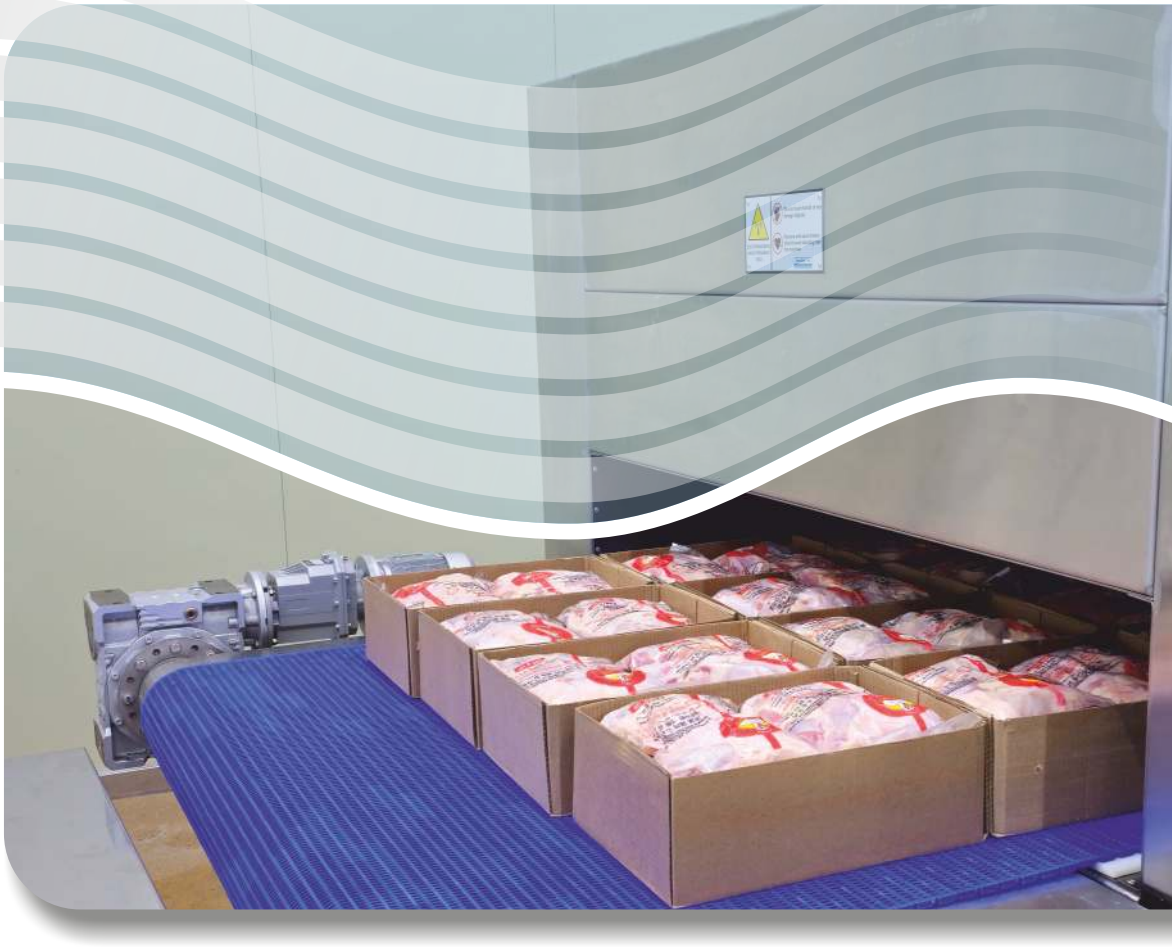
Strayfield

Pioneering the Future of
High-Speed, Efficient Solutions for

Radio Frequency Defrosting and Tempering

Designed in the United Kingdom



Strayfield is at the forefront of pioneering rapid defrosting and tempering solutions through Radio Frequency (RF) technology. As a renowned manufacturer in the industry, we specialize in RF-based defrosting and tempering equipment, always striving to exceed industry standards with our state-of-the-art machinery.

At Strayfield, we understand that evolving with the times is pivotal. Thus, our dedicated R&D initiatives continuously push boundaries, ensuring that our solutions not only meet but exceed the demands of today's rapidly-changing industrial landscape.

Our core values revolve around efficiency, sustainability, cutting-edge advancements, and a collaborative approach to problem-solving.

Central to our ethos is a deep commitment to our customers.

We pride ourselves on having a comprehensive global engineering service network, standing by to support our partners at every stage. Through unwavering dedication, our team ensures that clients across the globe receive exceptional support, tailored solutions, and unparalleled expertise.

When you align with Strayfield, you're not just selecting an equipment provider; you're choosing a partner dedicated to optimal productivity, environmental responsibility, and your long-term success. Experience unparalleled excellence in rapid defrosting and tempering with our cutting-edge RF solutions, supported by a team and network that truly cares.

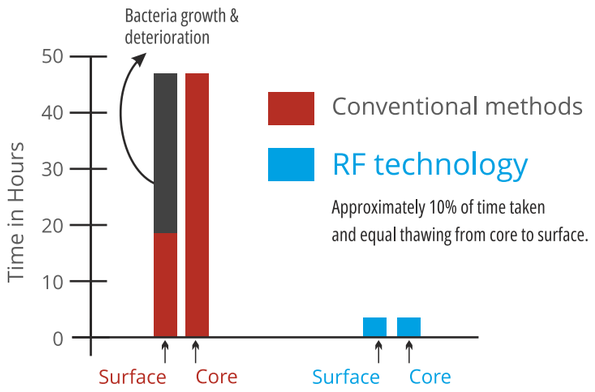
RF Mechanism

RF technology, grounded in the dielectric properties of materials, offers a revolutionary solution for high-speed defrosting of a diverse range of food items. RF heating is volumetric, ensuring a uniform temperature rise across even dense or thick materials, bypassing the typical challenges of conventional heating that produce a temperature gradient between the material's core and surface.

Strayfield utilizes this technology to its fullest potential. Our RF defrosting or tempering machines are a testament to innovation, defrosting up to 50 times faster than traditional methods, all while ensuring the food retains its quality. Beyond mere speed, our expertise extends to the seamless integration into continuous lines, significantly enhancing productivity rates.

Our machines guarantee uniform thawing, which not only preserves the product's natural texture and flavour but also drastically reduces the processing time. This efficiency in defrosting minimizes the time food spends in temperatures conducive to microbial growth, thereby reducing contamination risks.

We boast industry-leading energy efficiency, a pioneering filtered oscillator design that adheres to stringent compliance standards, and the use of flat electrode technology for a gentler and consistent thawing process.



Defrosting of 5.5 inch thick block of meat from -18°C to -2°C

Rapid defrosting

Volumetric heating

Uniform temperature profile

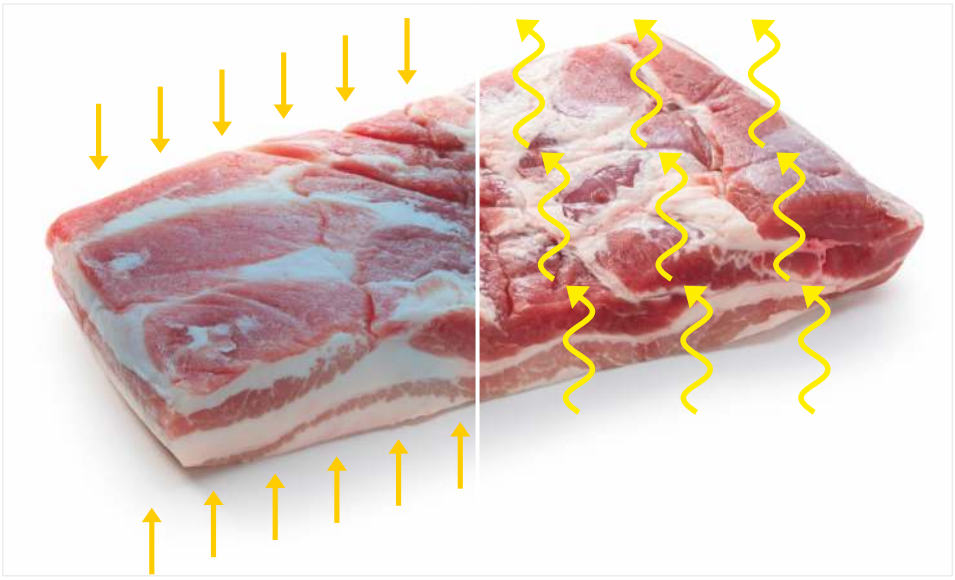
Strayfield's RF advantages

Increased Productivity

Strayfield's RF technology can be integrated into continuous production lines, allowing for high productivity rates. Unlike traditional methods that require batch processing or individual handling, Strayfield's RF tempering machines can be integrated into automated production lines, ensuring a continuous and efficient thawing process. This eliminates downtime between batches, resulting in increased overall productivity.

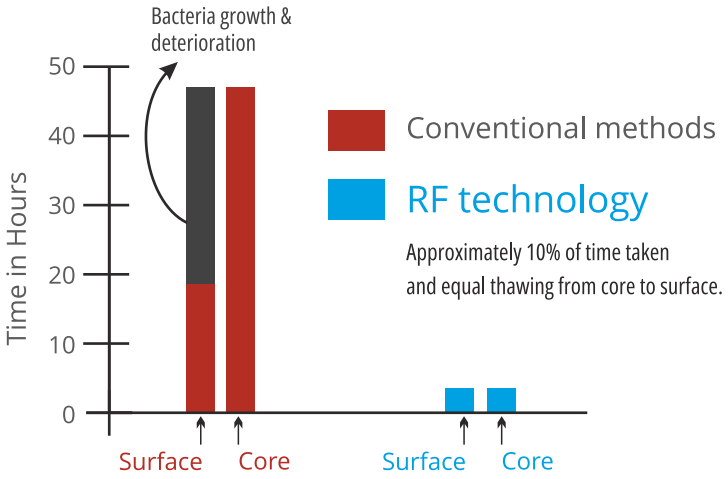
Ensuring Even Thawing

Strayfield's RF technology provides a consistent and controlled heating environment, ensuring an even thawing rate across the entire product. This uniformity helps to preserve the quality and integrity of the food, reducing drip losses.



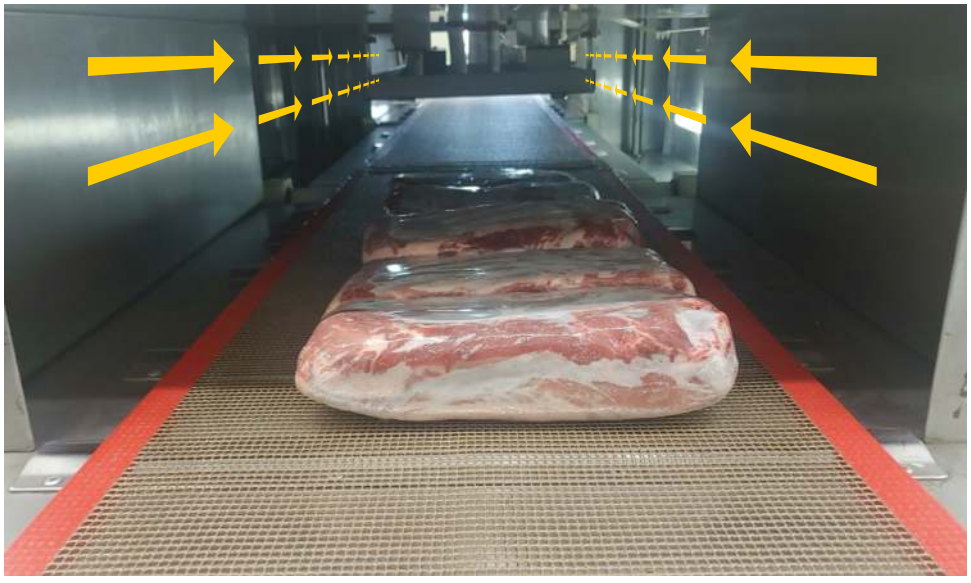
Short Processing Time

Strayfield's RF technology offers rapid and precise heating capabilities, allowing for extremely short processing times. The quick and efficient thawing process limits the exposure of the product to temperatures that promote microbial growth, effectively reducing the risk of bacterial contamination.



Defrosting of 5.5 inch thick block of meat from -18°C to -2°C

Optimization of Space



Strayfield's RF systems can be designed to occupy a relatively smaller footprint compared to traditional thawing methods. By utilizing RF technology, process units can make the most efficient use of their available floor area, optimizing their overall operational efficiency.

Advantages of Strayfield's RF tempering for Meat

Uniformity: RF defrosting ensures even heating throughout the meat, avoiding the common issue of the outer layers being overheated while the center remains frozen. This maintains meat integrity and reduces product waste.

Speed: RF defrosting is significantly faster than traditional methods, which means quicker processing times and enhanced production rates.

Product Quality: The rapid and uniform defrosting reduces the time meat is in the temperature danger zone, thus minimizing microbial growth. This results in fresher, safer meat with extended shelf-life.

Energy Efficiency: RF systems can be more energy efficient than conventional defrosting methods, like water baths or air rooms, as they directly target the meat rather than heating large volumes of water or air.

Yield Preservation: Traditional methods can sometimes lead to drip loss, where the meat loses moisture and thus weight. RF defrosting minimises drip losses, preserving yield and the meat's natural contents.

Tempering of Pork Belly

Flexibility: RF systems can be adjusted to handle different meat sizes and cuts, ensuring optimal defrosting regardless of product variations.

Space Savings: RF equipment tends to have a smaller footprint than large defrosting rooms or water bath systems, making it a space-saving solution for facilities with limited room.

Waste Reduction: With more precise and controlled defrosting, there's less chance of over-thawing or damaging the meat, reducing product waste.

Operational Continuity: The ability of RF systems to quickly adapt to different defrosting needs ensures a smoother operation, reducing downtime between variety of meat batches.

Environmentally Friendly: Reduced water usage (compared to water baths) and efficient energy consumption makes RF defrosting a more sustainable choice.

Advantages of Strayfield's RF tempering for Seafood

Texture Preservation: RF defrosting offers even heating, which maintains the structural integrity of the seafood, preserving its natural texture and firmness.

Minimal Drip Loss: RF thawing reduces the cellular damage and ensures maximum retention of natural juices which is vital for maintaining seafood weight, quality, and freshness.

Rapid Defrosting for Surimi: Surimi, being a paste made from fish, requires consistent texture for its various applications. RF defrosting ensures that surimi thaws uniformly without developing uneven textures or icy pockets.

Flavor Preservation: RF ensures consistent thawing, which maintains the original, fresh-from-the-sea flavor of the seafood.

Microbial Safety: The rapid defrosting provided by RF minimizes the time seafood spends in the temperature danger zone, decreasing the risk of bacterial growth and ensuring a safer product.

Tempering of Surimi Block

Energy Efficiency for Large Batches: RF systems can efficiently handle bulk quantities, making them more energy-efficient than conventional methods for large-scale operations.

Flexibility for Variety of Seafoods: RF systems can be tuned to cater to variable nature from dense shellfish to delicate fillets ensuring optimal results for each kind.

Cold Chain Integrity: RF defrosting can be integrated into processing lines, ensuring that seafood is rapidly thawed and moved to the next processing stage, preserving the cold chain and ensuring maximum product quality.

Space Efficiency: In seafood processing facilities where space is at a premium, RF equipment, with its relatively compact design, offers a space-saving alternative to large thawing tanks or rooms.

Eco-friendly: RF defrosting uses less water, aligning with sustainable practices and reducing the environmental impact.

Advantages for Fruits, Pulps, Whole Vegetables and Milk Fats

Preservation of Nutrients: RF defrosting ensures a quick thawing process, which reduces the potential loss of vitamins and minerals, preserving the nutritional integrity of fruits and vegetables.

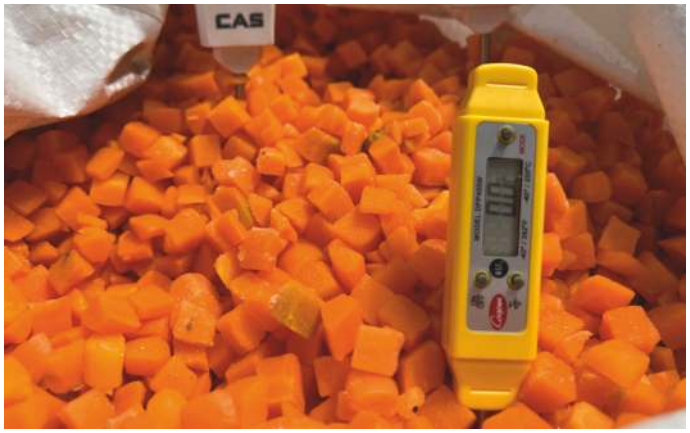
Texture Maintenance: RF provides even heating that maintains the crispness and structural integrity of these products.

Optimal Color Retention: The color of fruits and vegetables is a key indicator of freshness. RF defrosting minimizes discoloration that can occur with prolonged thawing processes, ensuring visually appealing products.

Consistency for Fruit Pulps: RF ensures that fruit pulps thaw uniformly, preventing icy pockets or uneven consistencies which can affect the end product quality.

Reduced Drip Loss: RF defrosting minimizes cellular damage in fruits and vegetables, leading to reduced water loss and maintaining the weight of the produce.

Thawing of Butter Blocks



Quick Processing Time: RF defrosting exceptionally reduces thawing time, accelerating processing and packaging operations.

Microbial Safety: Quick and uniform RF thawing reduces the risk of microbial contamination and spoilage.

Energy Efficiency: RF defrosting is often more energy-efficient than traditional methods, especially when dealing with bulk quantities of fruits and vegetables in commercial settings.

Adaptability for Varied Produce: Given the diverse nature of fruits and vegetables, from dense pineapples to delicate berries, RF systems can be adjusted to handle various types optimally.

Sustainability and Waste Reduction: Quicker thawing means reduced energy consumption and processing time. This not only aids in reducing the carbon footprint but also minimizes product waste due to spoilage or texture degradation.

Production Details for Various Machine Sizes and Configurations

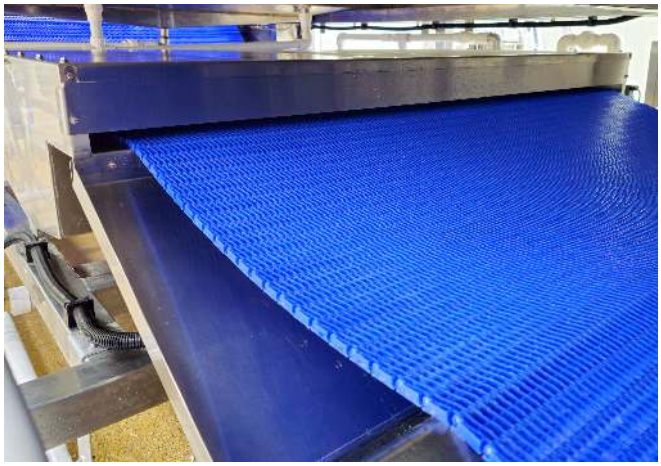
Production Kg/hr for Tempering from -18°C to -2°C

Product / Machine	Boneless Chicken Thigh	Pork Belly	Surimi	Fruit Puree	100% Fat	Whole Fish	Shrimp	Lean Meat
25kW	550	300	450	375	550	450	450	450
50kW	1100	600	925	725	1100	925	925	925
75kW	1700	950	1400	1100	1700	1400	1400	1400
100kW	2200	1300	1800	1400	2200	1800	1800	1800
50kW x 2	2200	1300	1800	1400	2200	1800	1800	1800
75kW x 2	3400	2600	2800	2200	3400	2800	2800	2800

*All figures are tentative. Production rates may be higher or lower based on final product presentation and process requirements

Add-on features

Cleaning in Place (CIP) Systems

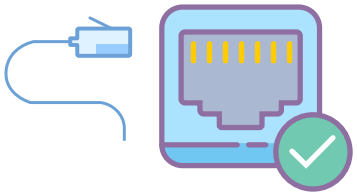


Enhance the hygiene and efficiency of your operations with our CIP systems. Our machines can be equipped with an optional CIP system designed to maintain sanitary conditions during the defrosting process. These systems are equipped with an automatic water recycling feature, perfect for scenarios where reusing cleaning water is feasible. Each system includes a built-in filter, pumps, and a control system.

For more standard needs, we offer CIP systems that come with a powerful water jet, spraying, and flushing system. Additionally, our solutions feature an integrated belt drying arrangement, ensuring optimal performance and cleanliness.

Remote Connectivity Feature

Take advantage of our remote connectivity feature, allowing our engineering team to connect to your machine remotely. This capability enables real-time monitoring, fault diagnosis, and data logging, significantly improving service times and operational efficiency. With remote diagnostics, potential issues can be identified and resolved quickly, minimizing downtime and ensuring continuous optimal performance.



Stay Connected.

Ethernet based controllers make diagnosis possible.

UK

Strayfield Limited
Unit 11, Ely Road, Theale,
Berkshire, England. RG7 4BQ
Tel: +44 (0)118 932 7760
info@strayfield.co.uk

www.strayfield.co.uk

India

Monga Strayfield Pvt.Ltd.
C-4 (RS) 22, Bhosari Industrial Estate,
M.I.D.C. Bhosari, Pune - 411 026
Tel:+91 (0)20 2712 0021 or 22
sales@mongagroup.com

www.mongagroup.com