

HUSSmann®

New refrigerant developments offer food retailers important opportunities to fight climate change and reduce global warming.

Fresh Ideas



Propane R290 Provides a Natural Option for Food Retail Refrigeration Systems

The demand for ever more stringent “green” standards is intensifying for the food retailing industry. Consumers increasingly demand greater sustainability and government regulations require it, such as the Department of Energy’s higher energy-efficiency requirements imposed in 2017.

As these trends escalate, new refrigerant developments now offer food retailers important opportunities to both decrease energy use and play a role in safeguarding the environment while reducing global warming.

One of the most promising developments is the use of **propane R290**, an environmentally safe, non-toxic, natural refrigerant that’s already part of major initiatives by Target, Lidl, and Whole Foods to boost sustainability in their refrigeration systems.

The Environmental Protection Agency has listed R290 as an acceptable refrigerant substitute under its Significant New Alternatives Policy (SNAP), and also exempted it from the venting prohibition in Section 608 of the Clean Air Act.

Here's what makes propane R290 a compelling refrigerant choice for food retailers who are upping their green game.

A propane primer

Unlike the propane used by backyard barbecue grills, which sometimes suffers from a stigma of being unsafe, propane R290 is produced specifically for use in refrigeration systems. In fact, industrial refrigeration systems have successfully used compression refrigeration charged with R290 for

a number of years, and it is already gaining acceptance in Europe as the first natural refrigerant to be used in food retail.

Propane R290 also is beginning to move into U.S. food retail on a larger scale. Thanks to the continuing evolution of refrigeration science and technology, self-contained and hermetically sealed refrigeration systems can help ensure the safety of components and equipment and lessen propane from leaking into the atmosphere.



Feeling the GreenChill

Hussmann Corporation has been an active member since 2008 of the **Environmental Protection Agency's GreenChill** program. This partnership with food retailers works to:

- Transition to environmentally friendlier refrigerants
- Lower refrigerant charge sizes
- Eliminate ozone-depleting leaks
- Adopt green refrigeration technologies and best practices

New U.S. Propane Refrigeration Solution for Full-size Merchandisers

Global refrigeration leader **Hussmann Corporation** is the first U.S. manufacturer to design, engineer and deliver full-size propane R290 merchandisers to refrigerate perishable foods—such as meat, produce, dairy products, and beverages—for the food retailing industry.

The new line, Hussmann's **microDS**, is a micro distributed system that is water-cooled, self-contained, and hermetically sealed, and it uses only propane R290 as the refrigerant.

It's available for low- and medium-temperature merchandisers. The system is scalable, allowing Hussmann to apply it in various retail grocery merchandising display units.

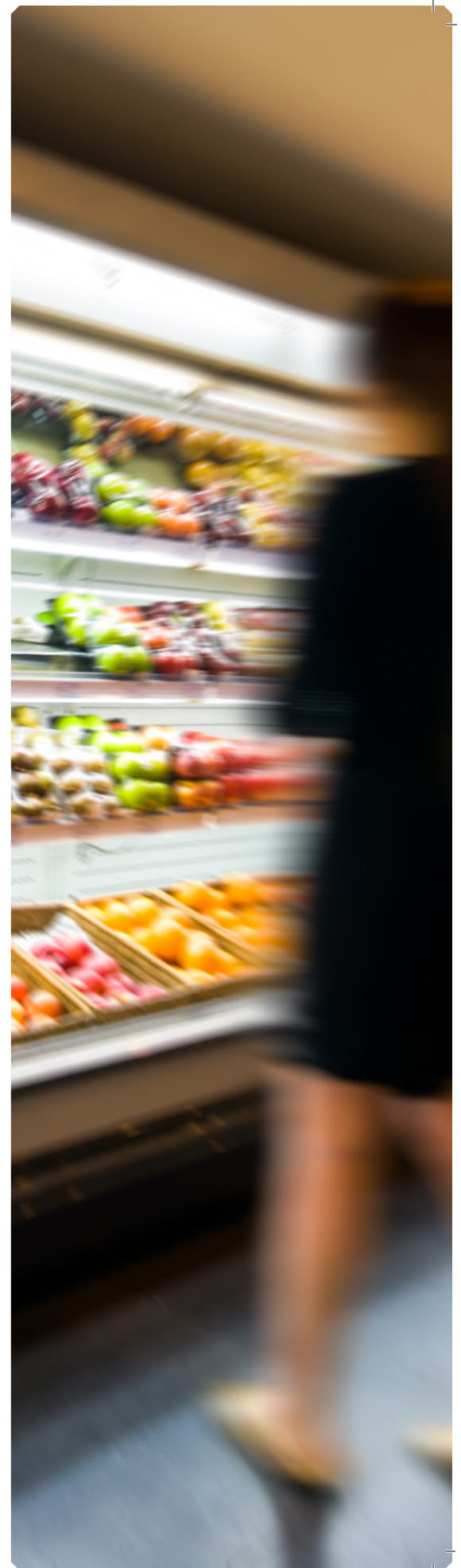
The microDS system provides excellent refrigeration in full-sized grocery merchandisers, even open multi-deck and reach-in units, with a small charge of up to 150 grams per circuit or just 5.3 ounces of propane R290. A full-store solution of propane R290 uses 90 to 95 percent less refrigerant than is typically required in other refrigeration systems charged by hydrofluorocarbons (HFCs).

"Hussmann is a global leader in delivering the most customer-focused refrigeration solutions and merchandising display units across the food retail industry," says Hussmann CEO Tim Figge. "And, with microDS, we are providing an excellent option for customers to use natural refrigerants with lower installation costs and service operating costs."

In addition, the microDS system is "future-proof" in terms of ever-changing state and federal regulations regarding refrigerants and their impact on the environment.

"Micro" distributed systems are defined as display merchandiser and water-cooled condensing unit systems, where the heat from the condensing units is rejected to a loop of circulating fluid. Each condensing unit is located on, in, under, or near the display case and serves one or more evaporators within a single merchandiser.

The microDS system is charged, programmed, and tested during manufacturing to eliminate the risk of refrigerant leaks down the road, and to make installation faster and easier. Micro distributed systems use propane R290, while larger and more complex systems rely on other refrigerants.



Propane R290 benefits for food retail

For food retailers, an R290-charged refrigeration system offers the unique advantage of helping to meet corporate sustainability goals while pre-empting regulatory issues such as expensive EPA fines for refrigerant leak issues.

“Propane is safer for the environment than HFC refrigerants,” says Richard Gilles, who is the senior product leader for Hussmann Corporation’s Distributed Systems Group. “For example, in the event of any leakage, propane has a tiny global warming potential (GWP) of 3 compared to commonly used HFC refrigerants, which have GWP ratings greater than 1,300.”

Easily installed, an R290 system’s self-contained cabinets incorporate a simplified design that offers lower installation and maintenance costs. Food retailers also don’t need a machine room, large rooftop condensers, or extensive refrigeration piping to cases with this type of system.

As refrigeration technology continues to evolve in response to food retail market conditions, consumer desires, and government regulations, propane systems are poised to become prominent systems for the retail food industry for decades to come.

Food retailers working to be more environmentally sustainable have a great new choice in refrigeration systems that can meet the goals of everyone for a healthier planet. •



HUSSmann®

Hussmann Corporation, a wholly owned subsidiary of Panasonic, promises to continuously provide the most customer-focused solutions in the food retailing industry. For more than 100 years, we have been the innovation and technology leader delivering the broadest and most comprehensive solutions to our market. Core capabilities include merchandising/shopper engagement, refrigeration, asset optimization, and supply chain management that address the critical needs of food retailers to increase sales, reduce costs, and increase shopper loyalty. We collaborate with customers across a variety of food retail segments as we work towards fulfilling the Hussmann Promise to deliver better businesses, better partners and a better world.

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