



THERIO

Radio Frequency defrosting of meat, fish and vegetables

RF defrosters ensure a rapid and uniform defrosting process, eliminating the need for large thawing rooms and minimizing the drip loss.



Conventional defrosting systems (still air thawing, forced air/blast thawing, water sprinkling, water immersion systems, etc..) are slow and often generate product waste due to the poor process control.

Differently, RF defrosting is an endogenous and instantaneous method that delivers the product ready for the next step in a few minutes: the product to be defrosted, either in blocks or IQF, is placed on the conveyor belt of the RF machine and is

submitted to rapid dielectric heating that brings its temperature just below the melting point of water, with no drip loss or bacterial deterioration.

In this way, other than saving time and preserving quality, last-minute orders can be easily managed and product waste is completely avoided.

Furthermore, being a continuous and in-line process, multiple handling is eliminated, with huge savings in labor cost.

> UNIFORM DEFROSTING

Meat, fish, vegetables, fruit etc. either in blocks or IQF can be defrosted in a few minutes up to $-1/-3^{\circ}$, with no drip loss. The process is uniform throughout the whole mass of the product, regardless of its size, weight and shape.

> NO BACTERIAL DEGRADATION OR CONTAMINATION

Either loose or packaged products can be RF defrosted with no bacterial degradation thanks to the fast process. Bacterial cross-contamination among different product pieces is eliminated in packaged product. The RF defrosters are also equipped with an efficient CIP system for the sanitization of the conveyor belt carrying the product.

> IN-LINE PRODUCTION

The process is carried out in-line, ensuring handling efficiency, labor savings and operational flexibility.

> ACCURATE PROCESS CONTROL

The RF power delivered by the machine can be easily adjusted and automatically controlled based on the specific needs of each particular product, thus ensuring a defrosting process up to the desired temperature range and the best quality results, minimizing human errors and eliminating product waste at the same time.

> LARGE PRODUCTION CAPACITY IN A SMALL SPACE

The reduced footprint of RF defrosters enables food companies to reduce drastically the area dedicated to the thawing process. The modular design allows to increase the production capacity at a later stage. The PLC ensures an easy and seamless integration into fully automated production lines.



> **Defrosting of IQF strawberries**
1000 Kg/h throughput



> **Defrosting of packaged shrimps**
1500 Kg/h throughput



> **Defrosting of meat blocks**
1000 Kg/h throughput

TECHNICAL FEATURES

RF Power (kW)	Standard Dimensions LxWxH (mm)	Max. Belt Width (mm)	RF Generator Cooling System	Nominal Throughput (-20°C to $-4/-2^{\circ}\text{C}$) (kg/h)
5	1700x700x2300	batch	Air	/
7	4100x1000x2500	600	Air	up to 200
20	4050x1690x2600	1200	Air	up to 400
40	7600x2130x3400	1700	Air	up to 1000
75	8970x2130x3670	1700	Water	up to 1500

Note: Production rate depends on product type, size, shape etc. The equipment can be customized to accomplish any production requirement.