



# Opteon™ XP40

Refrigerant (R-449A)

## Balls Food Stores Improves Refrigeration Equipment Reliability While Reducing Their Carbon Footprint With Opteon™ XP40



**balls food stores**



### Retrofit Highlights

"We're thrilled with the success and ease of the Opteon™ XP40 conversion... We've found our R-22 refrigerant solution and will be doing more retrofits to Opteon™ XP40 soon."

Scott Butkovich, Director of Store Development  
Balls Food Stores

"It couldn't have been simpler. The actual system conversion took just a few hours and has continued to work well since the retrofit."

Derek Hileman, VP of Waldinger Service Division  
The Waldinger Corporation

"With R-22 in the low temp rack, we had a lot of problems with the demand cooling tripping out... With XP40, the oil is clean as a whistle, and the demand cooling never turned on!"

John Engle, Lead Technician  
The Waldinger Corporation

### Background

Scott Butkovich, Director of Store Development for Balls Food Stores in Kansas City, KS, was eager to find a high performance and long-term refrigerant replacement for his existing R-22 systems.



“The government mandated phaseout of R-22 is entering its final years, and with regulations coming up for refrigerants with higher global warming potential (GWP), I wanted an R-22 replacement that was easy to use, required minimal system changes, and got me ahead of existing and future potential regulations,” said Scott.

Scott’s local refrigerant wholesaler, Steve Faler, of Key Refrigeration Supply, knew just the experts to bring in and arranged a meeting with the commercial refrigeration engineers from Chemours (formerly DuPont). As industry pioneers with more than 85 years’ experience developing refrigerants, Chemours has helped the HVACR industry through previous periods of regulatory transition.

## The Conversion

The team from Balls Food Stores, along with their mechanical contractor, The Waldinger Corporation; Key Refrigeration Supply; and Chemours, discussed various options and decided to conduct their first store trial with Opteon™ XP40 (R-449A) to ensure the conversion and performance would meet the needs of Balls Food. XP40 is a nonflammable replacement for R-22 that matches the performance very closely, with a 27% lower GWP.

Derek Hileman’s crew from The Waldinger Corporation, who performed the retrofit work using the Chemours *Retrofit Guidelines*, found the conversion process to be straightforward with all systems (low and medium temperature) starting up, pulling down, and achieving stable operation quickly.

The conversion process included eight easy steps and was almost identical to their previous experience with R-22 to R-407A conversions:

1. Establish baseline performance of system
2. Change lubricant to POE
3. Recover R-22

4. Replace filter driers
5. Replace critical elastomeric seals
6. Evacuate and leak check
7. Charge with XP40 and label system
8. Start up, monitor system, and adjust set points

“It couldn’t have been simpler,” said Derek. “The actual system conversion took just a few hours. The rack systems have continued to work well since the retrofit, keeping the store’s meat, produce, ice cream, and other foods fresh. As an added bonus, the compressor discharge temperature of XP40 is so much lower than R-22, the on-demand cooling in our low-temp racks that used to run all the time with R-22 hasn’t kicked on once.”

## Performance Results

In addition to achieving excellent performance while improving their carbon footprint with a lower GWP and non-ozone depleting refrigerant, Balls Food and Waldinger found a significant benefit in the lower discharge temperature of XP40. As lead technician John Engle from Waldinger highlighted, “With R-22 in the low temp rack, we had a lot of problems with the demand cooling tripping out. The compressor would run so hot that the oil would burn up, and we had to change the oil at least once a year. With XP40, the oil is clean as a whistle, and the demand cooling never turned on—not even in the heat of the summer. The rack runs reliably now, with nothing more than routine preventive maintenance calls—it’s great.”

“We’re thrilled with the success and ease of the Opteon™ XP40 conversion,” said Scott from Balls Food Stores. “In particular, we value the ongoing support and collaboration of the Chemours team, Key Refrigeration Supply, and our outstanding contractors, The Waldinger Corporation. This project would not have been possible without it. We’ve found our R-22 refrigerant solution and will be doing more retrofits to Opteon™ XP40 soon.”

For more information on the Opteon™ family of refrigerants, or other refrigerants products, visit [opteon.com](http://opteon.com) or call (800) 235-7882.

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