Getting Better Over Time – 15-Year-Old Copeland Scroll® Compressor Is More Efficient Than The Day It Was Installed.

Consider It Solved Summary

- WaterFurnace started field-testing the Copeland Scroll® compressor in its geothermal residential HVAC units in 1989.
- Carl Huber, Vice President Of Engineering And Quality, installed a Copeland Scroll compressor inside the prototype geothermal system at his own home.
- For 15 years the Copeland Scroll compressor performed well, providing trouble-free, efficient operation.
- When Huber replaced the system in 2004, it was still operating efficiently and he sent the Copeland Scroll compressor for testing.
- After more than a decade and a half of service, the Copeland Scroll compressor was more efficient than the day it was installed, by between one and two percent.

Customer

WaterFurnace International is a leading developer and manufacturer of geothermal heating and cooling systems, based in Fort Wayne, Indiana. A pioneer in geothermal HVAC technology, the company prides itself on having some of the most energy-efficient products in the industry.

Opportunity

In 1989, the company sought to test new compressor technologies in its prototype geothermal heating and cooling systems. Scroll compressors were relatively new to the North American HVAC marketplace, and WaterFurnace Vice President of Engineering and Quality, Carl Huber, wanted to see if Copeland Scroll compressors, which were already making waves in the market, would help his company optimize its products.

"WaterFurnace has built a very strong reputation for quality, and a big part of that has been Copeland Scroll® compressors. That reputation has been a major driver for our business; if we have happy homeowners, they tell their friends, and we can sell more units."

– Carl Huber, Vice President of Engineering and Quality for WaterFurnace

Copeland Scroll

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The Story

Huber offered his own 3,300 square foot home as the first site for testing Copeland Scroll compressors, in his 2.5-ton WaterFurnace® geothermal system. This presented some unique challenges, as his home featured unusual structural features, such as 13-inch-thick double-stud walls and an atypically large amount of insulation. For a structure like Huber's home, both efficiency and reliability were vital in the HVAC system and, therefore, the compressor. Huber and his family's comfort were at stake, but he knew that if the Copeland Scroll compressor did the job in his home, it could handle more standard residential buildings.

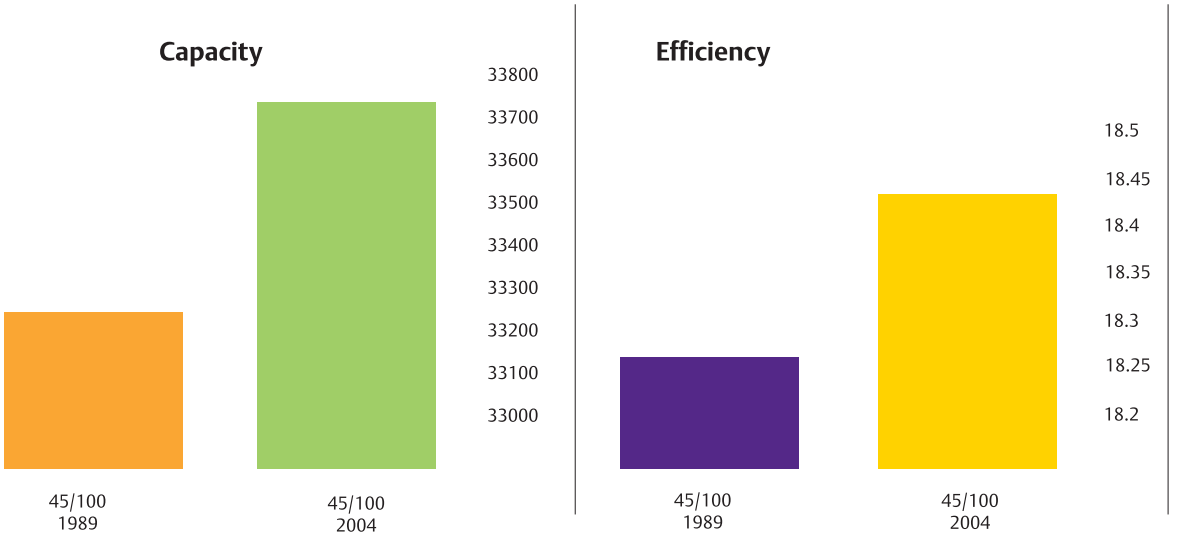
"Having the prototype in my home, reliability was easy to gauge," Huber said. "In 15 years the only maintenance needed was a replacement blower motor and a change of filter, neither of which had anything to do with the compressor."

When the time finally came to replace his entire residential unit, Huber contacted Emerson Climate Technologies about the 15-year-old compressor, and the company immediately expressed interest in testing it. They found that the Copeland Scroll compressor **had actually increased in efficiency**, by between one and two percent, after 15 years of continuous use.

Looking back now, though, Huber isn't so surprised by the testing results.

"We at WaterFurnace pride ourselves on having the most efficient products on the market," Huber said. "So we need components that allow our units to reach the highest levels of efficiency. We found that the Copeland Scroll compressor just outperformed other compressors."

Testing Results of 15-year-old Copeland Scroll Compressor



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