

Copeland Digital Scroll™ in Asia: Emerson Climate Technologies™ Brings Unprecedented Improvements in Comfort, Energy Efficiency and Environmental Impact to Billions

Emerson Climate Technologies™ delivers far more than integrated products and services and advanced systems. Our climate solutions are transforming the way the industry, companies and even entire countries improve human comfort, safeguard food and protect the environment. Such is the case with Copeland Digital Scroll™, the latest innovation in scroll technology, which is bringing unprecedented improvements in comfort, energy efficiency and environmental impact to billions of people living in Asia.

A Radical Innovation in Compressor Technology

The clear technological superiority of Copeland Digital Scroll is changing the game in the Asia air conditioning market. Developed specifically to meet Asia's needs for higher energy efficiency, lower energy consumption and improved comfort, systems powered by Copeland Digital Scroll are rapidly replacing traditional, multiple system installations with modulated, centralized air conditioning. By allowing significant simplification of system architecture and infinite capacity modulation from 10 to 100%, Copeland Digital Scroll is superior not only to inverter technology but to other modulation methods as well.

This critical capability – to match capacity and power consumption as well as to maintain precise temperature and humidity control – delivers real value to Emerson Climate customers and end-users alike: a higher level of comfort, greater energy efficiency, lower energy costs, quieter operation and the elimination of millions of unappealing window units.

“True Innovation in Action”

That's the way one equipment manufacturer describes Copeland Digital Scroll. Fast time-to-market with a wide product range and easier installation and serviceability make Digital Scroll a winning solution for OEM customers. The prestige of a superior technology – its performance, value and ease of adoption – has attracted the attention and selection of Copeland Digital Scroll by several OEMs in Asia, including Midea, Gree (China) and Samsung (South Korea), which launched the first application over three years ago. Today, Copeland Digital Scroll compressors are the heart of Samsung air conditioning units in the luxury Dogok Dong condominium in Seoul, one of the world's largest with 1,200 apartments.

This track record in South Korea has been the foundation for the move into China, which must tackle a looming power consumption crisis that's putting significant pressures on the country with respect to investment in power



The clear technological superiority of Copeland Digital Scroll™ is changing the game in the Asia air conditioning market, delivering a higher level of comfort along with lower energy consumption and costs.



EMERSON
Climate Technologies

plant infrastructure and the management of air pollution. “Copeland Digital Scroll is beginning to take off in China, and creating this market is an exciting challenge for Emerson Climate,” according to Pat Carus, director of international business support for Copeland. The technology was selected for the newly developed ABP (Advanced Business Park) project in Beijing, where over 3,000 units will be installed to keep this state-of-the-art business development running efficiently and with excellent comfort.

A New Solutions Provider Business Model

The success of Copeland Digital Scroll has created a new business model, where Emerson Climate Technologies is emerging as a systems expert, rather than as a supplier of compressors and components. Emerson Climate is even training China’s architects, engineers and installers to bring the value of this technology to the broader market players. “Digital Scroll is not only helping us deliver on the Emerson Climate Vision,” says Bill Bosway, President of Copeland – Asia, “but is carving out a real leadership position for us throughout Asia.” And that translates into significant business opportunity. Copeland Digital Scroll sales climbed from \$1 million in its first year to a projected \$120+ million within the next five years in Asia alone.

Emerson CEO David Farr acknowledged this potential when presenting the coveted Emerson 2003 Emerson Technology Award, Emerson’s highest honor for technology achievement, to Copeland Digital Scroll and the team of eight Copeland engineers and marketers who commercialized the technology. “I’m excited about the future of Digital Scroll,” he said, “because I think we have just scratched the surface of this technology. It is a huge growth opportunity for Emerson.”

New Opportunities in China

Emerson Climate Technologies is also working with OEMs and the government of China on heating products for the half billion people who reside in the northern region of China. This area experiences severe, bitterly cold winters, currently served by older, less efficient technologies, either central heating systems that primarily use coal, natural gas and oil for fuel or boiler systems with end-user costs based on square footage rather than on energy use. “We’re working toward a more efficient, effective and ‘greener’ solution for Northern China, using a heat pump with enhanced vapor injection,” says Carus. “The process increases the system’s heating capacity during the harsh winter for improved comfort, and runs on electricity so it’s more environmentally friendly.”

As a solutions partner, Emerson Climate is also playing an integral role in moving China toward more efficient use of non-renewable fuel. “In cooperation with the Chinese government’s standards-setting bureau, we’re helping to write new standards for efficiency.”

In a year that saw “the most competitive entries from across Emerson divisions,” according to Randall Ledford, Emerson senior vice president and chief technology officer, Copeland® Digital Scroll, which has earned 20 patents and eight awards in Asia, won the 2003 Emerson Technology Award, Emerson’s highest honor for technology achievement. A team of eight Copeland engineers shared the award for their critical roles in the development of Digital Scroll:

Todd DeVore
Engineering Manager Refrigeration

Roy Doepker
Senior Design Engineer

Jack Elson
Product Engineering Manager

Arup Majumdar
Director of Marketing, Asia

Dennis Pax
Engineering Manager

Simon Wang
Vice President Engineering, Asia

John Ward
Director of Product Planning

Eric Wu
Senior Project Engineer, Asia