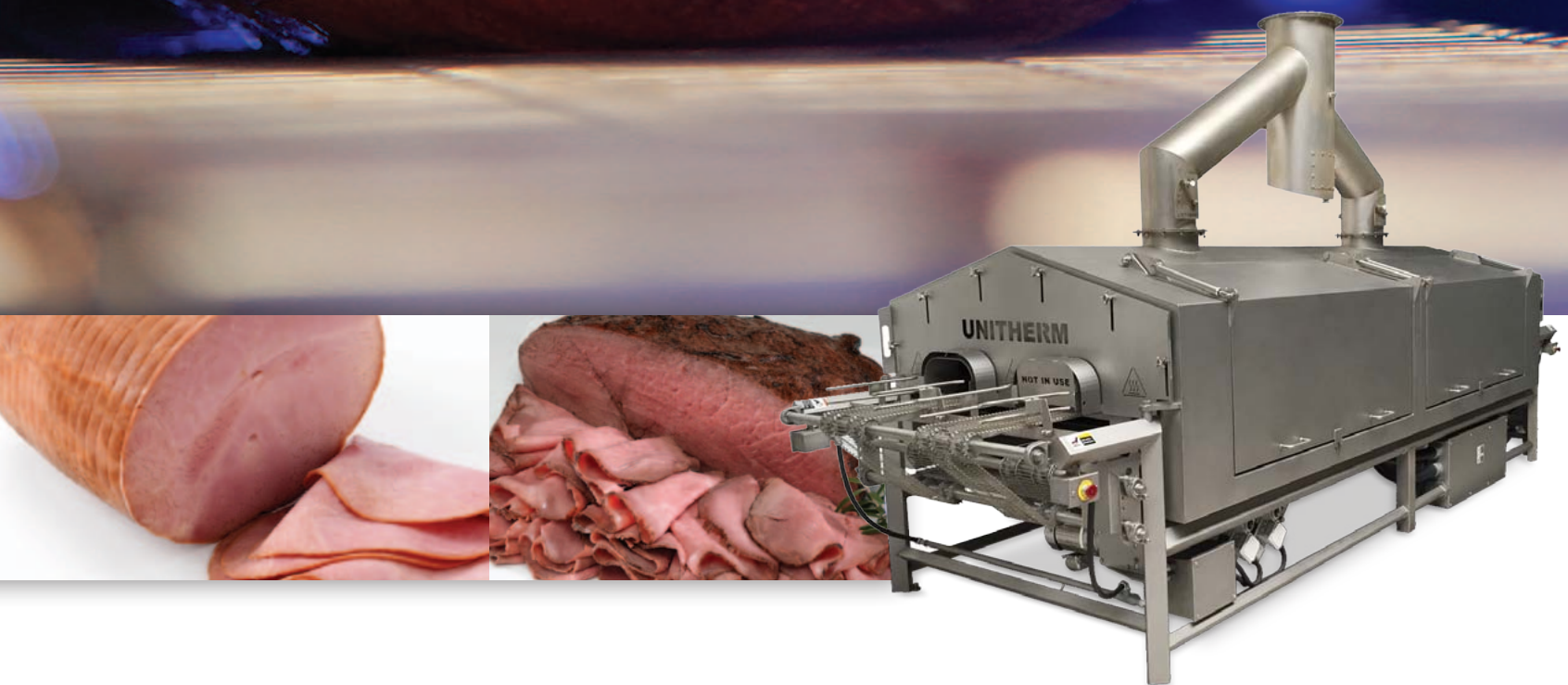


PASTEURIZATION SOLUTIONS



**Innovative Solutions
Focused on Process
Control and Food Safety**

UNITHERM
BETTER PROCESS...BETTER FOOD®

Our Unitherm line offers a range of versatile, custom-built pasteurization solutions designed around your protocol and process flow. Whether you're pasteurizing vertical form-fill-seal pouches or packaged deli products, our solutions are recognized by USDA Food Safety and Inspection Service and have been validated by third-party testing laboratories.

With a broad portfolio of pasteurization solutions, our team of technical advisors help processors identify the most appropriate process to achieve lethality while maintaining high product quality.

Pre-Package Pasteurization

With proper handling and our pre-package pasteurization solutions, you can reduce the risk of cross-contamination and increase shelf life. By pasteurizing your product before packaging, the need for post-pasteurization bags is eliminated which increases your profitability.

Flame Pasteurizer

Our Tunnel of Fire™ offers a rapid solution for surface pasteurizing whole birds, large bone-in products, and deli meats. Our patented process is integrated after your product has been cooked and chilled to 38°F (4°C). Using multiple ring-shaped ribbon burners, our Tunnel of Fire completely encompasses the product surface in direct flame. Residence times typically vary from 30-90 seconds, at over 750°F (400°C). This system can also offer the benefit of color and flavor development by extending the residence time to achieve the desired results. Due to the short residence time, core temperature of the product is unaffected, leaving it ready for immediate packaging upon exit.



Infrared Pasteurizer

Our Infrared Pasteurizer is designed specifically for the deli meat industry. This patented technology offers combined browning and pasteurization benefits in a compact footprint.* The product is pre-cooked and chilled before it passes through the Unitherm Infrared Pasteurizer. Our pasteurizer offers 360° coverage with heating elements on top, bottom, and sides, encompassing your product in radiant infrared heat reaching over 1,000°F (537°C). Surface pasteurization is achieved in 60 seconds. The short residence time doesn't affect the product's core temperature of 38°F (4°C) so it's ready for immediate packaging upon exit.

*By pairing this with our Afosmoke system, you can smoke, brown, and pasteurize deli meats in ~1 minute with less than 2% yield loss.

Post-Package Pasteurization

If you prefer to pasteurize post-package, our product line offers two methods of post-package pasteurization to accommodate a wide range of product sizes and specifications. Both options are continuous handling and minimize thermal affects, and chill time.



Aquaflow Water Pasteurizer

Aquaflow Water Pasteurizer

Our Aquaflow Water Pasteurizers are installed in facilities around the world to post-package pasteurize a variety of products ranging from hot dogs to liquid eggs. Using a combination of technologies that incorporate steam injection, water agitation, and recirculation, products can be pasteurized with precise temperature control. The Aquaflow gently carries the product on a flighted conveyor through a recipe driven heating and chilling process. Maximize throughput with a minimal footprint and a fully customizable stacked tank design.



Compact Spiral Pasteurizer

Spiral Pasteurizer

When it comes to post-package pasteurizing ready meals, retort solutions are no longer the only option. Our Unitherm Spiral Pasteurizer provides a compact continuous solution for processors who want to extend their product shelf life without challenges of a batch process. These systems provide uniform heating of the product by using a patented forward-reversing fan to distribute steam, dry-heat, or super-heated vapor within the spiral pasteurizer. The operator user interface provides real-time data tracking to provide

you with precise control. This process is ideal for most product in trays and pouches where maintaining product orientation is important.



Recognized as a premium manufacturer of highly engineered food processing equipment and systems, Marlen International designs and builds solutions for the food processing industry.

Our premiere brands, Marlen, Carruthers, Afoheat, and Unitherm, have long set the standard for quality and performance. Internationally recognized, Marlen builds innovative solutions in vacuum stuffing and pumping, portioning, size reduction, thermal processing, and food handling.

We assure value to our customers through the highest consistency, accuracy, and product integrity. Our teams of expert engineering, design and technical personnel consult, collaborate, and partner with you to create custom solutions for your business.

Marlen International has been trusted by the world's leading food brands for over 60 years. Our world-class Solution Centers strategically located across the globe, allow processors to lean on our highly experienced food processing technologists to develop and test unique solutions for your products. Marlen International is a Duravant Company and is backed by SupportPro, a complete lifecycle management program for parts and service.



It's the Company Behind the Machine that Makes the Difference.



UNITHERM



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