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## SKF launches new oil-free pure refrigerant lubricated bearings for centrifugal compressors in chillers

Gothenburg, Sweden, 13 April, 2015: SKF has announced the availability of its new pure refrigerant lubricated bearings, a unique oil-free solution for direct drive centrifugal compressors in chillers that uses low-viscosity refrigerant as the bearing lubricant. By eliminating the need for oil lubrication, the bearings reduce chiller energy use while simplifying system design and maintenance requirements.

Pure refrigerant lubricated bearings from SKF combine ceramic (silicon nitride) rolling elements, rings made of high-nitrogen, specially heat-treated stainless steel, and glass-fiber reinforced PEEK cages. The result is a bearing that can operate reliably using low-viscosity refrigerant as a lubricant, an innovation that enables energy savings of at least 10% versus conventional centrifugal compressor drive designs.

Traditionally, centrifugal compressors using low-viscosity refrigerants have been gear-driven designs that use hydrodynamic bearings lubricated with an oil-refrigerant mixture.

"It's an approach that requires both a lubrication system and an oil separator to provide an oil-rich mixture to the gears and bearings and a refrigerant-rich mixture to the evaporator and condenser," explains Richard Law, SKF Global Segment Manager, Fluid Machinery. "Pure refrigerant lubricated bearings from SKF provide simplified system design and oil-free operation by allowing low-viscosity refrigerants to be used as the lubricant in direct drive centrifugal compressors, enabling a much more energy efficient, low-maintenance solution."

Tested and proven reliable through more than a decade of field operation, pure refrigerant lubricated bearings from SKF are already at work in industry-leading chillers, helping to lower energy use and costs, reduce maintenance, and eliminate oil-related environmental concerns.

Aktiebolaget SKF  
(publ)

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*SKF is a leading global supplier of bearings, seals, mechatronics, lubrication systems, and services which include technical support, maintenance and reliability services, engineering consulting and training. SKF is represented in more than 130 countries and has around 15,000 distributor locations worldwide. Annual sales in 2014 were SEK 70 975 million and the number of employees was 48 593. [www.skf.com](http://www.skf.com)*

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