

# FOOD PROCESSING

refrigeration solutions customized to fit your needs





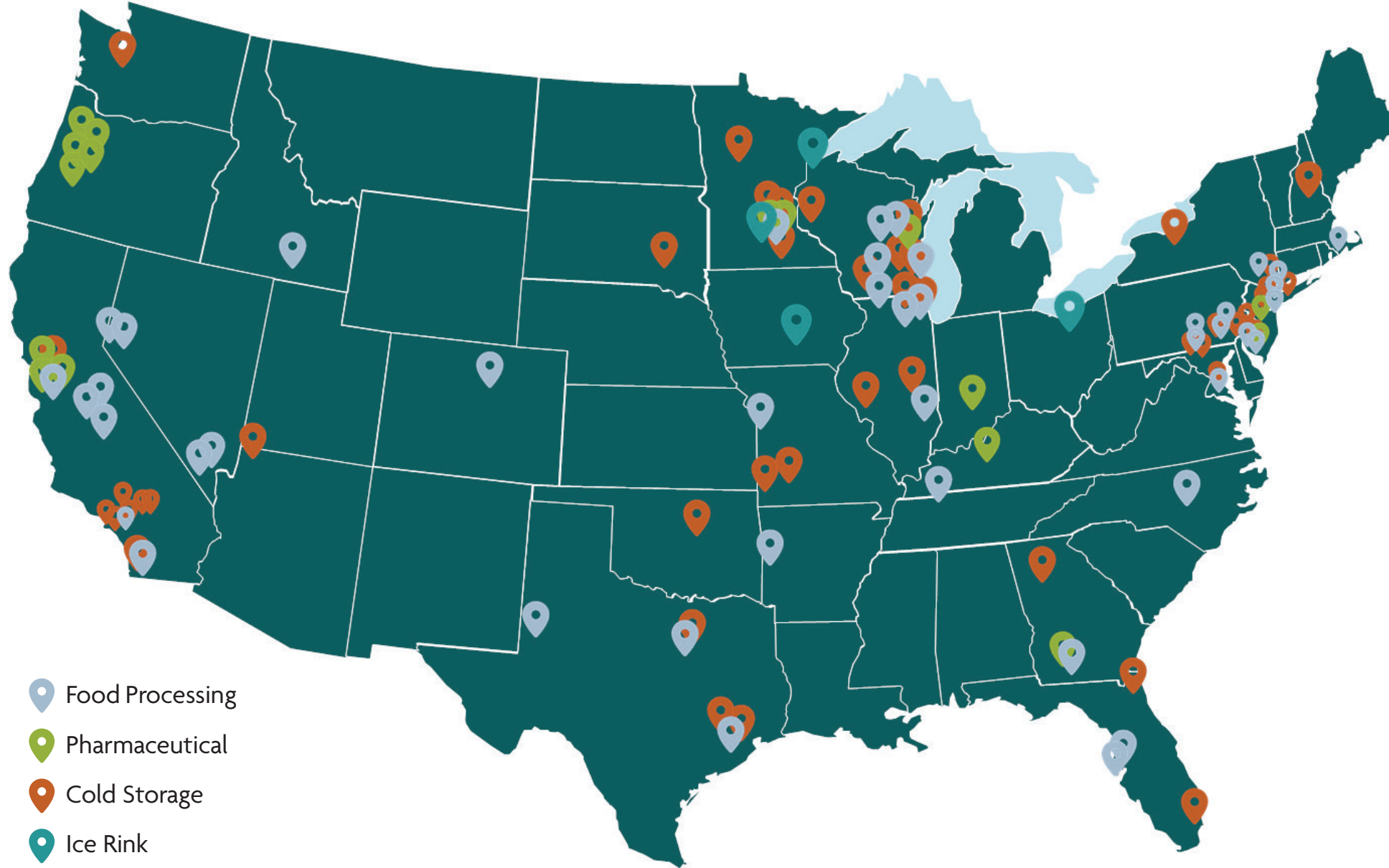
## about Food Processing

- > Canneries
- > Food Packing
- > Brewery Process Chilling

Food processing systems must meet demanding operational and engineering standards to ensure reliability, flexibility, and efficiency. These systems often operate under extreme conditions, such as suction temperatures reaching **-40°F** and cold storage between **-10°F to -20°F**. Load variability presents a significant challenge, as systems often operate at full capacity during production but drop to minimal loads during cleaning cycles between shifts. In the event of a shutdown, the consequences could include product loss and production delays, making system uptime absolutely critical. Zero Zone systems are engineered to prioritize floodback protection, equipment safety, and continuous operation even under fluctuating conditions.







## industrial Installations\*

Zero Zone industrial refrigeration systems are built for the rigorous demands of food processing which is far beyond what off-the-shelf racks can handle. We educate our customers on the critical differences: from maintaining precise temperatures in extreme climates and load variability to system robustness and uptime reliability.

Designed to meet the rigorous demands of food processing environments, Zero Zone systems deliver reliable performance, scalable solutions, and uncompromising safety. With installations in facilities nationwide, we've earned the trust of processors who rely on precision and consistency to keep America's food supply fresh and secure.

\*since 2020



## case study

# Fort Smith, AR

*“Zero Zone delivered a solution that met our sustainability goals without compromising performance.” – Facilities Manager*

A major food producer in the Southeast U.S. turned to Zero Zone for refrigeration in an 824,000 ft<sup>2</sup> processing facility. Challenges presented such as freezer spaces at -10 °F, refrigerated docks to prevent thawing, and a humid subtropical climate. Zero Zone delivered two Genesys™ CO<sub>2</sub> transcritical rack systems, providing over 260 tons of cooling capacity. These natural refrigerant solutions align with sustainability goals while ensuring reliability and efficiency.

Food processing demands robust systems that handle load variability and maintain uptime. Zero Zone designs for flexibility, safety, and continuous operation—even under fluctuating conditions. With stainless steel piping rated for 120-bar pressure and advanced controls, our systems protect product integrity and minimize risk. When downtime isn't an option, processors trust Zero Zone to keep production moving.



Outdoor CO<sub>2</sub> Parallel Rack





## System Solutions

Using parallel compression, these systems are designed with a modular design, adding flexibility and easy scalability. They deliver exceptional efficiency with precise load balancing and optimized energy use.

### Indoor Parallel Rack

The indoor parallel rack systems are delivered with complete integrated piping, wiring and controls to save time with install. It is ideally suited for machine, utility, or equipment rooms and available in air-cooled, water-cooled, or hybrid options.

### Outdoor Parallel Rack

Maximize space efficiency with our outdoor parallel rack systems, available in air-cooled, water-cooled, or hybrid options. Install on a concrete pad or roof to free up valuable space with easy access to all components with hinged or removable panels.

### Custom Electrical Mechanical Center

Electrical mechanical centers are rugged, versatile, and efficient. Constructed with a robust steel base, a resilient rubber membrane roof, and high-quality insulated exterior panels, these centers withstand even the harshest environmental conditions.

Outdoor Parallel Rack with Removable Panels



# System Solutions

## Edge™ Distributed System

Edge™ decentralizes refrigeration for a lower refrigerant charge, space savings, and improved energy performance. With a modular design for flexible scalability, Edge™ is available for indoor or outdoor installation in air- or water-cooled configurations, reducing piping and construction costs.

## Chiller System

Chillers indirect refrigeration systems maintain precise temperature control by using propylene or ethylene glycol process fluids. It utilizes multiple smaller compressors to adapt seamlessly to fluctuating loads, ensuring optimal efficiency.



CO<sub>2</sub> Outdoor Parallel Rack



## Genesys™ by Zero Zone

# Natural Solutions

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### Why natural in food processing?

These innovative cooling technologies harness the power of nature to create a more sustainable and environmentally responsible approach to refrigeration. By replacing high GWP synthetic refrigerants with natural gases, these solutions play a pivotal role in reducing greenhouse gas emissions and preserving the delicate balance of our planet's ecosystem.



### R744 (CO<sub>2</sub>)

- > Stable, non-toxic, non-flammable
- > High cooling capacity
- > Low global warming potential
- > Operates efficiently in transcritical mode

### R717 (Ammonia)

- > Zero ozone depletion potential (ODP)
- > Superior thermodynamic
- > High efficiency, availability, and reliability







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