

# Copeland Scroll®

## Refrigeration Compressors



## First Choice for Walk-Ins

*"The freezers in the newer McDonald's that we service use mostly Copeland Scroll® compressors...They are extremely reliable!"*

-Service Manager, Dayton, Ohio





**1** Gas enters an outer opening as one scroll orbits the other.



**2** The open passage is sealed as gas is drawn into the compression chamber.



**3** As one scroll continues orbiting, the gas is compressed into an increasingly smaller "pocket."



**4** Gas is continually compressed to the center of the scrolls, where it is discharged through precisely machined ports and returned to the system.



**5** During actual operation, all passages are in various stages of compression at all times, resulting in near-continuous intake and discharge.

## Copeland Scroll® Technology

### How It Works

Copeland Scroll® compressors utilize two identical, concentric scrolls, one inserted within the other. One scroll remains stationary as the other orbits around it. This movement draws gas into the compression chamber and moves it through successively smaller "pockets" formed by the scroll's rotation until it reaches maximum pressure at the center of the chamber. There, it's released through a discharge port in the fixed scroll. During each orbit, several pockets are compressed simultaneously, so operation is virtually continuous.

### Why Use Copeland Scroll®?

Copeland Scroll® compressors are available for low temperature and medium temperature applications in the widest available range of sizes.

Copeland Scroll® compressors are inherently more reliable because they have significantly less moving parts. The compliance of their scroll members allows them to handle liquid slugs and debris more effectively. Our compressors also have a 100% volumetric efficient compression process, which translates into greater operating efficiency and lower energy costs.

Copeland Scroll® units are smaller in size, lower in weight and quieter than reciprocating compressors of comparable capacity. This means that your walk-in refrigeration unit is easier to install and more pleasant to work around.

To learn more about the Copeland Scroll® line of compressors for walk-in applications, go to [EmersonClimate.com](http://EmersonClimate.com).



# Walk-In Compressor Technologies

Product Comparison			
	Copeland Scroll®	Semi-Hermetic	Hermetic
Efficiency	✓	✓	
Reliability	✓✓	✓✓	✓
Sound	✓		
Life Cycle Cost	✓	✓	

## Compressor Technologies

Compressors are the heart of your walk-in refrigeration system. Some compressor technologies are more energy efficient, more reliable, or quieter than others. Below is a brief description of the three primary compressor technologies.

### Copeland Scroll®



Scroll compressors have earned a reputation for reliability and lower energy costs. Unlike compressors which use pistons (including hermetic and semi-hermetic compressors), scroll compressors have significantly less moving parts. This difference results in a more reliable, energy efficient walk-in, which directly translates into less downtime and lower energy bills. In addition, scroll compressors have the advantage of lower sound and vibration levels than hermetic and semi-hermetic compressors. Finally, scroll compressors weigh less than semi-hermetic compressors which makes them easier to install and service.

### Semi-Hermetic



Semi-hermetic compressors provide exceptional reliability and broad temperature range coverage including temperatures as low as -40 degrees F. Semi-hermetic compressors have been used for over

50 years in walk-in refrigerators and freezers and have earned a reputation for reliability. One of the many benefits of semi-hermetic compressors are they can be repaired or rebuilt after many years of dependable service.



### Hermetic

Hermetic reciprocating compressors can be most commonly found on medium-temperature walk-in refrigerators. Hermetic compressors typically have a lower first cost, but may not have the lowest life cycle cost because of the higher energy savings or reliability associated with other compressor technologies.

### Distribution Services

Regardless of the type of compressor technology you select for your walk-in, you want a supplier with replacement compressors readily available in the event something should happen to your walk-in. With that in mind, Emerson Climate Technologies, Inc. Distribution Services offers centralized aftermarket support for authorized full-line wholesalers, contractors and end-users covering the full line of Copeland® brand, HVACR Motors and Flow Controls products and services.

# Copeland Scroll® Benefits

Features	Advantages	Benefits
Smooth Scroll Movement	Less Sound And Vibration	Quieter Work Environment
	Less Refrigerant Leaks	Lower Maintenance Cost
Fewer Moving Parts	Improved Reliability	Less Breakdowns
		Lower Maintenance Cost
Low Condensing Capability	Greater Energy Efficiency	Lower Energy Cost
Scroll Member Compliance	Excellent Liquid Handling And Debris Tolerance	Less Breakdowns
	Increased Reliability	Lower Maintenance Cost
Smaller Footprint and Less Weight	Easier Installation & Maintenance	Lower Installation & Maintenance Costs

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