

Restoring reliability in a critical propylene compressor

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An Indian oil company with a large fleet of reciprocating compressors was facing reliability issues with a Laby® compressor in a propylene application. Due to gaps in the maintenance strategy, the lubrication system developed some issues, which was causing the compressor to perform below its full potential. Faced with frequent unplanned maintenance interventions and increasing operating costs, the company called in Burckhardt Compression to deliver a permanent solution that would improve reliability and minimize disruption to operations.

With the compressor supporting a critical, single-line process, maintenance opportunities were limited and downtime carried significant financial consequences. Burckhardt Compression needed to find a solution for high oil consumption, accelerated wear of rod packing and oil scraper rings that were impacting plant reliability.

Tailored solutions

Following a comprehensive technical assessment, Burckhardt Compression engineers identified the root causes affecting the performance of the key asset. Drawing on extensive expertise in reciprocating compressor technology and propylene applications, the team recommended a specially engineered piston rod packing system designed to meet the unique sealing requirements of propylene compression. The upgraded design significantly improved sealing performance while reducing component wear and lube oil consumption.

To support the implementation, Burckhardt Compression developed a detailed plan aligned with the customer's operational priorities. A streamlined 24/7 work schedule ensured the project progressed continuously while keeping downtime to an absolute minimum. In parallel, application-specific spare parts were supplied in advance, eliminating procurement delays and ensuring every component was available when required.

The rod packing modification was completed on schedule through close coordination between engineering and field service teams. The compressor was successfully returned to operation without disruption to surrounding plant activities, demonstrating the effectiveness of both the technical solution and the project execution.

Boosted performance and reliability

The results were validated over a six-month operating period. Lube oil exchange intervals were extended from four oil changes per year to just one, while oil carryover into the process gas was eliminated, ensuring cleaner operation. The service life of critical wear components, including rod packing and oil scraper rings, increased in line with the customer's maintenance strategy. Most importantly, the compressor achieved significantly higher reliability and operational stability, reducing maintenance requirements and improving overall plant performance.

The customer's confidence in the solution was reflected in their decision to adopt the same modification on another compressor. A spokesperson explained: "We sincerely appreciate Burckhardt Compression for their proactive approach and clear technical guidance during the piston rod packing revision. This upgrade has significantly enhanced compressor reliability and strengthened our trust in Burckhardt Compression's engineering expertise. Thanks to the team in India for delivering a valuable and effective solution."

Image captions:



Image 1: The compressor was disassembled in the local service center for a technical assessment.



Image 2: The new rod packing solution significantly improved the compressor's reliability.

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About Burckhardt Compression

Burckhardt Compression delivers leading compression solutions that enable a sustainable energy future and support the long-term success of its customers. The Group's business is driven by three global megatrends: a growing global population, increasing demand for energy security, and the ongoing energy transition. With its highly engineered reciprocating compressor systems and services, Burckhardt Compression plays a vital role across applications such as hydrogen, gas infrastructure, chemical processing, and industrial gases.

Through its brands Burckhardt Compression, PROGNOST, SAMR Métal Rouge, Shenyang Yuanda Compressor, and Fornovo Gas, the Group offers a comprehensive portfolio of reciprocating compressor technologies, digital monitoring solutions, and lifecycle services.

Founded in 1844, Burckhardt Compression has continuously evolved alongside its markets, from early engineering innovations to today's advanced compressor solutions. Headquartered in Winterthur, Switzerland, the company operates globally with 35 subsidiaries, as well as three manufacturing and five assembly sites.

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