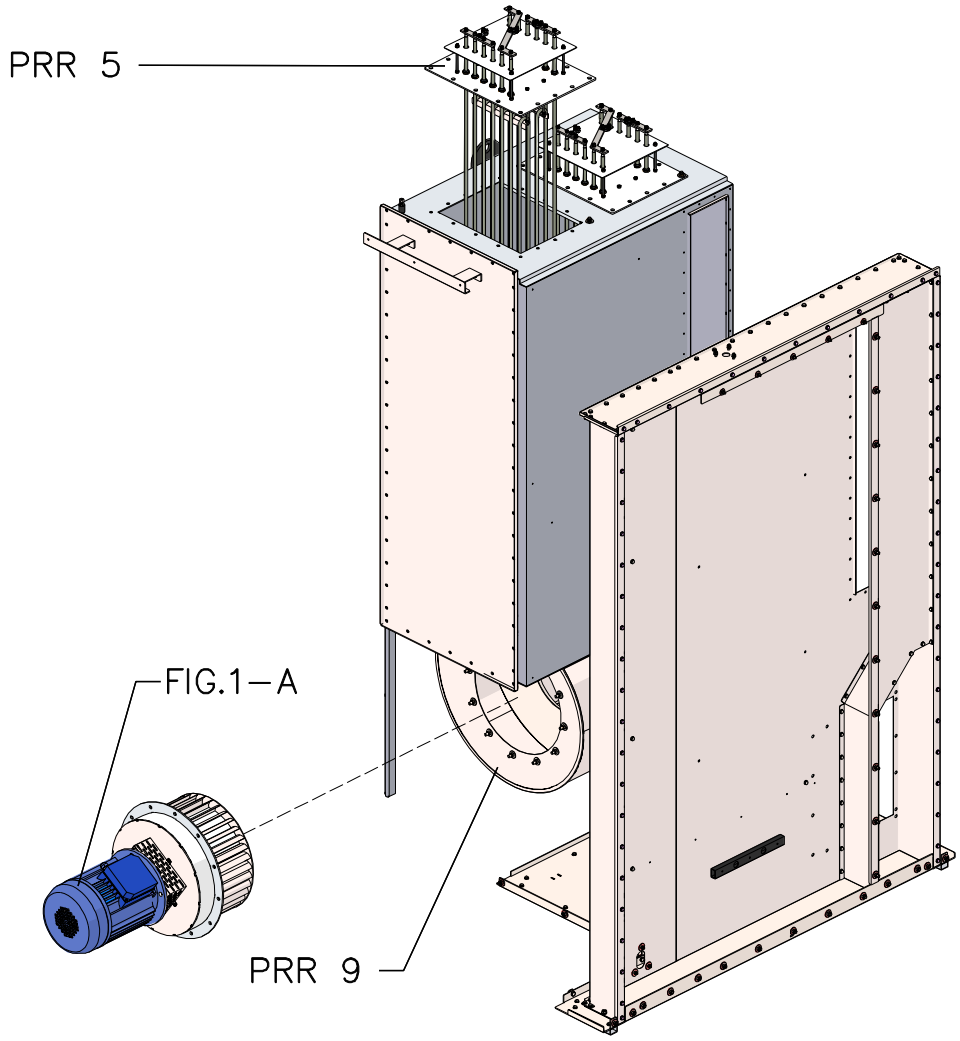


FIG.3-G

code	
PRR 4	COMBUSTION CHAMBER BLOCK
PRR 9	VENTILATOR HOUSING
PRR 14	COMBUSTION CHAMBER
PRR 24/1	FLANGE FOR BURNER INSULATING CONTAINMENT
PRR 44/1	INSULATING BURNER PLATE TH. 10 mm
PRR 31/2	RING NUT FOR INSPECTION SPY HOLE COMBUSTION CHAMBER
PRR 96/1	SPY HOLE GLASS FOR COMBUSTION CHAMBER
PRR 31/3	GASKET FOR INSPECTION GLASS

Rear section (for electric oven)

FIG.3-E



code	
PRR 5	HEATING ELEMENTS SET
PRR 9	VENTILATOR HOUSING

Ventilator

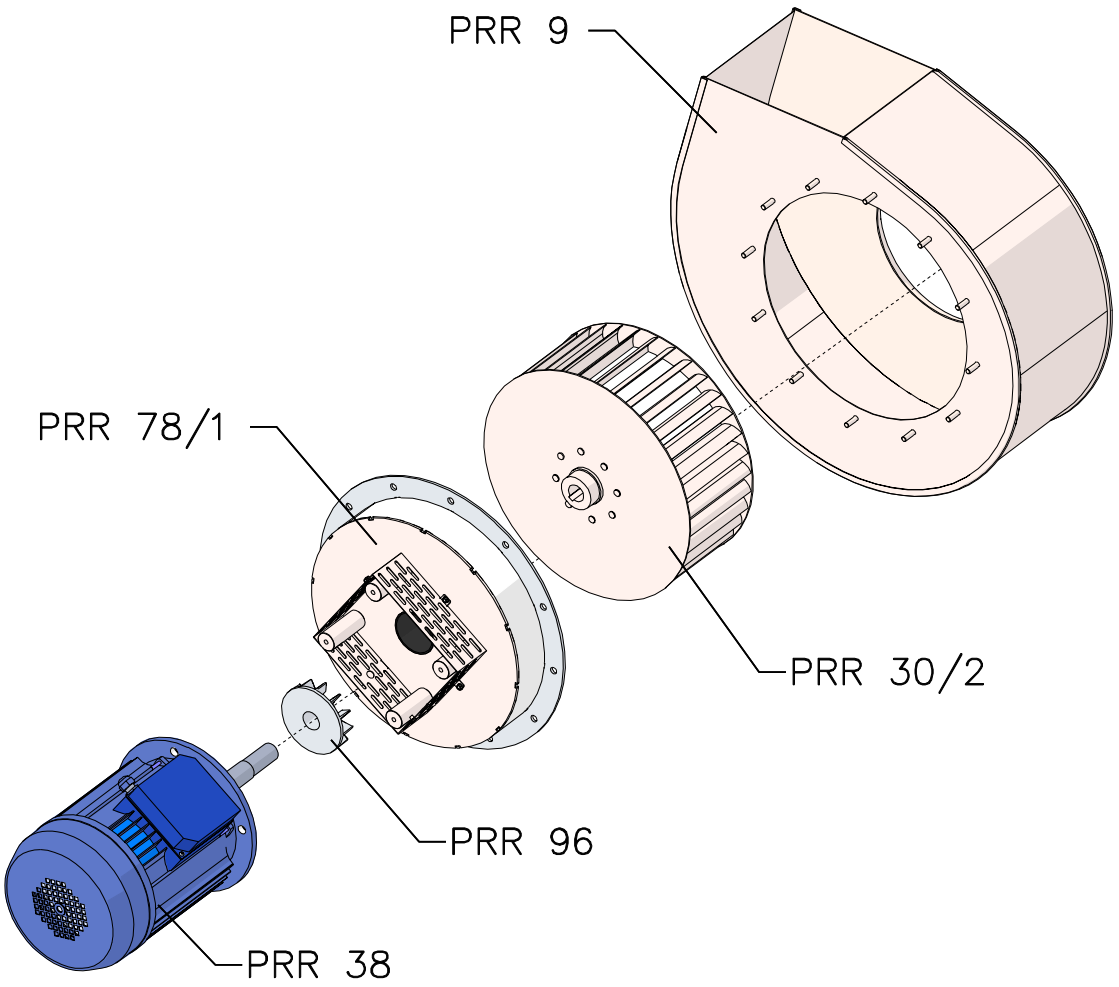
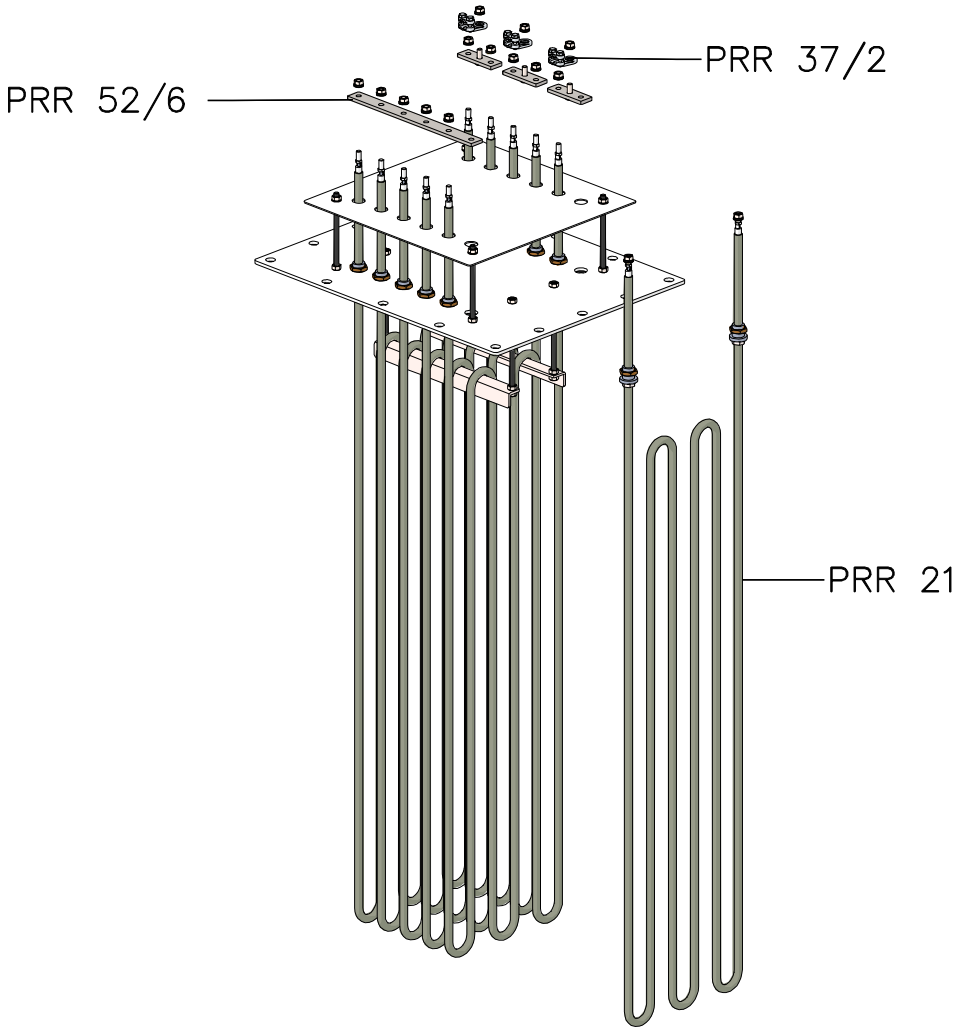


FIG.1-A

code	
PRR 9	VENTILATOR HOUSING
PRR 30/2	IMPELLER FOR VENTILATOR
PRR 78/1	MOUNTING PLATE FOR BLOWER - ROTATIVE OVEN
PRR 96	COOLING FAN
PRR 38	VENTILATOR MOTOR FOR ROTATIVE OVENS

PRR 5

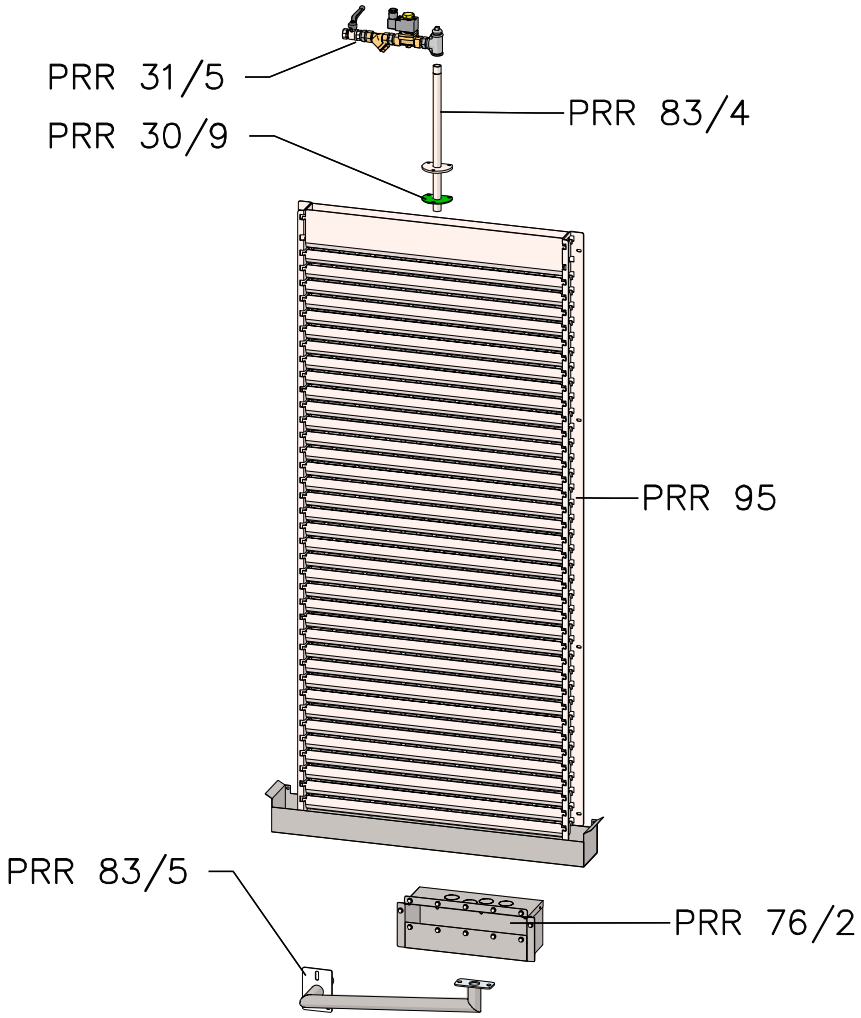
Heating Elements



code	
PRR 21	HEATING ELEMENT
PRR 52/6	BRIDGE FOR HEATING ELEMENTS
PRR 37/2	TERMINAL FOR HEATING ELEMENTS CONNECTION

Humidifier

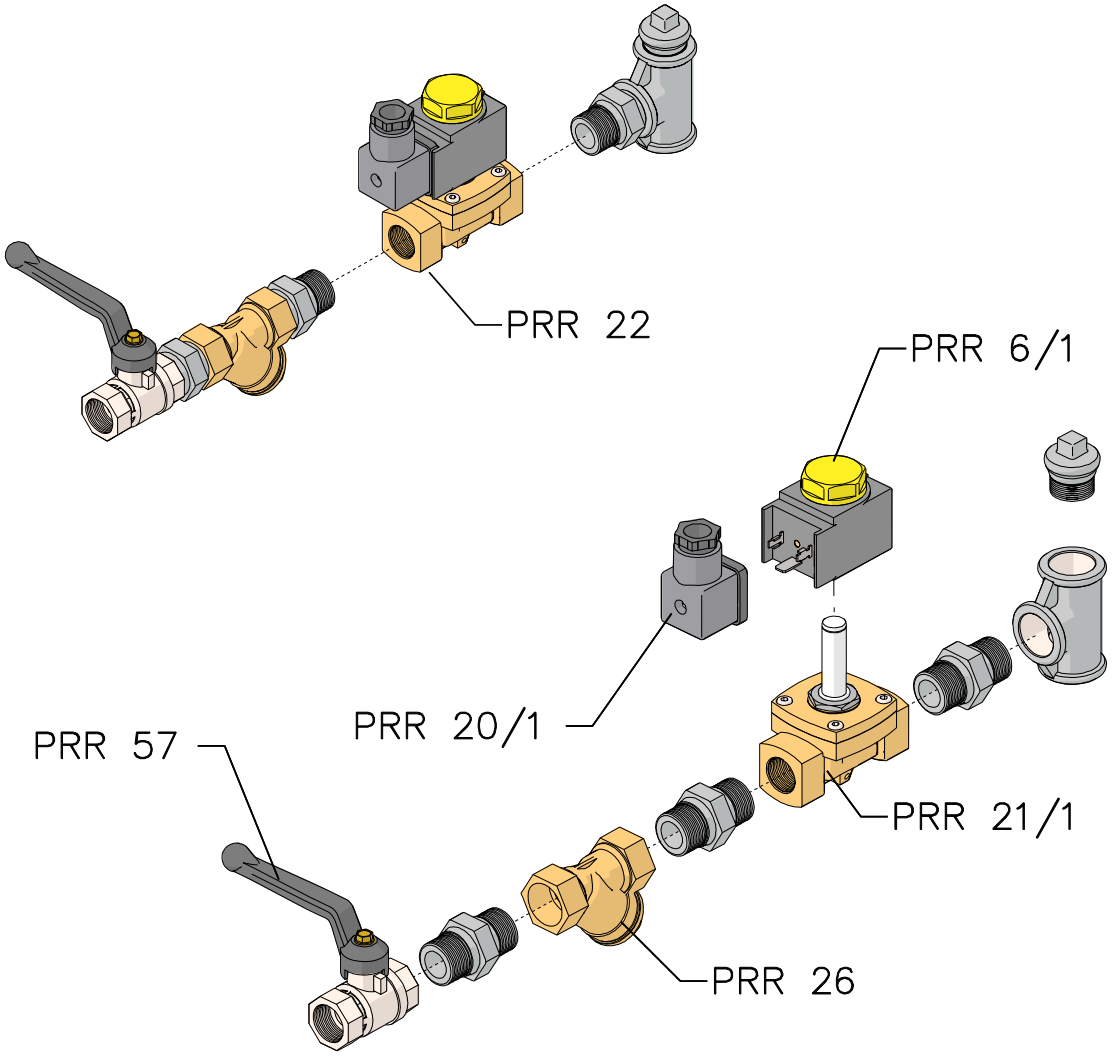
FIG.4



code	
PRR 31/5	WATER INLET COMPLETE UNIT
PRR 83/4	WATER INLET PIPE
PRR 30/9	WATER INLET GASKET
PRR 95	STEAM GENERATOR
PRR 76/2	CONDENSATE DRAINAGE BOX
PRR 83/5	WATER DRAINAGE PIPE FOR STEAM GENERATOR

PRR 31/5

Water inlet unit



code	
PRR 6/1	SOLENOID VALVE COIL
PRR 20/1	CONNECTOR FOR WATER VALVE
PRR 57	WATER INLET SHUTTER
PRR 26	WATER SOLENOID VALVE FILTER
PRR 21/1	WATER SOLENOID VALVE (ONLY VALVE)
PRR 22	WATER SOLENOID VALVE - COMPLETE

Center section

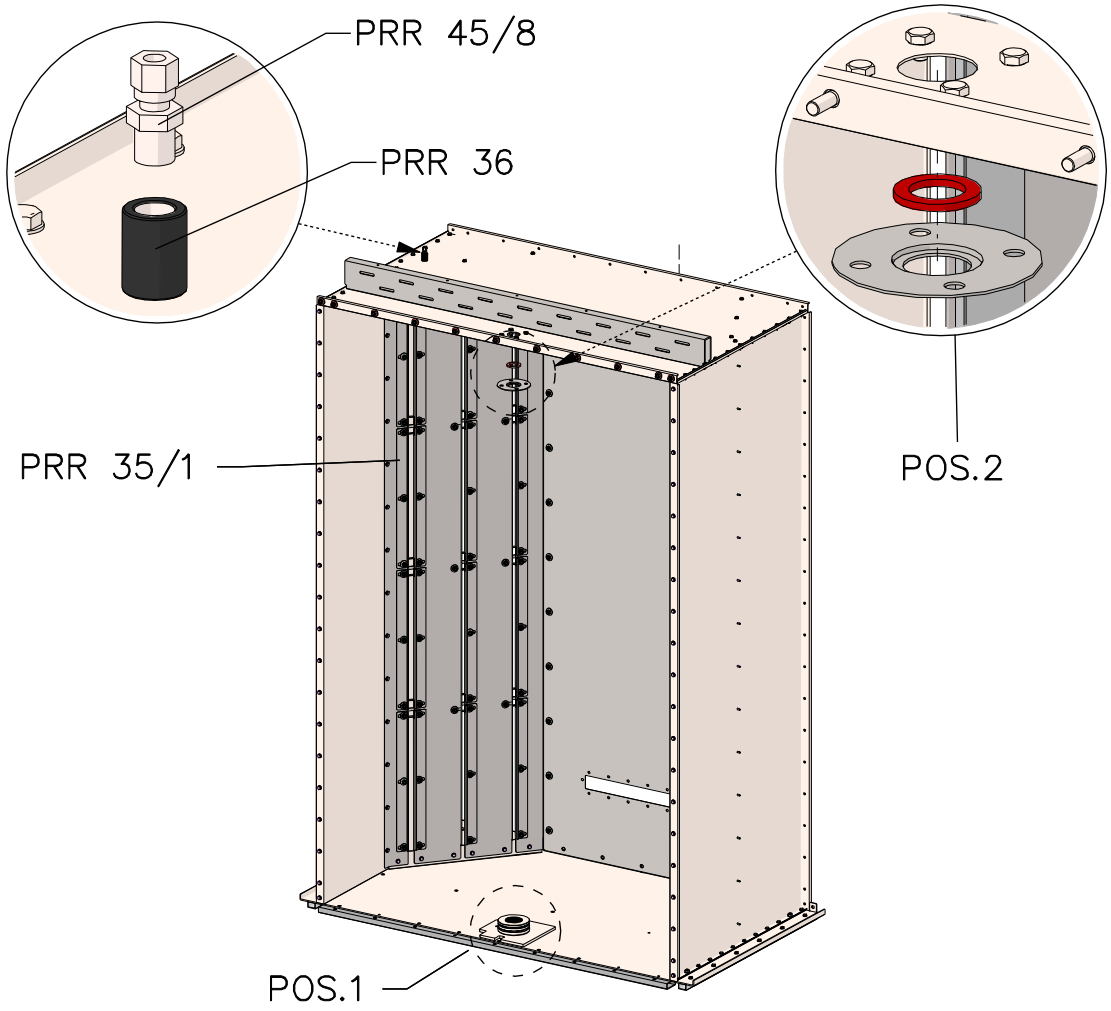
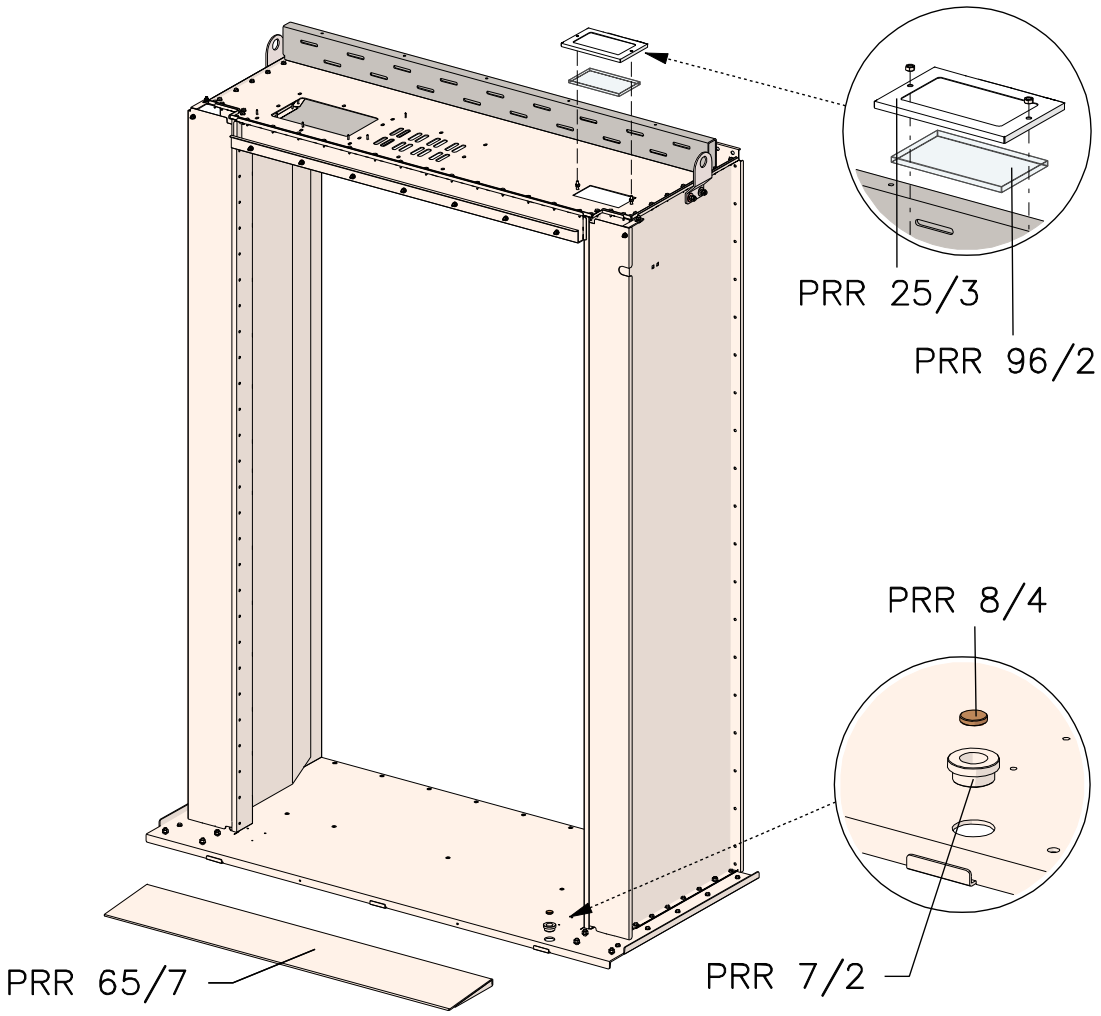


FIG.5

code	
PRR 45/8	CABLE CLAMP
PRR 36	SLEEVE FOR FEELER HOLDER
PRR 35/1	AIR FLOW ADJUSTING SLOT
POS.1	SEE ANNEX “D”
POS.2	SEE ANNEX “D”

Front section

FIG.6



code	
PRR 65/7	RAMP FOR RACK ENTRY
PRR 8/4	BRASS BUSHING FOR UNDERDOOR
PRR 7/2	STEEL BUSHING FOR DOOR
PRR 25/3	FLANGE FOR LAMP GLASS
PRR 96/2	LIGHT GLASS

Front

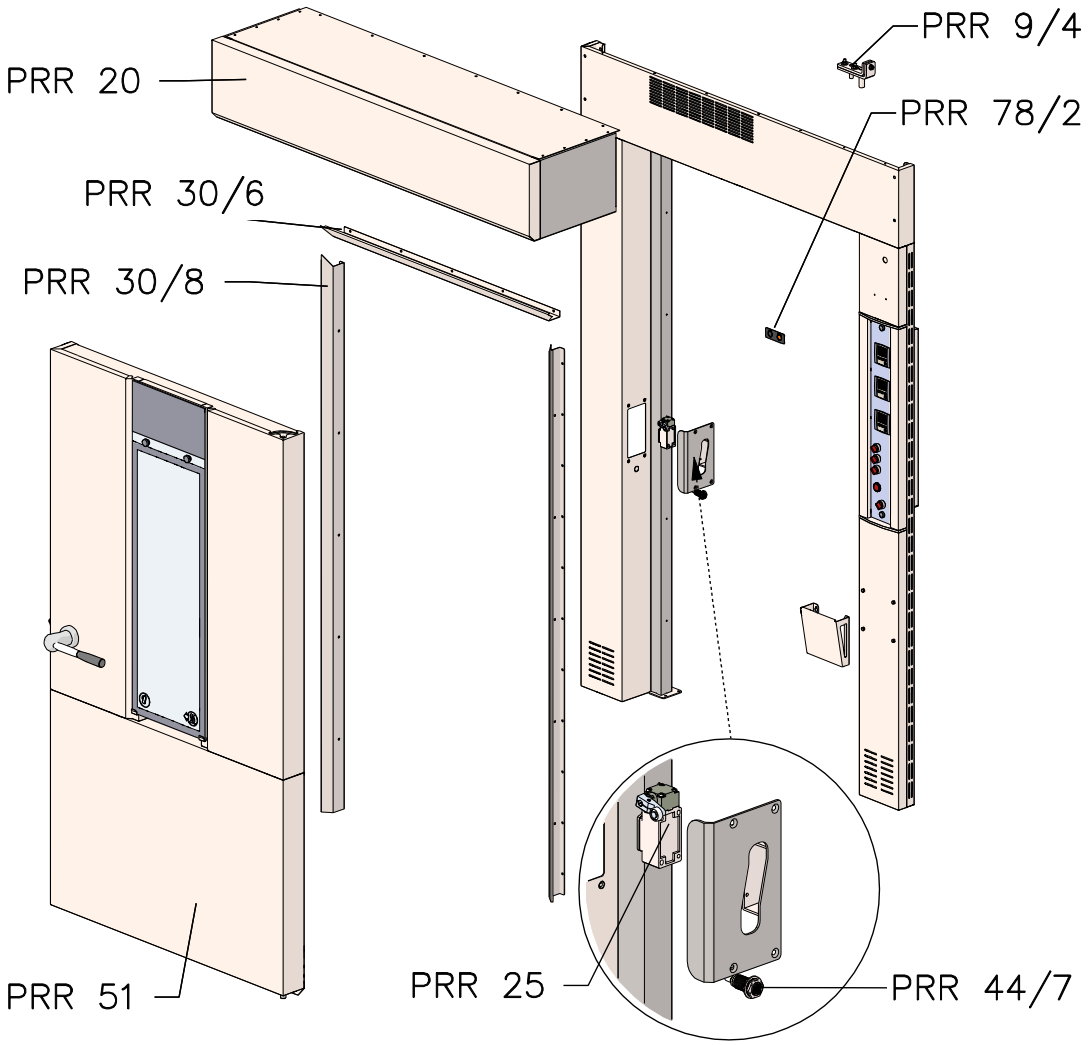
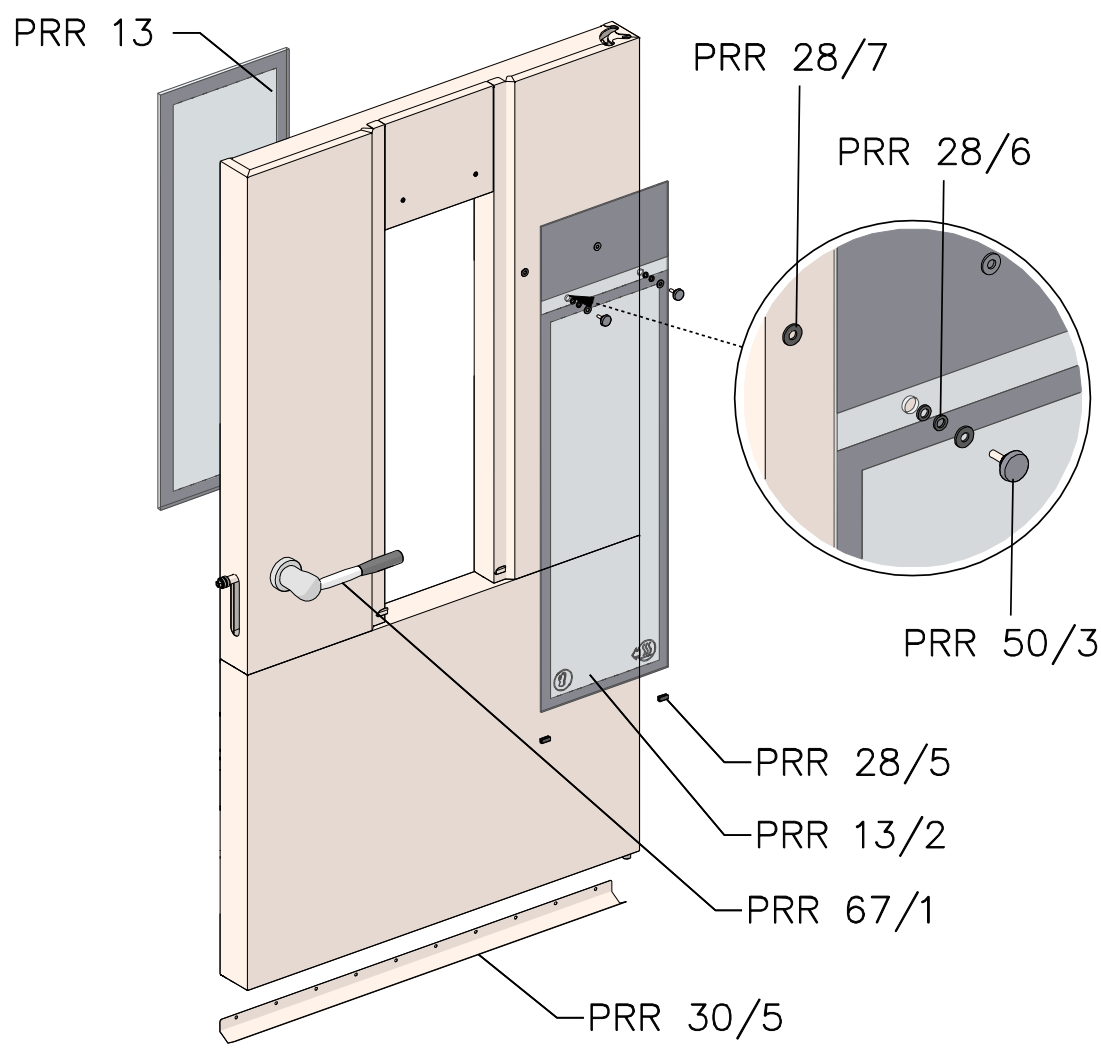


FIG.7

code	
PRR 51	DOOR FOR ROTATIVE OVEN
PRR 30/8	DOOR GASKET "LATERAL" - STAINLESS STEEL
PRR 30/6	DOOR GASKET "UPPER" - STAINLESS STEEL
PRR 78/2	PLATE "OPEN-CLOSED"
PRR 9/4	UPPER DOOR HINGES
PRR 25	LIMIT SWITCH
PRR 44/7	PROXIMITY
PRR 20	HOOD FOR ROTATIVE OVEN

Door

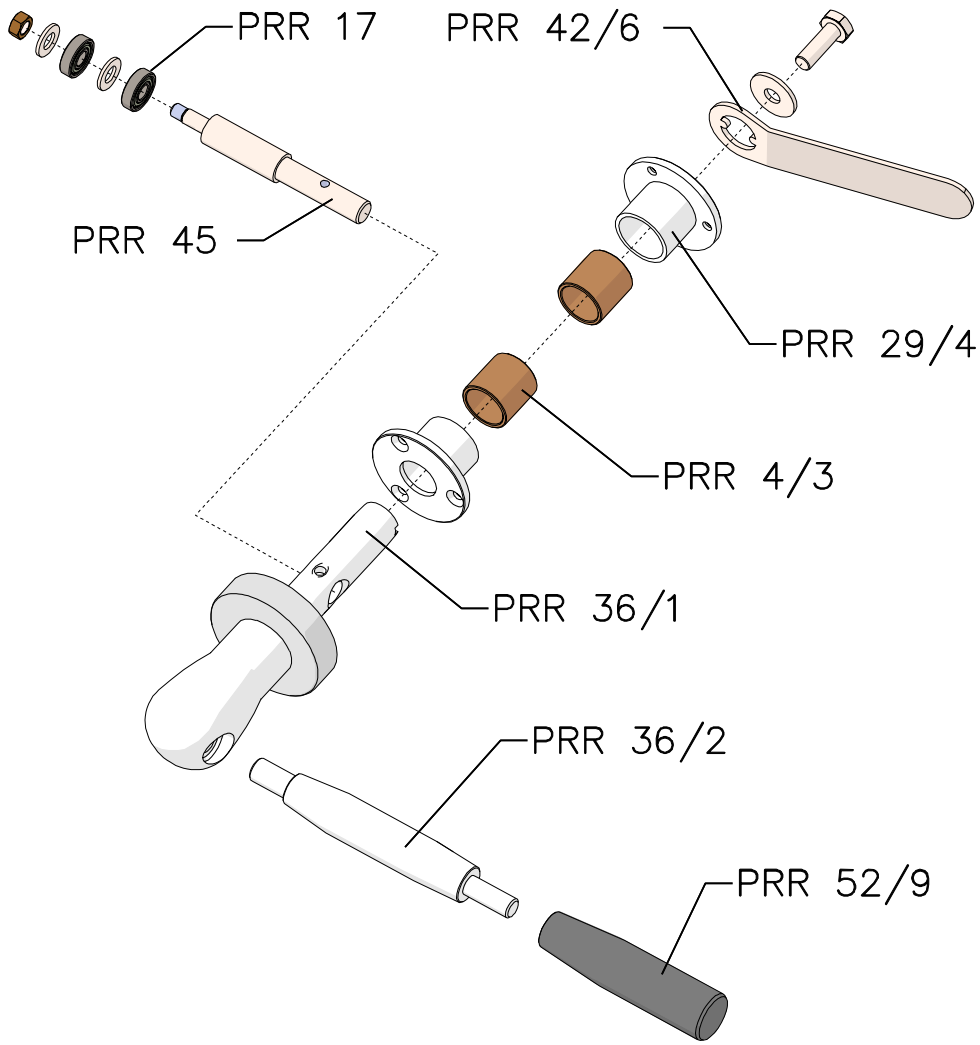
PRR 51



code	
PRR 67/1	DOOR LOCK
PRR 13	DOOR GLASS - INTERNAL - FOR DOOR WITH SHORT WINDOW
PRR 13/2	DOOR GLASS - EXTERNAL - FOR OVEN WITH SHORT WINDOW
PRR 30/5	DOOR GASKET "BOTTOM" - STAINLESS STEEL
PRR 50/3	SCREW WITH BLACK KNOB
PRR 28/5	LOWER GLASS SUPPPORT GASKET
PRR 28/6	GLASS FIXING LITTLE ROUND GASKET
PRR 28/7	GLASS FIXING LARGE ROUND GASKET

Lock for door

PRR 67/1



code	
PRR 17	BEARING FOR DOOR LOCK
PRR 45	PIN FOR DOOR HANDLE
PRR 52/9	DOOR HANDLE, BLACK BAKELITE HILT
PRR 36/2	DOOR HANDLE - HILT IN CHROMIUM-IRON
PRR 36/1	DOOR HANDLE - CENTRAL PART WITH PIVOT
PRR 4/3	BUSHING FOR DOOR HANDLE
PRR 29/4	RING NUT FOR DOOR HANDLE SUPPORT
PRR 42/6	INTERNAL DOOR HANDLE

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