

## **EN60335-2-89:2022 revision for 500g propane (R290) refrigerant charge paves the way for Copeland™ horizontal variable speed scroll solution for integral display cases with single circuits**

**NUREMBERG (GERMANY), October 12, 2022** – Emerson (NYSE: EMR), presents its solution for single circuit integral display cases with propane (R290) at Chillventa. This solution includes variable speed scroll compression technology for single circuit integral display cases with a refrigerant charge of up to 500g, as well as matching flow controls, electronics, and monitoring systems for an efficient and reliable management of integral display cases.

### **EN60335-2-89:2022: Ready for propane 500g charge**

In August 2022, the EN60335-2-89 standard for display case cabinets was published by the European Committee for Electrotechnical Standardization (CENELEC) and will be harmonized with the machinery directive 2006/42/EC after publication in the Official Journal which is expected by the end of 2022. This new revision develops the concept of building an integral display case with a propane charge of up to 500g. This is one further step towards a broader adoption of R290 and will facilitate its use in commercial refrigeration. Although the retail industry has already installed cabinets with 500g circuits based on the standard EN378, the release of this product standard will facilitate the adoption of single circuit cabinet, allowing for a more systematic approach to accelerate the transition to natural refrigerants in commercial refrigeration.

### **Solutions for single circuit integral display cases**

The Copeland YBVH variable speed horizontal scroll compressor, equipped with brushless permanent magnet motor and frequency inverter, is a highly efficient package. The 500g refrigerant charge allows the construction of cabinets up to 3.75 meters with a single circuit. This simplifies cabinet design with fewer potential leak points.

The horizontal design of the compressor provides a compact solution for installing the refrigeration system either at the top or bottom of the cabinet. Variable speed modulation not only allows for precise case temperature control – important for minimizing food waste – but provides significant energy savings up to 19 percent compared to our fixed speed scroll solution for multiple circuits applications. This makes it one of the most efficient solution available on the market enabling the development of cabinets with very high energy labels.

The parametric and programmable controllers are tailored to control variable speed systems and ensure optimal energy performance of the cabinets. The ECB-Pro case controller is the heart of the solution, operating all components safely and efficiently within their limits. The case controller helps to minimize

energy consumption through its optimizing defrost function, making sure that the system is operating in the optimal range and providing alarms when it is not.

The flow controls such as expansion valve, pressure transmitters and safety pressure switches are also designed for hydrocarbons considering all safety aspects and complying with safety standards. All these features enable retailers to greatly reduce energy and operating costs in their stores, while helping to ensure safe and reliable operations.

The range of Copeland scroll solutions for R290 applications can be used for both medium temperature with a cooling capacity of 1 to 8 kW and low temperature applications with a cooling capacity of up to 3kW. This wide range is suitable for most display case designs, water- or air-cooled designs and those with or without doors.

### **Future-proof solution based on long-term experience, intensive testing, and proven installations**

The horizontal solution with propane optimized for a refrigerant charge of 500g is a fully ready-to-use solution that enables cabinet manufacturers to reduce their development costs and shorten time-to-market.

Tested and validated at the Emerson Europe Solution Center as a prototype, in cabinets, and in the field at various retailers across Europe, the solution has already been successfully installed into more than 3.5K applications today. As a result, the broader market can rely on and benefit from this proven solution. Additionally, the majority of the solution's components are manufactured in Europe, helping to ensure a reliable and sustainable supply chain.

Today, more than 200 million Copeland scroll compressors are installed globally in various HVACR applications, earning the Copeland brand a legacy and reputation of reliability and inventiveness. By delivering regulation-ready and next-generation compression technology to the market, Emerson has earned its reputation as a strong and reliable partner for the HVACR industry.



*Emerson solutions offering for single circuit integral display cases*

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### **About Emerson**

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