



# Success Story: 60-year-old compressor revitalized for continuous reliable operation

Engineering  
excellence



Burckhardt Compression Canada successfully completed a zero-hour overhaul of 60-year-old compressor to bring the compressor back to reliable and sustainable operation.

Our customer, Sherritt International Corporation, is a world leader in the mining and refining of nickel and cobalt - metals essential for the growing adoption of electric vehicles. Burckhardt Compression executed a full and thorough inspection and analysis of their Clark HLA-6 compressor components to improve the overall reliability and availability. The OEM is no longer supporting this asset and Sherritt was challenged finding a reliable service provider being able to assess and repair several components.

Burckhardt Compression Canada stepped in and completely rebuilt the compressor to defined specifications. We upgraded components to alleviate several compressor issues as well as created approved repair processes, new documentation and reporting structures. This helped to develop new specifications as almost nothing had historical records to refer to. At the end of the project, Sherritt received a zero-hour compressor that is ready to operate for many years to come. The compressor has been running three times longer than it previously would and has yet to experience an unexpected outage, which is considered a positive improvement at Sherritt.

#### Customer challenges

- In need of a reliable service provider with the ability to dissect issues and offer revamp solutions
- OEM no longer supports this unit, therefore no specifications were available
- Very little documentation and history available
- Accelerated wear rates of compressor rings
- Moisture and condensation issues in cylinder

## Burckhardt Compression solution

### Expert knowledge

Extensive knowledge from our global technical experts' network used to develop reliable specifications for the customer to enable longer run times and less inherent damage during operation.

### Specialized material

We offered new ring designs and Persisto® material as well as updated piston designs to help alleviate the cylinder scratching.

### Engineered components

Bore was oversized to get a true running diameter along the entire length of the cylinder and new custom-size liners built with larger outside diameter to fit the newly sized cylinder.

### Highest quality

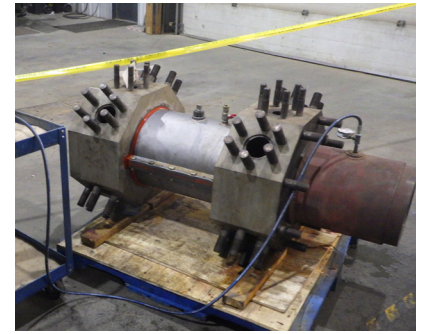
The cylinders were hydro tested to ensure highest quality of the repairs.

### Customer benefits

- Solid set of specifications for consistent future work
- Historical record keeping enabled to improve repair efficiencies
- Compressor availability drastically improved from 62% to 88%
- Increased compressor reliability
- Enhanced production efficiencies and minimized unplanned downtime
- Reduction of waste of frequently failing parts and consumables

### Compressor data

Siemens – Dresser Rand Clark compressor			
<b>Type</b>	HLA – 6 integral compressor	<b>Gas</b>	75.3% H <sub>2</sub> , 24.5% N <sub>2</sub> 0.2% Inerts
<b>Power</b>	1'119 kW / 1'500 hp	<b>Suction pressure</b> <b>Discharge pressure</b>	17 bar / 250 psi 310 bar / 4'500 psi
<b>Speed</b>	300 rpm	<b>Lubrication</b>	yes



Compressor cylinder hydro testing for quality assurance



Refurbishing compressor connecting rod to specifications

"The machine is now in operation, and this would not have been possible without your shop's support. Working together, we were able to develop specifications for all the parts that needed to be refurbished. Your team met our deadline and there were no issues with any of the work completed. Your experts did an excellent job of keeping track of the project and providing weekly updates. The outstanding presentation was what sold us on Burckhardt's expertise and qualification to complete this work. No matter what the problem is, they can always come up with a solution. The cleanliness and organization of the shop is the best I have seen."

**John Young**

Mechanical Engineer, Sherritt International Corporation

## Burckhardt Compression AG

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