

News of October 6, 2021

Oil-Free High-Pressure Compressor Reaches 10'000 Hours of Uninterrupted Operation

Burckhardt Compression's Laby[®]-GI Compressor type LP250 is the world's first oil-free reciprocating high-pressure fuel gas compressor in service. The compressor system, installed on a 174'000 cbm LNG carrier, reached 10'000 hours of uninterrupted operation. With this technology, Burckhardt Compression is the only manufacturer being able to compress gas to 300 bar in a large, ring-sealed compressor system, without cylinder lubrication.

Burckhardt Compression Laby[®]-GI fuel gas compressor systems play an important role on LNG carriers. As the liquified natural gas warms up during storage and transportation, the evaporated boil-off gas must be economically managed by either using it as fuel or re-liquefying it. Both, dual-fuel engines as well as re-liquefaction plants, require a certain operation pressure, ranging up to 300 bar. Therefore, Burckhardt Compression's LNG solutions have been specifically designed to handle gases at low temperature and high pressure while meeting the requirements for operation at sea. The 5-stage fuel gas compressor system is designed to manage the vessel's boil-off gas with a flow of up to 4'700 kg/h.

Dry-running sealing technology saves significant expenditures for cylinder lubrication and filter maintenance. The performance of the high-pressure reliquefaction system is improved due to the absence of fouling caused by small traces of residual oil carried within the gas. The oil-free gas compression completely removes the need for oil separation and gas filtration technology and guarantees the cleanliness of the heat exchanger in the high-pressure reliquefaction system. In addition, maintenance intervals for the oil-free high-pressure sealing technology are confirmed to reach 8'000 operating hours.

The Laby[®]-GI Compressor combines sophisticated cryogenic, low-pressure labyrinth piston design and state-of-the-art ring-sealed high-pressure technology on a single compressor frame. This allows simultaneous fuel gas supply to low-pressure 4-stroke auxiliary engines and high-pressure gas supply to the 2-stroke main engines and a dedicated high-pressure re-liquefaction system. All Laby[®]-GI compressors are of gas-tight design and no gas emissions are discharged to the atmosphere. The sealed design of the compressor helps to prevent significant greenhouse gas emissions by recycling all internal leakages without the need for any further purge gas utilization.

Further information:

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About Burckhardt Compression

Burckhardt Compression is the worldwide market leader for reciprocating compressor systems and the only manufacturer and service provider that covers a full range of reciprocating compressor technologies and services. Its customized compressor systems are used in the gas gathering and processing, gas transport and storage, refinery, chemical, petrochemical as well as in the hydrogen mobility and energy and industrial gas sectors. Burckhardt Compression's leading technology, broad portfolio of compressor components and the full range of services help customers around the world to find the optimized solution for their reciprocating compressor systems. Since 1844, its highly skilled workforce has crafted superior solutions and set the benchmark in the gas compression industry.

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For further information please visit www.burckhardtcompression.com
