

COPELAND CO₂ SCROLL TECHNOLOGY

Reducing Total Cost of Ownership (TCO) in commercial refrigeration

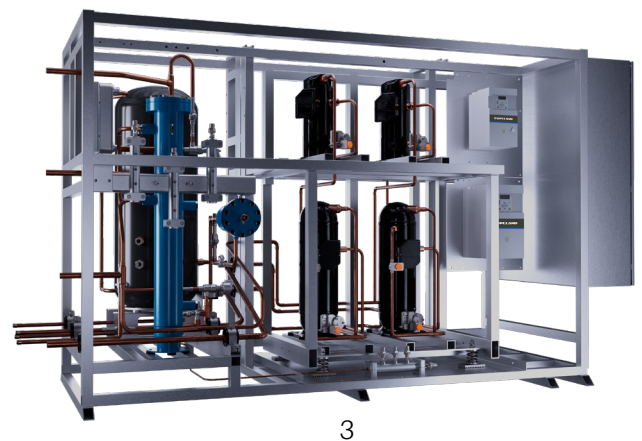


Copeland CO₂ scroll technology trims your TCO - no matter the climate.

High efficiency and optimized applied costs – both have never been more in demand in food retail. In a tough competitive environment, these two factors are key to economic success. The use of Copeland transcritical CO₂ scroll solution enables retailers to significantly reduce the TCO of a CO₂ refrigeration system, regardless of whether booster systems or refrigeration units are deployed.

Why is that? The innovative Copeland scroll solution combines high-quality components with dynamic vapor injection (DVI) technology and a smart control concept in a world first package. This simplifies the complexity of CO₂ refrigeration systems: DVI technology allows for the elimination of parallel compression and associated components while keeping efficiency high and maintenance costs low – regardless of climate.

1. Copeland CO₂ scroll refrigeration units with DVI and smart control intelligence for reliability, efficiency and flexibility in decentralized refrigeration architectures.
2. A new generation of transcritical CO₂ compressors equipped with dynamic vapor injection (DVI) and managed by an intelligent system controller builds the heart of an efficient and reliable CO₂ refrigeration system.
3. Saving retail space: DVI technology and compact scroll compressors reduce the footprint of a Copeland CO₂ scroll booster system, eliminating parallel compressor, related components and pipings.



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10 reasons why Copeland CO₂ scroll technology help retailers to lower TCO

Investment costs



Minimal space requirements

Valuable retail space can be gained: DVI technology and the compactness of scroll compressors reduce the footprint of a CO₂ refrigeration system. Equipping the compressors with variable speed, which allows for smaller displacements, further enhances this effect. This makes Copeland CO₂ scroll technology suitable even for small shop formats in urban areas.



Low weight

Enabled by DVI technology, the simplified system architecture foregoes parallel compression. This, along with the compact scroll compressors, results in low weight and smaller dimensions, reducing transport costs.



Low noise

Additional and costly noise insulation is not required, as the low-vibration CO₂ scroll compressors significantly reduce the noise level and thus do not disturb daily operations or neighbours.



Easy installation

Thanks to fewer pre-configured components and an advanced control concept, it takes less effort to install the Copeland CO₂ scroll solution.

Operating costs



Energy savings

DVI technology integrates the benefit of parallel compression by directly injecting flash gas into the scroll compressor. This results in increased energy efficiency while compressing the CO₂ gas in a very cost-effective way. In addition, the dedicated variable speed compressors with specific high efficiency Brushless Permanent Magnet (BPM) motors help to minimize energy consumption by continuously matching the cooling capacity to the actual demand.



Consistent reliability

Perfectly matched and pre-tested components controlled by advanced electronics ensure maximum operational reliability. This is complemented by high standstill pressures to extend reaction time in case of a power outage, and to avoid food spoilage even in such an event.



Highest seasonal efficiency

The intelligent Copeland XC Pro CO₂ scroll controller ensures the highest seasonal efficiency in all climates through continuous monitoring and adjusting system component parameters.

Service & maintenance costs



Geringe Schwingungen

Due to reduced vibration compared to piston compressors, the CO₂ scroll compressors lower the risk of piping rupture and associated follow-up costs.



Improved serviceability

The simplified system architecture, complemented by the XC Pro Controller and a user friendly controller interface, facilitates both maintenance tasks and troubleshooting, resulting in less effort and lower costs. There is also less need to check for leaks, further reducing service and maintenance costs.

For more details, see copeland.com/CO2Refrigeration

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