ModularOven

Flexible heat treatment for a perfect end product

- Two separated climate zones
- Controlled processes ensuring production continuity
- Ultimate control of climate parameters ensures product quality and safety

The heat is on…

**The demand for products that can be prepared simply and quickly, is huge in today's market. Not only for the consumer, but for the foodservice and institutional markets as well.
As a result, the manufacturers of these products must ensure that their production systems become more and more adaptable to work with a wide range of products at high capacity.**

The ModularOven offers that degree of flexibility and control of the production process to create the ultimate end product for you. With high capacity and adaptability, the ModularOven is excellent for innovative new products and is proven successful for processing a wide range of steam-cooked, marinated, coated and roasted products.

Achieving the right appearance, texture, flavor and bite for the most enjoyable eating experience relies heavily on the cooking parameters. With the ModularOven, you can maximize control of the process. This allows you to obtain the desired degree of crispness, browning and juiciness, while optimizing yield and capacity.

Product safety

The design of the ModularOven provides a greater level of food safety by being able to control temperature variation throughout the complete oven. An optimal environment is created across the belt, all around the product, even products with varying thickness. This allows for the desired end core temperature averages to be lowered, so better yield is obtained.

'The ModularOven has provided Suzanna's Kitchen with the ability to process a wide range of products. We are enthusiastic about its ability to create distinct cooking environments suitable for our diverse product lines.'

Brad Howard, CEO & Chairman,Suzanna's Kitchen, Duluth, GA, United States.

Flexibility

The ModularOven concept consists of two towers within which the heating of products takes place. One of the unique patented features of this oven is its ability to create and control distinct environments in the towers, allowing for maximum yield and capacity.
Each tower has unrivaled heating power, and its design allows the power to be used efficiently and effectively. This allows for significant increases in capacity over conventional systems, while providing higher quality and energy cost savings.
The power of the two towers combined gives the ModularOven versatility. For example, you could use the base tower for high dew point steaming and follow up with high temperature, low dew point cooking in the secondary tower.

Modular heating power

Another unique feature is that you can choose from different executions in heating power. Both towers can be used with heating elements providing up to 28kW/m^2 that can be adapted at a later stage. You can even opt for no heating elements in the towers, if steaming is the process condition that you want to use. It is the perfect example of modularity within this concept of the ModularOven.
The combination of true environment control and nearly unlimited heating power allows you to achieve both yields and capacities not previously possible.

Product variety

The ModularOven is suitable for a wide range of products. Whether it is whole chickens, chicken fillets, roasted duck, nuggets, hamburgers, spare ribs, sausages, fish, etc., the ModularOven can provide the heat treatment to create the end product desired.

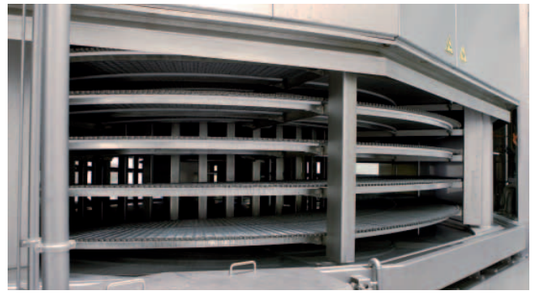
Each tower has independent controls for temperature, humidity and airflow, which offer variable functionality for steaming, cooking or roasting. This provides the flexibility to produce an array of existing and new products – each with its own specific flavor, texture and color characteristics.

Operation

The ModularOven is easily operated from a menu-based touch screen. The control of the ModularOven is achieved by means of a user-friendly human machine interface system, which is also responsible for cleaning by the Clean-In-Place system, as well as production and maintenance functions. The system is compatible with our Innova software, which can easily store a large number of recipes as well as provide a direct link to our Service organization.

Optimal design

The ModularOven has been designed using the computational fluid dynamics technique, giving an optimal airflow both over and around the product on all layers of the conveyor belt.
This has resulted in substantial energy savings, as well as, ensuring consistent product temperature and color over the width of the belt. The design includes a belt-washer that ensures that the belt is as clean and dry as possible when it enters the oven.
The ModularOven is equipped with one of two belt widths; and the belt's design allows you to choose the number of tiers preferred in each tower, which can differ per tower. The oven has high heating capacity of up to 28kW/m^2, as well as high air speeds of up to 7 mtrs/sec, allowing for a wider range of processes available. Furthermore, the oven's interior eliminates environment leakage from one tower to the other, ensuring true climate control.



Main benefits

The design and features of the ModularOven have made it the first in a completely new range of hot air ovens capable of high capacity, high yield, patented separate environments, short cooking times, ease of cleaning and ease of operation.
All of which results in benefits for you, from superior product characteristics, higher throughput, the maximization of uptime and the ability to further innovate your products.

	ModularOven 700	ModularOven 1000
Belt width (mm)	700	1000
Belt width (inch)	30	40
Max. heating capacity	23kW/m² Based on a 5-tier formation	15kW/m² Based on a 5-tier formation
Max. temperature (C)	240°	200°
Max. temperature (F)	464°	392°
Temperature difference between towers	Up to 100°C (180°F)	Up to 100°C (180°F)
Dew point difference between towers	Up to 30°C (54°F)	Up to 30°C (54°F)
No. of tiers possible	4, 5 or 6	4, 5 or 6
Air speed difference between towers	Up to 4 mtrs/sec	Up to 4 mtrs/sec

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Marel is the leading global provider of advanced equipment and systems for the fish, meat and poultry industries.