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## **Emerson Climate Technologies Launches Digital Scroll™ Technology For CO<sub>2</sub> Subcritical Refrigeration**

Emerson Climate Technologies opens up the CO<sub>2</sub> refrigeration market by launching the ZOD104 Digital Scroll™ compressor with continuous capacity modulation for CO<sub>2</sub> (R744) subcritical refrigeration applications.

This new model ZOD104 features the unique and proven Copeland Scroll Digital™ technology which provides for the widest continuous capacity modulation range in the industry. It complements the existing line of Copeland Scroll™, covering refrigeration capacities from 7 to 23 kW at nominal cascade system rating conditions .

The industry is increasingly recognizing the numerous benefits of continuous capacity modulation. These reach from optimizing overall system energy consumption with the associated benefits to the energy bill to more precise temperature control, going along with higher product quality in fresh food applications.



With ZOD104, Emerson builds on two well proven technologies: its range of CO<sub>2</sub> compressors has been successfully performing since year 2006 in a variety of applications in cold and warm climates all over Europe. These compressors offer the highest CO<sub>2</sub> subcritical efficiency in the industry. Digital Scroll™ technology is sold into the refrigeration and comfort markets in multiples of 10 000 pieces for many years. It has received several awards for its innovative edge since launched into the commercial refrigeration market in 2004.

Often compared with inverter based compressors, Digital Scroll™ technology offers the key benefit of simplicity. Avoiding the need for an inverter, the complexity during installation, commissioning and operation is significantly reduced, and so is applied cost! Digital Scroll™ is therefore often considered as the affordable alternative to variable speed technologies. At the same time it is setting industry standards with the widest modulation range of 10 to 100% refrigeration capacity!

A full range of controllers for condensing units and packs is available from Alco Controls but also from other manufacturers. When used with system controllers that do not support the Digital Scroll™ control algorithm, the driver module EC3-D13 is available. It interfaces with any system controller that provides a modulating (0...10V, 1...6V or 4...20 mA) output signal.

Additional accessories, including the Emerson Sound Shell for sound sensitive applications, complete the offering!

### **Basic Specification**

- Hermetic scroll compressor ZOD104

- Nominal Horsepower: 6 hp
  - Displacement: 11.7 m<sup>3</sup>/h
  - Cooling capacity: 22 kW \*
  - COP: 3.8\*
  - Capacity modulation: 10 to 100%
  - Net Weight: 40kg
  - Polyol Ester Oil POE RL68HB
  - Mounting Grommets For Single Application – Soft Mount
- \* Reference conditions: Evaporating -35°C, Condensing -5°C, Suction superheat 10 K, Subcooling 0 K

#### **Advantages**

- Efficiency (COP) superior to competitive products
- Wide envelope for efficient overall system design
- Compactness for optimized handling and more vending area
- Copeland Scroll compliance with excellent liquid handling capabilities
- Digital Scroll™ simplicity in installation, commissioning and operation
- Moderate applied cost compared to inverter driven systems
- Wide modulation range for precise load matching, tight temperature control and reduced/shortened defrost cycles
- High system energy efficiency in full and part load
- Reduced compressor cycling extending refrigeration equipment life-time

#### **Optional Accessories (Selection)**

- Oil Management Kit TraxOil OM4-CCA
- Sound Shell With/Without Bottom Plate (10 dBA / 8 dBA Attenuation)
- Pressure Relief Valve Kit
- Digital Driver EC3-D13
- Mounting Kit For Pack Applications – Hard Mount

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#### **About Emerson**

Emerson (NYSE: EMR), based in St. Louis, is a global leader in bringing technology and engineering together to provide innovative solutions to customers through its network power, process management, industrial automation, climate technologies, and appliance and tools businesses. Sales in fiscal year 2009 were US\$20.9 billion. For more information, visit [www.Emerson.com](http://www.Emerson.com)

#### **About Emerson Climate Technologies**

Emerson Climate Technologies, a business of Emerson, is the world's leading provider of heating, ventilation, air conditioning and refrigeration solutions for residential, industrial and commercial applications. The group combines best-in-class technology with proven engineering, design, distribution, educational and monitoring services to provide customized, integrated climate control solutions for customers worldwide. Emerson Climate Technologies' innovative solutions, which include industry-leading brands such as Copeland Scroll™ and Alco Controls®, improve human comfort, safeguard food and protect the environment. For more information, visit [www.emersonclimate.eu](http://www.emersonclimate.eu)

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