

Taste Without Compromise

Protected by high-pressure processing, Fressure™ fresh ground beef patties offer enhanced food safety in a natural way.

As the premium burger trend has grown, so has the need to find ways to provide fresh beef patties with the taste consumers crave and the enhanced food safety that gives operators peace of mind.

Natural, High-Pressure Processing for Fresh, Safe Food

Meeting the needs of the operator, Fressure™ beef patties provide distributors a longer shelf life than existing fresh ground beef patties making Fressure™ patties a valuable supply chain solution allowing for safety stock and less waste. High-pressure processing has long been considered a desirable method for producing fresh, safe food. It does not use high temperatures, chemicals or irradiation that can interfere with taste, texture, color and nutrient value, nor does it convey the negative consumer perceptions of these traditional food safety methods.



Safe Food, Longer Shelf Life and Consistent Flavor

High-pressure processing technology enhances food safety by diminishing many foodborne pathogens, such as *E. coli* O157:H7, *Listeria monocytogenes*, and pathogenic *Salmonella sp.*, as well as microorganisms that can cause spoilage. In addition to retaining the freshness of ground beef patties, this process also increases the shelf life on average to double the industry standard. Typical fresh ground beef patties start showing changes in flavor toward the latter part of the shelf life due to the growth of spoilage bacteria causing sour or tangy traits that change the flavor. Operators may be aware of this flavor gap that occurs within the shelf life of traditional fresh beef patties, and may discard product during this time period so consumers will not have a bad eating experience. Fressure™ beef patties maintain a consistently fresh eating experience throughout the shelf life so operators can serve this product knowing the flavor has not been compromised, and it reduces waste

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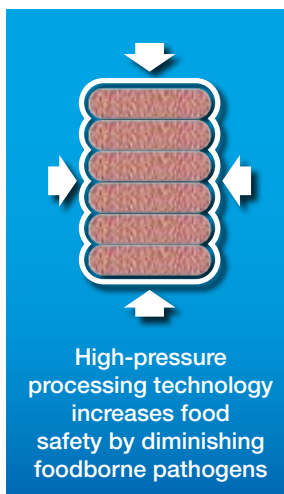
– Dr. Michael P. Doyle, Ph.D.

The technology has become feasible for widespread commercial use with certain foods such as avocados. High-pressure processing revolutionized the avocado industry, and thanks to this technology we can purchase and enjoy premade guacamole from grocery stores. Fressure™ fresh ground beef patties go through this patent-pending, high-pressure process.

for the operator. An expert on food safety, Michael P. Doyle, Ph.D., from the Center for Food Safety at the University of Georgia, says, "High-pressure processing of foods is a well-established treatment to mitigate contamination by harmful microbes such as *Salmonella*, *E. coli* O157, and *Listeria*, without adversely affecting the product's taste and quality. I applaud Cargill's leadership in applying this technology to ground beef to raise the level of ground beef safety to a new industry standard."

The Patent-Pending, High-Pressure Process

Packaged products are placed inside a pressure



chamber and water is added before the chamber is sealed. The chamber is programmed to increase the pressure to maximum desirable level and sustain it for a set period of time. Next, the chamber is decompressed and drained, and the products are removed.

Because pressure is applied equally on all areas of a product, the packaging is not damaged nor is the

product crushed. The pressure reduces foodborne pathogens and other harmful microorganisms because it is forceful enough to significantly disrupt cellular activity. The process occurs when products are in their final packaging eliminating the possibility of recontamination prior to shipment.

While this process does not require heat, it is not heat free. During pressurization some adiabatic heat, defined as heat that does not transfer in or out of a system, is generated temporarily. This heat dissipates quickly as the chamber depressurizes. Once the high-pressure process is complete, packaged food products are ready to be shipped to the customer.

Fressure™ Fresh Beef Patties for Burger Menus

The patent-pending Fressure™ beef patties use this technology that extends freshness naturally by pressure treating the outside of the package to protect the food product on the inside over a longer period of time. Fressure™ patties will appeal to customers who are increasingly looking for ground beef that offers enhanced food safety, consistent quality and fresh taste without preservatives or treatments that can diminish both the appeal and nutritional aspects of the food.