

# Redefining refrigeration

## *Product spotlight: outdoor refrigeration unit*

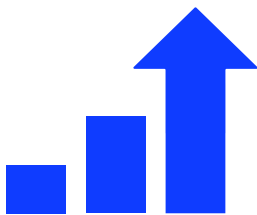
Built for maximum convenience,  
performance and protection



The factors driving the selection of commercial refrigeration equipment in convenience stores and restaurants have changed drastically in recent years. While reliable refrigeration is still a top priority, the days of “just keep it cold” have given way to a much broader range of operator challenges and concerns, including:

- Offsetting rising energy costs with new energy efficiency targets
- Reducing energy consumption to meet minimum efficiency levels
- Creating optimal in- and outside-store environments for customers and neighbors
- Identifying the potential for equipment failure in advance to prevent costly product loss
- Evaluating the critical role of refrigeration system architecture in total store energy usage

Enter the Copeland Outdoor Refrigeration Unit, X-Line Series, purpose-built for medium- and low-temperature, walk-in coolers, freezers and display cases commonly found in c-stores and restaurants. Utilizing scroll compressor technology, variable speed fan motor control, large capacity condenser coils, enhanced vapor injection (in low-temperature models only) and advanced electronic controls, the X-Line meets today's challenging small-format refrigeration requirements.

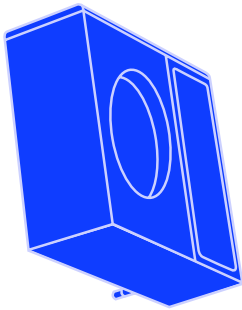
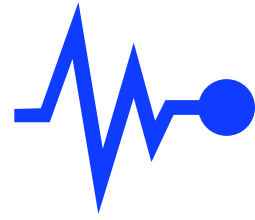


## ***Much-improved energy efficiencies***

With proven Copeland scroll compressor technology, large condenser coils and smart controls, X-Line units typically provide annual efficiency improvements of 20 percent or more compared to legacy equipment and technology. Additional efficiencies are gained when the outdoor units are used in place of traditional self-contained or other indoor systems by removing the additional heat load from the building's air conditioning system.

## ***Superior reliability and protection through advanced diagnostics***

On-board compressor diagnostics and protection allow operators to stop worrying about product loss from equipment downtime. Errors can be quickly communicated to service technicians and the system can take action to protect against many system faults that could otherwise cause a compressor failure. The end results are improved reliability, extended compressor lifespan and greatly reduced lifecycle costs.



## ***Installation flexibility from slim chassis***

The X-Line's slim profile, lightweight design and wall-mount option give operators the flexibility to install the unit in the most space-constrained locations. In fact, the X-Line is so unobtrusive it's often mistaken for an AC split unit. This flexibility lowers installation costs and helps avoid expensive system design workarounds or relocation issues.

## ***Ultra-quiet operation from strategic noise abatement design***

Operators located near residential areas or noise-restricted zones can take heart in having the quietest standard unit available on the market today. At only 55 to 59 decibels, the units produce less sound than a normal conversation. In most applications, unit noise is virtually undetectable. The units are unobtrusive and allow more mounting options where the sound produced by traditional units would prevent their use, such as customer-facing locations near entryways, patios or even indoors.



## ***Corrosion-resistant and designed for extreme conditions***

The X-Line is designed to withstand harsh and extreme environments, from arctic blasts to desert heats. Protective enclosure and condenser coil fin coatings resist corrosion in coastal zones. On-board electronic controls constantly tune and adapt the system for optimum performance and efficiencies in any condition.

## ***Compliance with regulatory requirements***

X-Line models are tested to exceed the Department of Energy's new requirements for Annual Walk-In Energy Efficiency Factor (AWEF) ratings for walk-in refrigerators. With a horsepower range from  $\frac{3}{4}$  to 6, the X-Line is also designed for compatibility with R-404A and many of the refrigerants the EPA has named as acceptable substitutes, including: R-407 C/A, R-448A and R-449A. As acceptable refrigerants such as R-513A and R-450A continue to be introduced as substitutes, the X-Line will incorporate this growing list of alternatives. This makes X-Line units ideal for new equipment and service replacement applications.



## What's inside

### Heated and insulated receiver

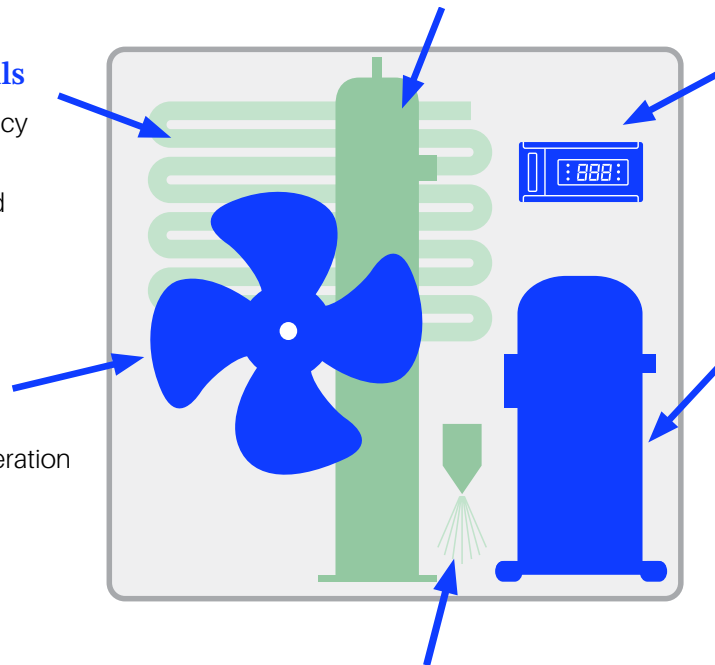
- Allows operation in low ambient temperature situations

### Larger condenser coils

- Increase energy efficiency
- Corrosion-resistant copper tube and coated aluminum fins

### Variable-speed fan motor control

- Contributes to quiet operation
- Provides efficient head pressure control



### Electronic controls

- Offer greater reliability than traditional mechanical controls
- Avoid nuisance service calls
- Allow technicians to diagnose issues quickly and accurately

### Copeland scroll digital compressor technology

- Provides the most reliable, highest-efficiency compression available
- Available in 3/4 horsepower

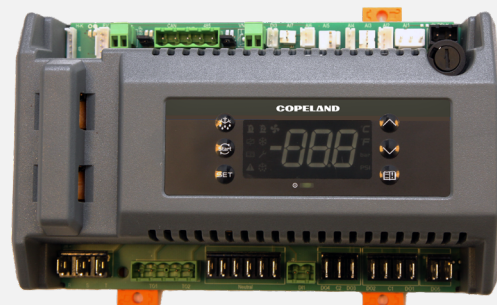
### Enhanced vapor injection

- Improves capacity and energy efficiency
- Available in low-temp models only

## Diagnostic features

On-board compressor diagnostics provide connectivity to facility management control systems (including Copeland's Site Supervisor family of control products) to alert owner/operators of faults and key performance indicators.

- Over-current protection
- Over/under voltage protection
- Unbalanced load detection
- Incorrect phase detection
- Discharge temperature protection
- High-pressure lockout



- Demand Cooling
- Flood-back prediction
- Flooded start protection ('Bump-start' logic)
- Anti-short cycle time delay
- Digital fault code display / remote alarming



## ***About Copeland***

Copeland is a global leader in sustainable heating, cooling, refrigeration and industrial solutions. We help commercial, industrial, refrigeration and residential customers reduce their carbon emissions and improve energy efficiency. We address issues like climate change, growing populations, electricity demands and complex global supply chains with innovations that advance the energy transition, accelerate the adoption of climate friendly low GWP (Global Warming Potential) and natural refrigerants, and safeguard the world's most critical goods through an efficient and sustainable cold chain. We have over 18,000 employees, with feet on the ground in 50 countries - a global presence that makes it possible to serve customers wherever they are in the world and meet challenges with scale and speed. Our industry-leading brands and diversified portfolio deliver innovation and technology proven in over 200 million installations worldwide. Together, we create sustainable solutions that improve lives and protect the planet today and for future generations. For more information, visit [copeland.com](https://copeland.com).

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