

# Protecting Food with the Refrigeration Performance of Honeywell Genetron Performax® LT (R-407F)

“The plant is running absolutely fantastic... We're running less horsepower with the same amount of capacity.”

Eric Merrell — Vice President of Operations, Alliance Industrial Refrigeration Services

**The Challenge:** A cold storage and food processing warehouse in Los Angeles needed a reliable refrigerant to replace R-22, which is both expensive and being phased out by the EPA.

**The Solution:** Utilize Honeywell Genetron Performax® LT (R-407F), which delivers industry-leading efficiency and superheat retention along with a mass flow that matches R-22 in retrofit applications.



## The Project by the Numbers

- Facility size: 430,000 sq. feet
- Multiple tenants with \$150-200 million of product protected by refrigeration
- Full capacity is 30,000 lbs. of refrigerant
- Retrofit completed in less than 40 hours, including:
  - Recovering 12,000 lbs. of R-22
  - Adding 15,000 lbs. of Performax LT
- Engine room uses 8 screw compressors delivering 2,500hp to meet refrigeration needs
- Still awaiting formal numbers on energy savings, but initial data shows that the facility is using less hp with the same amount of capacity

When the owners of a 430,000-square-foot cold storage and food processing warehouse in Los Angeles, California, wished to both solve its current R-22 refrigeration issues and get the refrigeration performance needed to attract new tenants, they turned to Alliance Industrial Refrigeration Services for help.

“From the outside, people just see a warehouse,” said Eric Merrell, Vice President of Operations at Alliance. “But there’s a massive operation inside that requires precise, efficient temperature control. The food inventory has a value of between \$150-200 million, and reliable refrigeration is essential to protect that investment.”

Alliance began the process with a review of the current system. “First, the owner wanted to shift away from R-22. That’s exactly the right thing to do because it’s an expensive refrigerant and it’s also being phased out by the EPA because of environmental issues. So we began researching different options that could deliver the reliable, efficient performance needed.”

When reviewing refrigerant choices, it’s essential to understand how each choice will perform in the individual project. For instance, Alliance thought R-434A might be a good choice for the retrofit. But as Merrell notes, “As we investigated, we found that R-434A would result in the loss of a massive amount of horsepower and the plant would not operate correctly.”

## Genetron Performax LT Makes the Cut

“Gary Parker,” Merrell continues, “is our product manager at RSD, and he wanted us to look at Performax LT from Honeywell. He provided key information using actual operating conditions that made it clear that Performax LT made a lot of sense for this retrofit.”

Parker says, “It’s my job to stay on top of all information when new refrigerants are introduced so that I can recommend what I think will work best in each situation. I pulled data on the top five choices that Alliance was considering and the data clearly pointed to Performax LT.”



Ron Vogl demonstrates Honeywell's P/T chart app for iPad with Eric Merrell.



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## The Genetron Performax LT Difference

Meshing with the needs of real-world applications is one of the traits that sets Genetron Performax LT apart from other refrigerants. Parker used all of the tools at his disposal to ensure that the right choice was being made.

“Honeywell has this great software program [Genetron Properties] that lets you compare any number of refrigerants against your actual operating conditions. As I said, the data pointed right to Performax LT.”

Merrell agrees. “We needed the compressor to pull the same capacity, and Performax LT lets that happen. It’s also very stable in a low-temperature application and is effective in a direct-expansion application. We couldn’t have made a better choice.”

Other Genetron Performax LT features include industry-leading capacity and low global warming potential compared to other R-22 alternatives for refrigeration.

### Support from Start to Finish

Beyond providing superior products, Honeywell provided technical assistance. “Once we decided on a refrigerant,” notes Parker, “I introduced Eric to Honeywell’s technical expert, Ron Vogl. He took the time to walk Eric, his engineers and his service staff through all the nuances of working with Performax LT.”

Merrell valued the support. “One of the things I really appreciated was how willing Ron was to train the engineers and the service contractors. Some of the things Ron told us to expect actually happened, and the service technicians knew exactly what to do. It made the retrofit process much smoother.”

The retrofit took 40 hours, from Friday evening through Sunday morning. “During that time,” said Merrell, “we recovered 12,000 pounds of R-22 and charged the system with 15,000 pounds of Performax LT. We were able to do this so quickly because of a lot of advance planning and logistics. And the facility is operating well.”



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