

United Dairy Farmers reduces energy costs

Result

- The Copeland Scroll® Outdoor Condensing Unit XJ Series accounted for approximately 20% annual energy savings when compared to legacy technology units
- Built-in CoreSense™ Diagnostics gives UDF technicians information to quickly and accurately troubleshoot any issues, avoiding unneeded service calls
- A custom utility rebate was approved for up to 33% of total installation costs, significantly improving projected ROI for subsequent equipment upgrades
- UDF is working toward a planned phase-in of the Copeland Scroll Outdoor Condensing Units to accelerate improvements in bottom-line financial performance

Application

Refrigeration systems for walk-in coolers and freezers.

Customer

United Dairy Farmers (UDF) operates nearly 200 convenience stores across Ohio, Kentucky and Indiana, and is widely considered an industry leader with its unique focus on combining the nostalgia of an old fashioned ice cream parlor with the benefits of a modern convenience store and petroleum retailer.

Challenge

After analyzing operational data for their entire enterprise, UDF realized that improvements in energy efficiency, maintenance and product protection needed to be made. UDF shifted its attention toward planning to improve critical operating systems, with a focus on more efficient and sustainable solutions. UDF turned to Emerson, who helped identify several key opportunities:

- Walk-in refrigeration systems employed traditional, less efficient technologies, while electricity rates had climbed to their highest levels.



“With more pressure than ever on operating profits, our use of Emerson’s technologies have delivered greater energy and maintenance savings than any other initiative. This helps our store managers focus on delivering the superior customer service United Dairy Farmers is known for, while enabling our operations team to save energy and ensure stores run optimally.”

Brad Lindner, CEO
United Dairy Farmers

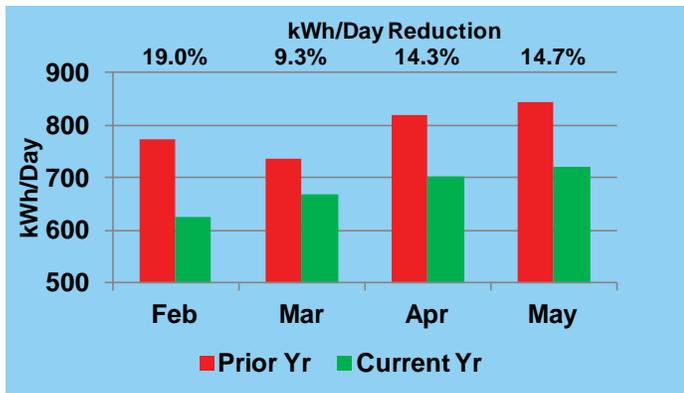
- Some walk-ins required an increasing number of service calls, raising annual service maintenance expenses above average at certain locations
- While existing systems were generally reliable, when a failure did occur, repairs would take longer to perform than normal due to system design, adding to service costs

Solution

New energy-efficient refrigeration equipment is available for walk-in systems with attractive paybacks. In order to demonstrate expected savings and ROI, UDF enlisted Emerson Climate Technologies for assistance on several field trial studies of the new Copeland Scroll Outdoor Condensing Unit XJ Series at UDF locations. The XJ Series unit's performance and energy savings were measured for over a year and compared to existing standard equipment.

The energy efficiency of the entire system was improved beyond initial expectations, allowing for application to the regional utility company for a valuable custom energy rebate incentive toward future upgrade investments.

By also implementing Emerson's E2 controller, United Dairy Farmers has documented an eight percent reduction in electrical consumption (kWh) and a five percent reduction in demand (kW).



Resources

Learn more about the Copeland Scroll Outdoor Condensing Unit at: EmersonClimate.com/copelandoutdoorunit



Advanced walk-in refrigeration technology

The Copeland Scroll Outdoor Condensing Unit XJ Series ranges in size from 1.5-6 HP, and offers energy savings of up to 40% compared to standard industry condensing units, making it perfectly suited for many walk-in cooler and freezer applications. The XJ Series unit incorporates multiple advances in refrigeration as standard features into a single unit solution, including:

- The latest generation Copeland Scroll refrigeration compressors which have been optimized for the highest annual energy efficiency
- Ultra-quiet and efficient variable-speed PSC fan motors
- Large condenser coils for more efficient heat transfer
- High efficiency fan blade design
- Proprietary electronic algorithms to optimize energy performance
- Exclusive Enhanced Vapor Injection (EVI) circuit on low temperature units for added capacity and system efficiency
- Exclusive CoreSense™ Diagnostics to enable faster, more accurate service, along with compressor protection benefits to lower total lifecycle costs

The XJ Series unit's slim profile, light weight, wall mount capability, and sound reduction features may also offer customers added benefits from:

- Crane rental savings
- Flexible location options previously not available
- Ease of installation and service savings
- Compliance with noise ordinances
- A more attractive and quieter atmosphere for neighbors and customers

EmersonClimate.com

2011ECT-104 (12/11) Emerson, Copeland Scroll and CoreSense are trademarks of Emerson Electric Co. or one of its affiliated companies. ©2011 Emerson Climate Technologies, Inc. All rights reserved. Printed in the USA.