The world leading manufacturer SANYO showcases its hermetic 2-stage rotary compressor for heat pump water heaters and vending machines. With compact size and minimal vibration levels, the compressor helps improve the overall system’s performance.

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SANYO’s CO₂ rotary compressor was the world’s first hermetic compressor to use a two-stage compression mechanism to disperse the differential pressure and compression load. By dividing one compression into two, high reliability and efficiency can be obtained. Its internal intermediate pressure structure makes it easy to design the shell while considerably reducing its thickness. This innovative shell design and a compact concentrated winding motor ensure a compact size and light weight.

The combination of a DC brushless motor, which helps to improve the motor efficiency, and an optimized dimension of the 2-stage compression mechanism leads to a higher overall system efficiency. The compressor is also resistant to high working pressures and large pressure differences occurring in transcritical CO₂ cycles. By adding intermediate cooling through the 2-stage compression mechanism and a suction line heat exchanger, it is an optimal solution for refrigeration and cooling purposes, where CO₂ compressors in the past showed lower levels of performance compared to conventional models.

SANYO’s innovative 2-stage rotary compressor technology will be an integral part of 5,000 beverage coolers installed at the Beijing Olympic Games this summer, following its successful application during the Olympics in Athens and Torino, as well as the FIFA World Cup. Moreover, SANYO’s compressors have been successfully applied in thousands of Japanese vending machines.

Product features

SANYO’s rotary 2-stage compressor features:

- Number of cylinders: 2
- Oil: PAG
- Weight: around 9 kg (depending on capacity)
- 11 MPa shell design pressure
"SANYO’s experience shows that CO₂ can perform better or at an equivalent efficiency at least, compared to conventional systems if handled correctly and adding some ideas such as two stage compression, intercooler, suction line heat exchanger, variable refrigerant flow control, and so on. We hope that our products will contribute to a transition towards climate-friendly commercial refrigeration and heating,” says Gaku Shimada, Manager at SANYO’s Compressor Division - Strategic Business Planning Section.

About SANYO

SANYO Electric Works was founded in 1947. It currently employs more than 90,000 people around the globe and has more than 140 subsidiaries worldwide. Its products and services are divided among four business segments: consumer, commercial, components, and other under the corporate vision “Think GAIA”.

More information:

More about SANYO’s compressor in our Products Section