



## **SUCCESS STORY**

### **HIGH-QUALITY REVERSE ENGINEERING TO EXTEND COMPRESSOR'S LIFETIME**

Our customer, a leading energy company in Europe, runs two LDPE production lines in its site in France. We have a long-standing partnership and have executed several repairs and overhauls including supplying three complete 2<sup>nd</sup>-stage cylinders for one of their non-Burckhardt hyper compressors. The company turned to us because the maintenance windows of this aged compressor were too long. They needed a solution to simplify the site activities and to improve both production planning and maintenance strategy by enhancing their spare parts stock. Following the same approach applied in the past for the 2<sup>nd</sup>-stage cylinders, we suggested to reverse engineer one of the 1<sup>st</sup>-stage cylinders so that the customer could replace the cylinder during the scheduled maintenance and then take care of the original cylinder while the production continued.

#### **CUSTOMER CHALLENGES**

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- Incomplete documentation because of the age of the compressor
- OEM couldn't meet commercial expectations
- Installed cylinder was beyond repair and the spare parts stock needed to be renewed
- Customer experienced a shortage in spare parts stock

## APPLICATION DESCRIPTION

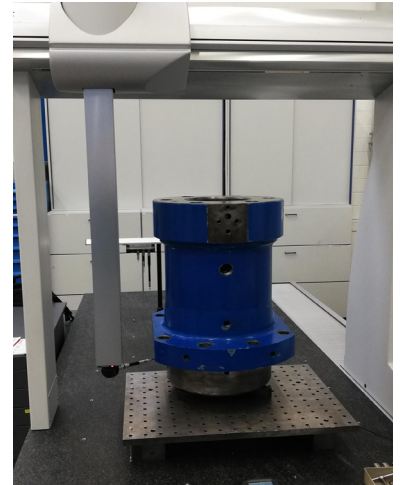
Non-Burckhardt hyper compressor from 1966			
Type	4HHE2	Gas	C <sub>2</sub> H <sub>4</sub>
Power	3.4 MW / 4'083 hp	Suction pressure Discharge pressure	225 barg / 3'325 psig 1'200 barg / 36'485 psig
Speed	214 rpm	Lubrication	Yes

## BURCKHARDT COMPRESSION SOLUTION

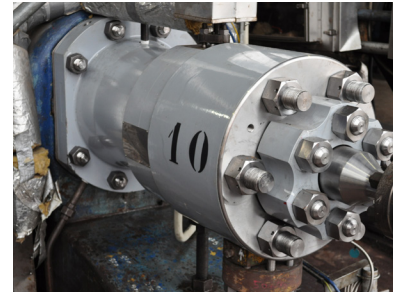
- Complete, new cylinder with internals to counteract customer's shortage
- Accurate in-house measurements on 5-axis automated coordinate-measuring machine (CMM)
- In-house reverse engineering of 1<sup>st</sup>-stage cylinder, including new 3D and 2D manufacturing drawings
- Fully compliant with customer's specifications and requirements
- Cylinder offered including head, body, expansion stud, nuts & bolts for connection
- Single point of contact with one dedicated Project Manager
- High-pressure test at 1'600 bar

## CUSTOMER BENEFITS

- Open and transparent communication thanks to single point of contact
- Lifetime extension of existing assets contributing to sustainability goals
- Flawless production process ensured with high-quality spare parts in stock
- Improved and easier maintenance planning
- Burckhardt Compression's complete in-house production & supply chain allows for effective control and monitoring of execution phase
- Modern tooling and machining for exact measurements in 3D and transfer to 2D for production
- Burckhardt Compression as primary supplier now in possession of updated manufacturing drawings to produce spare parts in a short time



Measurements being taken on 5-axis CMM



New cylinder installed

What our customer says:

**"With this project, our companies have again strengthened this long-lasting partnership. Burckhardt Compression proved with their solution that they understand our business and can provide service solutions that help us save money and time, now and in the future. Although they are not the OEM of this particular hyper compressor, their compressor technology know-how is second to none. Achieving this lifetime extension also supports our sustainability goals as company."**

### Burckhardt Compression AG

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