

PERFORMANCE STUDIES

Field Reports from Cook Compression

ROD PACKING
REPORT #121

Solid Ring Technology Yields Solid Results

SCENARIO

In early 2011, a major Southwest energy company embarked on a program to drastically cut fugitive emissions, using reciprocating compressors at three of their stations as test cases. After studying available packing options, the company identified Cook Compression's patented Solid Ring technology as the most promising solution.

With Cook Solid Ring technology, each ring seals sequentially, reducing frictional heat loading on the piston rod. This improves sealing effectiveness and reduces wear over extended run times.

SOLUTION

Packing cases with Cook Solid Ring technology were installed on two Ariel JGT-4 compressors in gas transmission service. Early results were encouraging. After 1,000 hours of operation, measurements confirmed zero vent leakage. Another measurement after 3,000 hours produced the same result. The energy company then expanded use of the technology at three of its compressor stations and continued monitoring long-term performance.

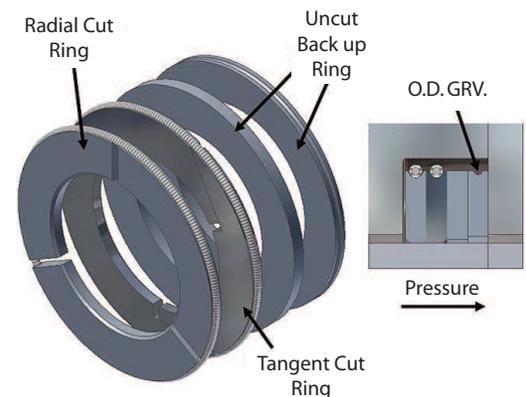
RESULTS

After using Cook Solid Ring technology for more than 2-1/2 years, the energy company authorized a broad assessment of performance.

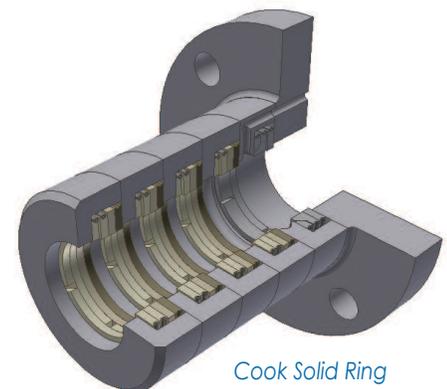
Vent flow measurements were taken at three compressor stations, all of which use Ariel JGT-4 compressors in transmission service. Of the 18 units measured (approximately 72 throws), only six throws recorded leakage above 1.0 scfm. Many were still holding at or close to zero. The throws with the highest number of hours (18,500) were pulled and sent back to the compressor manufacturer for evaluation. These throws were reported to be holding at zero leakage when removed. The company has since converted their entire fleet at the site (22 four-throw units) to Cook Solid Ring technology, along with units at several other sites in the area.

In achieving zero/extreme-low leakage, Cook Solid Ring technology not only enables the energy company to take a proactive approach to emissions compliance – it also saves them money through greater machine uptime, increased throughput, reduced labor and fewer maintenance dollars expended to maintain packing.

For more details about Cook Solid ring Technology, contact your Cook Compression representative or visit cookcompression.com.



Example of a Cook Solid Ring technology ring set



Cook Solid Ring Packing Case



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