

Success Story: Turning persistent compressor issues into long-term reliability

Engineering
excellence



Our customer, Messer Hungarogáz Kft., the Hungarian subsidiary of the global industrial gas specialist Messer, is one of Hungary's leading producers and distributors of industrial and medical gases. At Hungary's largest petrochemical plant, Messer operates two vertical non-Burckhardt Compression compressors for Nitrogen (N₂) supply. The challenge was to turn long-standing compressor reliability issues into a long-lasting solution.

For many years, these compressors suffered from recurring issues, and adequate OEM support to address the root causes was not available. Seeking a sustainable solution, Messer turned to us. Through our BC ACTIVATE assessment program, we identified the root cause of the problems and provided targeted improvement services, ultimately resolving the issues permanently.

Customer challenges

- Insufficient compressor performance
- Short lifetime of sealing elements (approx. 2'500 - 3'000 hours)
- Accelerated wear of cylinders and piston rods
- Worn out pistons and liners
- High leakage at packing

Burckhardt Compression solution

BC ACTIVATE assessment

We used different measurement techniques (vibration, temperature, roughness) and analyzed the operating conditions to identify the root cause of all issues.

OEM knowledge and expertise

Drawing on our OEM expertise, we proposed a new design for the pistons, piston rods and packings, including optimized sealing elements to significantly reduce wear.

Enhanced design

We found polished cylinder liner surfaces and, as a cost-effective solution, proposed refurbishing the existing shrink-fit liners to improve performance and reduce wear.

Improved material

All wear and tear components were replaced with parts made from materials specifically selected for nitrogen applications.

Seamless coordination and communication

All activities were executed at our Service Center in Switzerland, with a single point of contact for the customer ensuring efficient coordination and consistent alignment.

Experienced field service support

Our experts were on site to complete the installation of the new components and to recommission the compressors.

Customer benefits

- Significant cost reduction
- Improved compressor performance: 5% more flow
- Lifetime expectancy of components of about 8'000 to 16'000 hours
- Reduced wear on all components
- Lower leakage rates: minus 14%

Compressor data

Non-Burckhardt Compression compressor			
Type	Vertical process gas compressor	Gas	N ₂
Power	250 kW / 335 hp	Suction pressure Discharge pressure	7 bara / 101.5 psia 50 bara / 725 psia
Speed	595 rpm	Lubrication	dry running



Refurbished compressor components delivering improved performance.



From wear to reliability – the compressors are ready for long-term operation.

"Successful project completion. We are happy to share that we've successfully completed our latest project! Thanks to some unique technical solutions from Burckhardt Compression, we achieved a compressor capacity increase that exceeded all expectations. Huge thanks to the team for the great collaboration and hard work!"

Messer Hungarogáz Kft.