



LOGIUDICE FORNI  
technologies by tradition

# STEAM TUBES OVENS RANGE

LOGIUDICE FORNI s.r.l.

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**Steam tube deck oven PRIME – KAPPA – FOKUS**



**MINI STAR STONE**



**MINI STAR RING**



**Multi deck steam tube oven TOWER**



### **Steam tube ovens PRIME - KAPPA(Stone heating system)**

LoGiudice Forni is known to the bakery business for these ovens as we have been producing them for more than 40 years. Our deck ovens production started with the bigger, indestructible but also non flexible steam tube oven “L “shape. Probably this type of oven was one of the gentlest baking ovens but, due to its very large dimensions, it was replaced with the present annular shape steam tube. The heating system of this oven is quite similar to the L shape, i.e.: the hot flow generated by the burner (gas, gas oil or solid fuel), is forced to travel along a track channels made with refractory bricks (pict.1) . Over these channels are positioned the annular tubes. The tubes are filled up with distilled water. Once the tube is heated, the water becomes steam and starts to circulate inside the annular tube from the bottom to the upper part of the tube. The tubes are sealed with a special welding robot machine, MIG type for the annular tube – TIG type on the cross tube, in a way to resist at high pressure produced by the steam (the tubes are tested at 800 bars). The baking chambers are surrounded by the tubes: it means that in all parts of each single baking chamber we have the same temperature. The steam, independent for each baking chamber, is produced by the steam generators located over the hot flow channels. The direction of the steam, inside the baking chambers, is from the rear to the front part. The insulation is granted by a perimeter of thick lay concrete and wool rock. Thanks to it heating system, the main characteristic of the annular steam tube oven is to keep for a long time the temperature, having a fantastic thermal inertia due to its big hot mass, uniform baking and a very good steam capacity. Recommended for big bread, and for all types of bread that need a push from the bottom and long baking time.

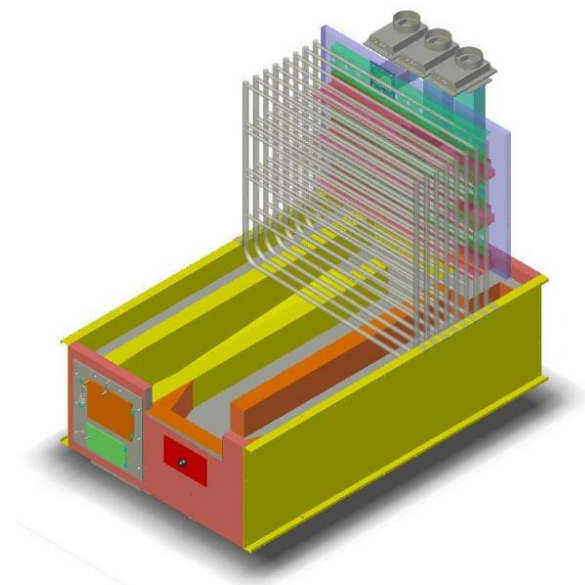
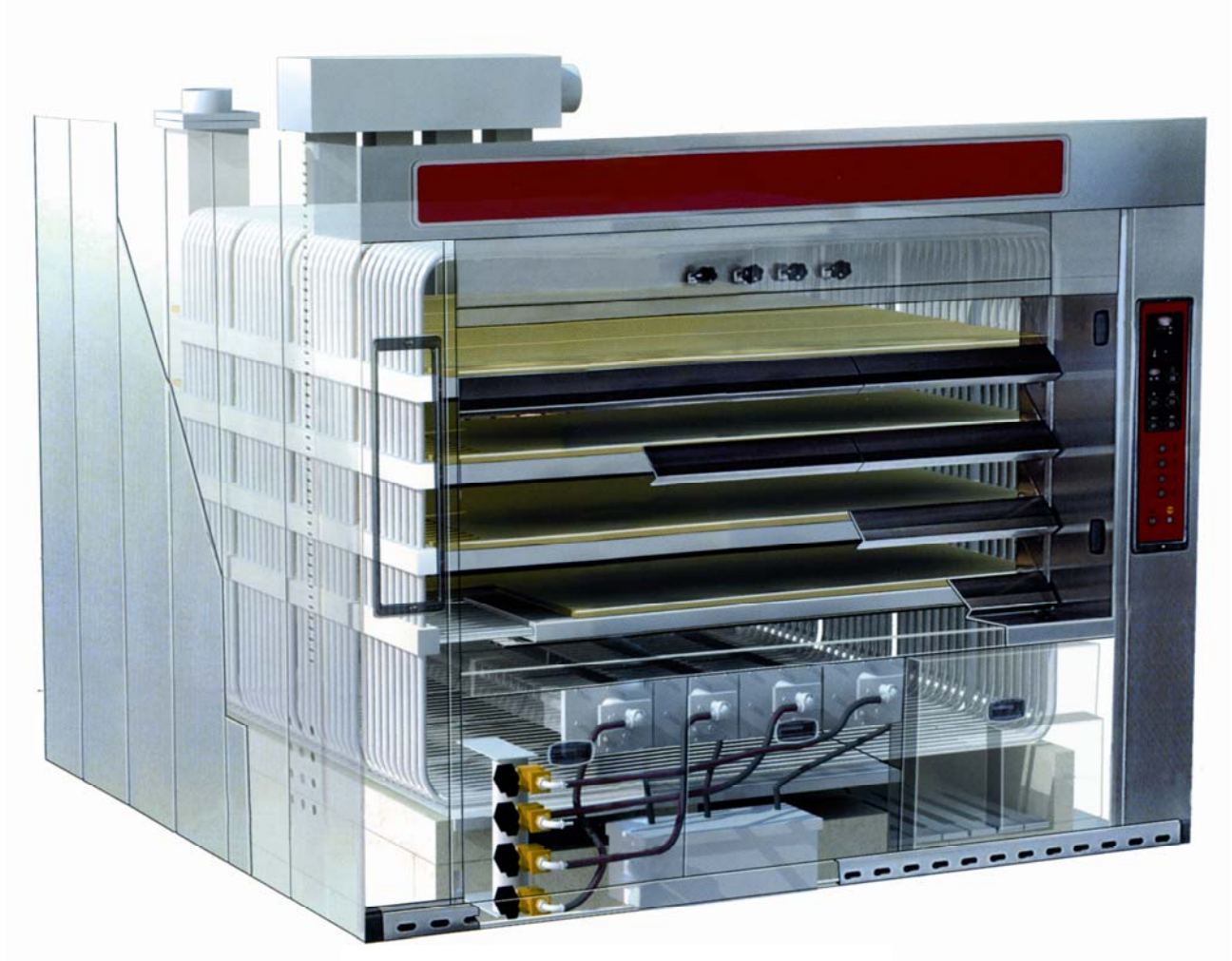
### **Steam tube ovens FOKUS (Ring heating system)**

Analyzing the market, we found that many bakers were looking and asking for an oven that will preserve the baking characteristic of a steam tube oven but with an easy and fast temperature regulation. The only way to obtain this was to reduce the thermal mass of the oven and to use materials with a fast temperature recovery. Firstly, we modified the bottom shape of the annular tube (see pict. 5) creating a ring on the tube. Secondly, instead of using channels made with refractory bricks, we used a refractory steel cylinders positioned across the tubes rings, inside of the cylinder passes the heating flow. Once the heating flow comes out from the cylinder, it is driven along a steel channels into a special chamber where the steam generators are placed (pict. 2 ). With this solution, we avoided the big thermal mass (no bricks) but we still have the baking chamber surrounded by the annular steam tubes. In addition, the lays of concrete are not used anymore, replaced by a material with high coefficient of insulating. The results are that the oven is not so heavy (could be placed on second floor and could be disassembled easily), short installation time, excellent steam quantity but above all, fast temperature regulation (3°C per minute) and economical fuel consumption, 40% less than a traditional deck oven. Our commitment to have a mix between annular steam tube oven and cyclothermic oven is achieved.

*For your information the heat, produced by any cyclothermic oven, is much more bread stressing and out of control than the heat produced by any steam tube oven. This is because under the refractory plates are located some steel channels where hot flow is forced to travel along by a turbine. Where the channels are positioned, the temperature is substantially different from the rest of the refractory plate having a spots zebra colors as baking result.*

Pict. 1

Refractory channels on PRIME and KAPPA models



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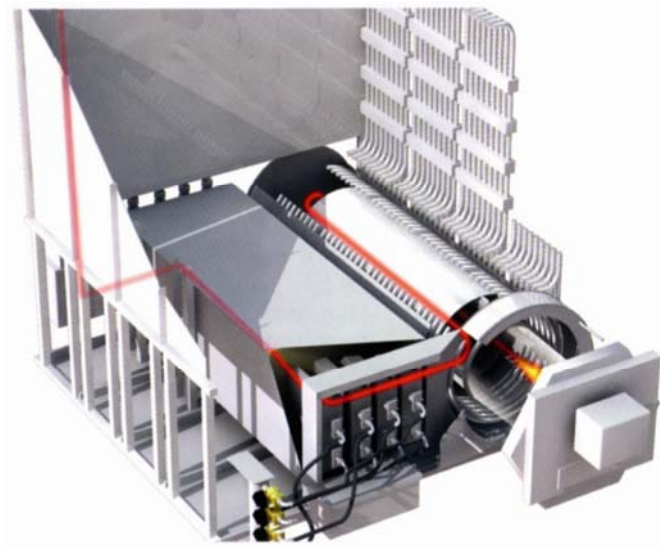
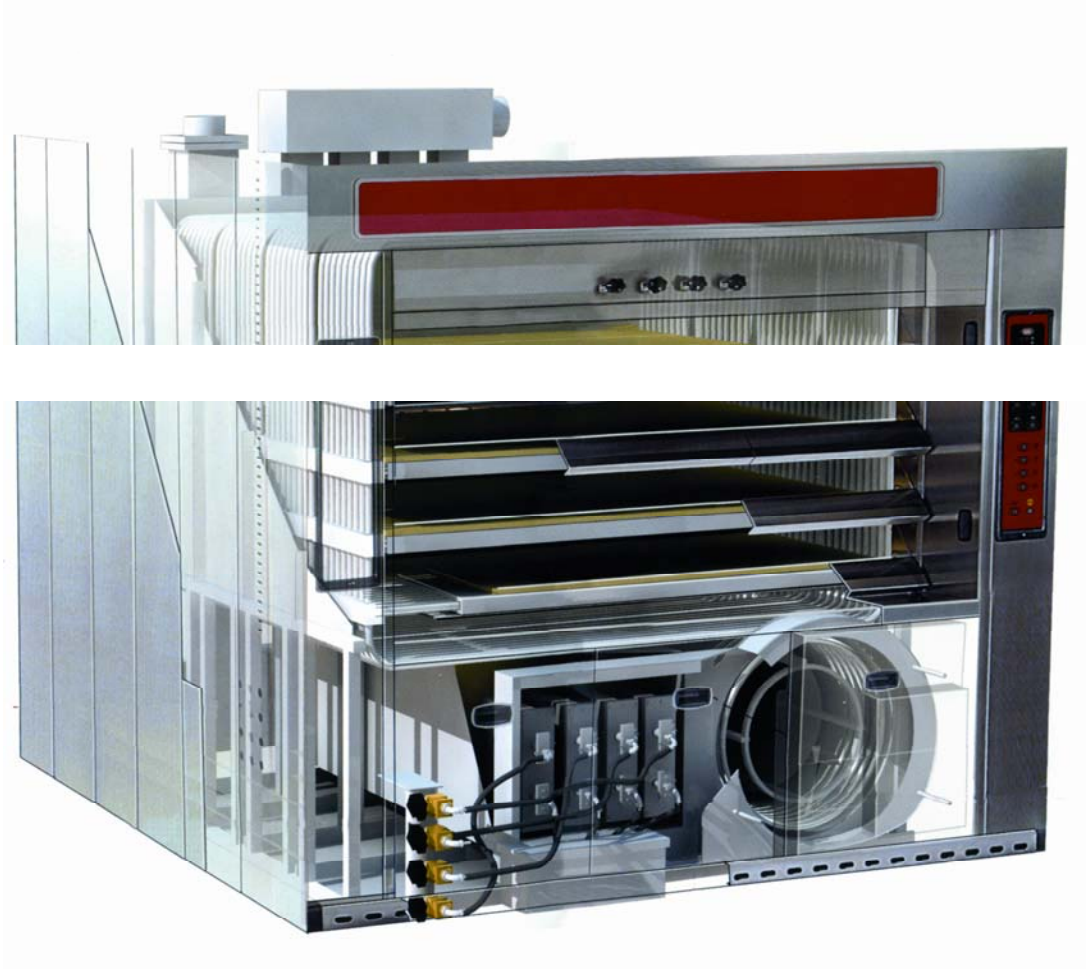
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Pict. 2

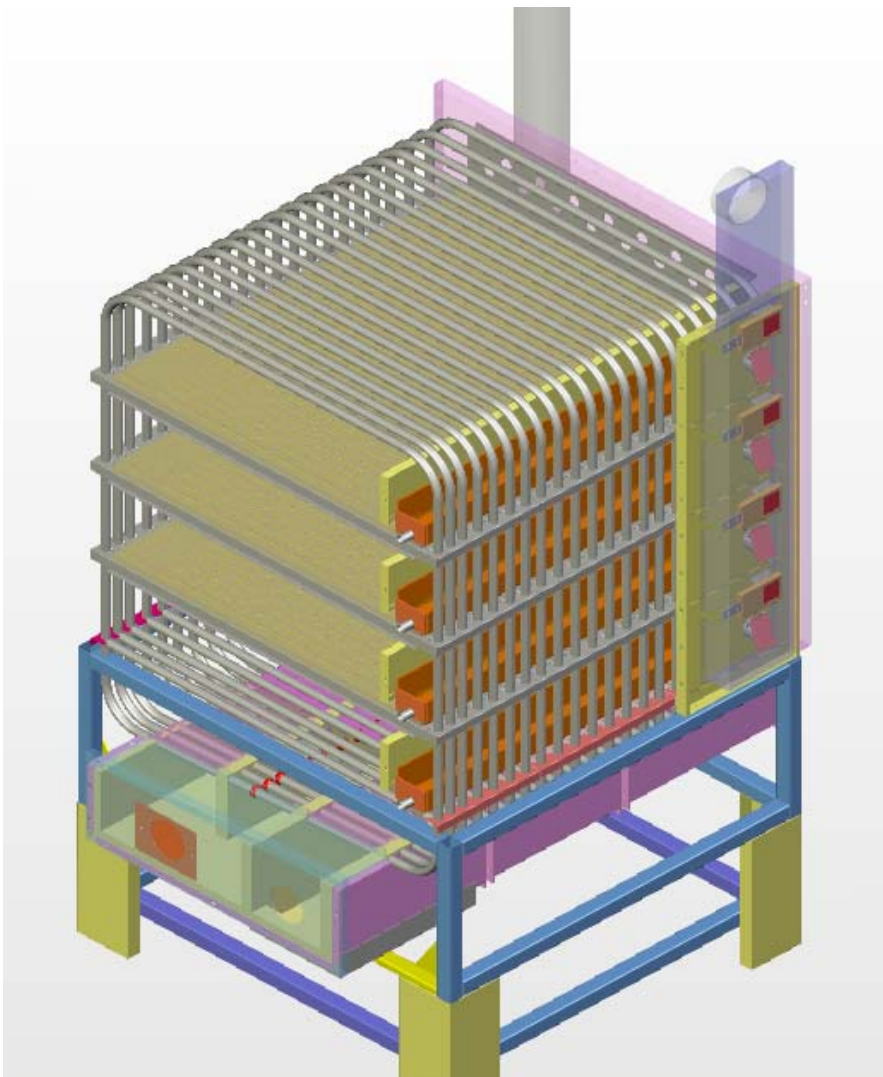
**Steam tube deck oven mod. FOKUS “RING”**



### MINISTAR and Easy Pizza Stone Model:

Thanks to our 40 years experience and technology, we are the exclusive producer in the world of a small, compact and economical steam tube oven with channels made with refractory bricks . This Ministar series is available with 2, 3 and 4 decks from 2,12 m<sup>2</sup> up to 5,6 m<sup>2</sup> of baking surface. The oven can be heated by gas or gas-oil burner and on models 80x60 - 80x120 cm with **electricity** too. The steam is assured by an independent steamer placed directly inside of each baking chamber. It can be loaded and unloaded by loader or setter. Available also with integrated manual loader (Pict.3.1).The oven usually is supplied already assembled. A special deck material made with a mix of glass fiber is used on Easy Pizza models. Ø tubes of 21 mm external, internal 15 mm.

Pict. 3



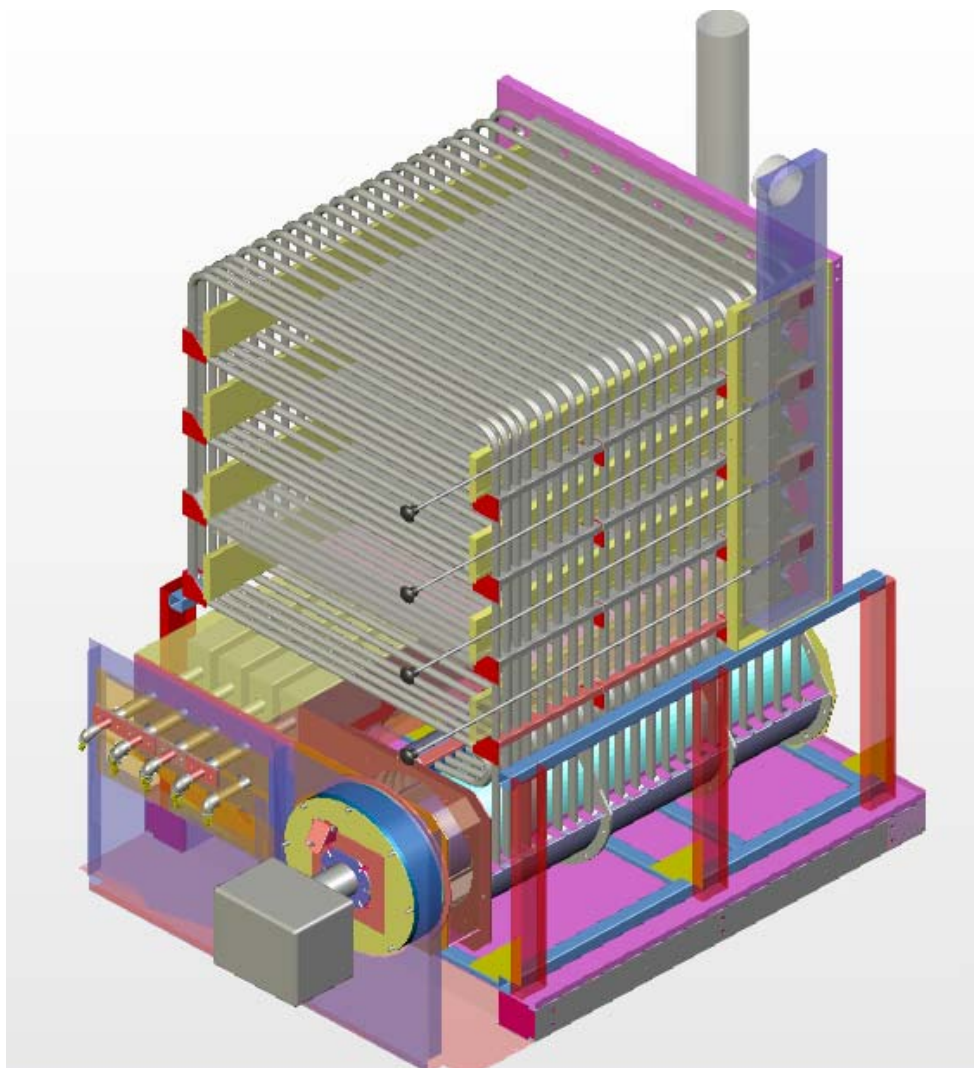
Pict. 3.1



### MINISTAR Ring Model:

Built with 4 and 5 decks from 3,2m<sup>2</sup> up to 8,0 m<sup>2</sup> of baking surface with metal firing furnace. It granting the typical smooth and gentle baking of the steam tube ovens together with the flexibility of a ciclothermic oven. Steamers are placed on the bottom part of the annular tube, assuring a big quantity of steam. It can be loaded and unloaded by loader or setter. Available also with integrated manual loader (Pict.4.1). The oven usually is supplied already assembled. Ø tubes of 21 mm external, internal 15 mm.

**Pict. 4**



**Pict. 4.1**





### Model PRIME LF Stone

Our traditional deck oven produced with 2, 3, 4 decks from 4m<sup>2</sup> up to 29,5 m<sup>2</sup> of baking surface. On request, it could be supplied with lateral furnace for solid fuel (coal, wood, etc.). Steamers are placed on the bottom part of the annular tube. It can be loaded and unloaded by loader or setter. Oven installation: 7 days. The customer must provide for gross sand (1,5m<sup>3</sup>), fine sand (0,5 m<sup>3</sup>) and common cement (15 bags). Annular tube with Ø of 35 mm external, internal 24 mm., twin crossing tubes with Ø of 27mm external and 19mm internal.

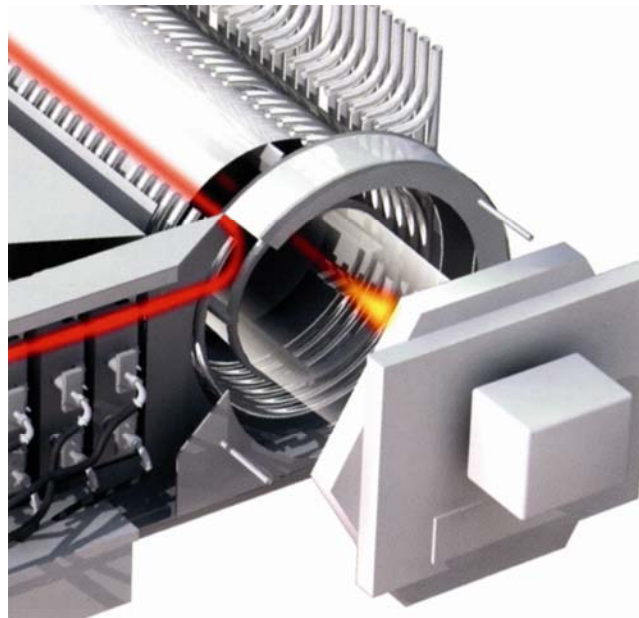
### Model KAPPA LFK Stone

Same as above but with reduced dimensions. Built with 3, 4 and 5 decks from 6m<sup>2</sup> up to 18,5m<sup>2</sup> of baking surface. The lay of concrete is replaced by material with high coefficient of insulation. On request, it could be supplied with frontal furnace for solid fuel (coal, wood, etc.). It can be loaded and unloaded by loader or setter. Oven installation: 5 days. The customer must provide only 3 bags of common cement. Ø tubes of 27 mm external, internal 19 mm., both for annular and crossing tubes.

### Model FOKUS LFKR Ring

Smooth, gentle and bottom push baking but fast temperature regulation puts this oven on the top of our range. With 4 and 5 decks from 8m<sup>2</sup> up to 18,5 m<sup>2</sup>. The steam generators are placed on the bottom of the annular tube, granting a lot of steam. It is the best alternative at the ciclothermic ovens. It can be loaded and unloaded by loader or setter. Oven installation: 4 days. Ø tubes of 27 mm external, internal 19 mm., both for annular and crossing tubes.

Pict. 5





## MULTI DECK STEAM TUBE OVEN

Multi Deck oven with steam tube heating system, metal shape firing room type “RING”. Gas or gasoil burner.

The oven is available with the following features:

7 baking decks. Deck crown height : 16 cm

6 baking decks Deck crown height : 20/22/24 cm

Baking surface from 7 m<sup>2</sup> up to 27 m<sup>2</sup>

The Tower deck oven models are recommended for any type of bread. Its peculiarity is the strong hot “pushing” from the stone deck like the traditional backing.

### Firing room/hot airflow course

Octagonal firing room shape made in refractory stainless steel. Movable telescopic inner cylinder with double air flow course for easy baking calibration and high heating exchange efficiency

### Baking evenness

It is granted by the annular steam tube heating system. Tubes density is higher on the front side of the oven, while on the central parts tube density is 20 tubes/meter. On the back side, tube density is reduced to avoid heat accumulation. The cold-drawing tubes (Manesmann) made in Fe45-32UNI663 Ø 27mm, are individually tested.

**Loading and unloading of the decks must be supported by an automatic system.**



**Pict. 6**

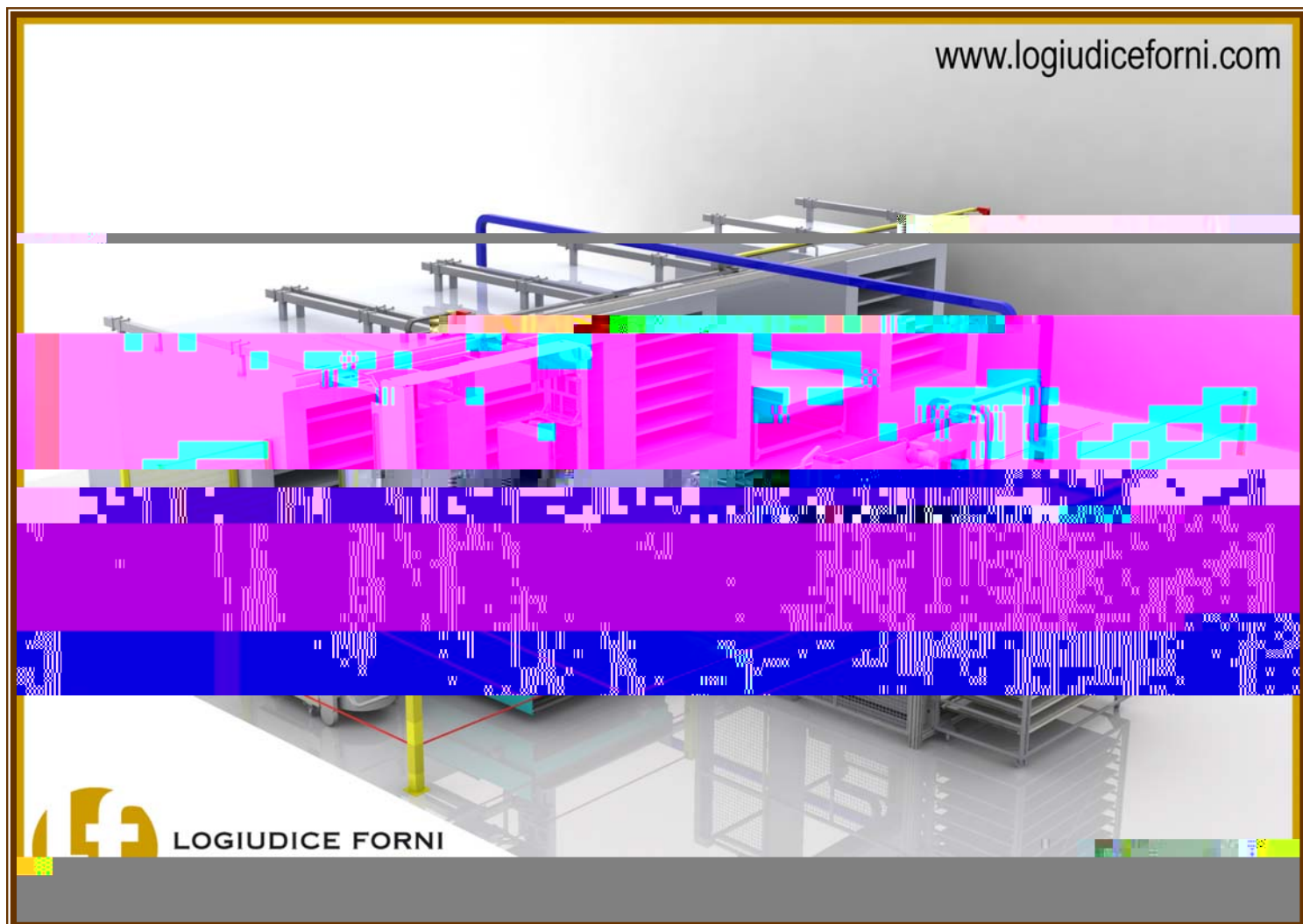
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Pict. 7



## ACCESSORIES:

**Mini Star** steam tube ovens can be supply with following accessories:

- Already assembled from factory
- Digital control panel
- Rustic front (brick finishing)
- S.Steel doors instead of glass doors
- Integrated Loader
- Setter of 800 or 1000 mm width

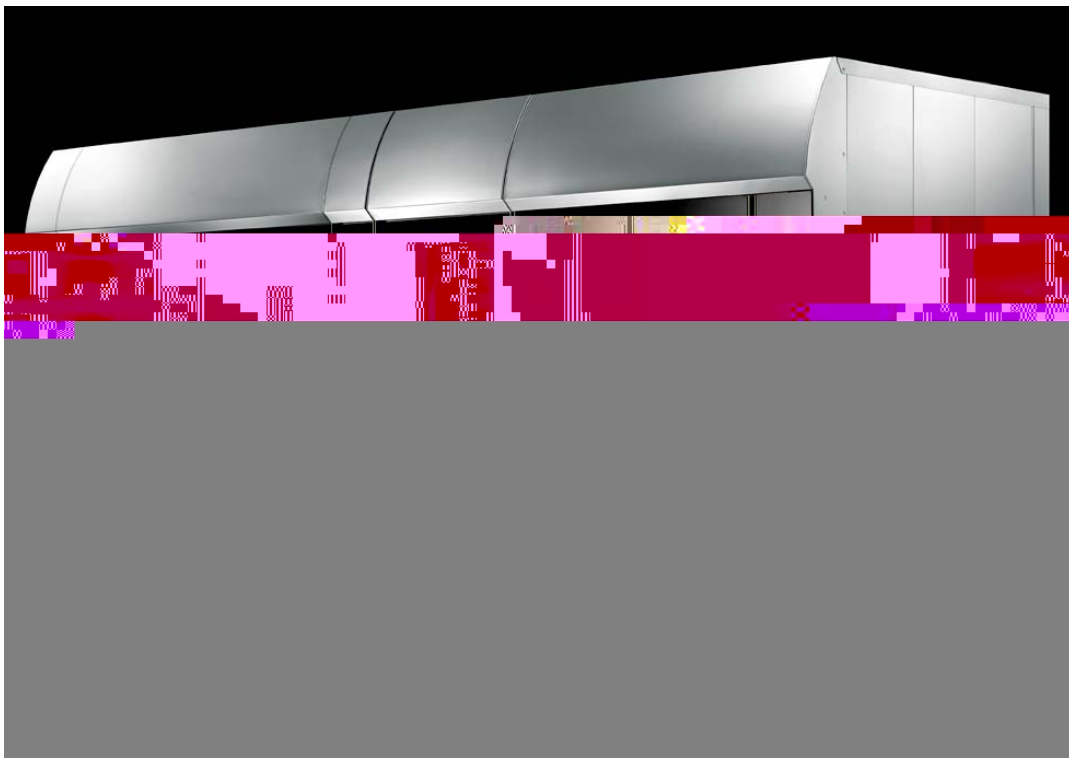
**PRIME – KAPPA – FOKUS** steam tubes ovens accessories:

- Lateral solid fuel furnace only for PRIME LF models. WARNING: not compatible with gas burner
- Front and side solid fuel furnace only for KAPPA LFK models. WARNING: not compatible with gas burner
- Digital control panel
- Reinforced steamers
- Lateral panels in s/steel for all ovens models
- Rustic front (brick finishing)
- Automatic chimney opening. To be used with digital control panel for automatic daily start up
- S.Steel doors instead of glass doors
- Doors opening upwards
- Special deck crown height

## PREMIUM LINE

SHAPE OF EXCELLENCE

New oven line available on LOGIUDICE ovens range.



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