Application

Gas:	Hydrogen (bone dry)
Suction Pressure:	13.9 barg / 202 psig
Discharge Pressure:	46 barg / 667 psig
Suction Temperature:	43 °C / 109.4 °F
Discharge Temperature:	167 °C / 332.6 °F

Challenge

Increasing the power efficiency and the compressor capacity by minimizing internal leakages.

Root Cause

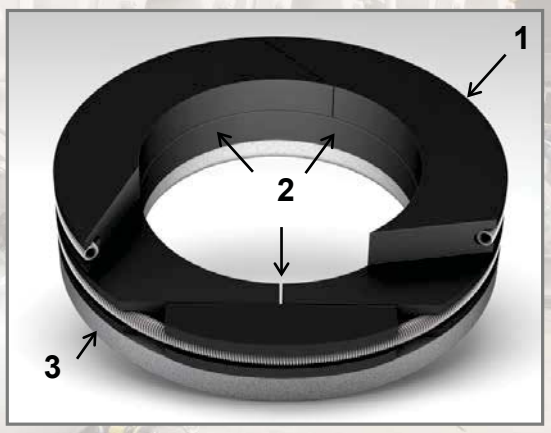
Conventional sealing ring designs have a lot of gaps which are necessary to compensate the worn off ring material. Although those gaps are covered by separate cover rings, it is not possible to get those dynamic systems absolutely gastight.

Solution

All packing cups and all sealing rings except from the last ring towards the vent line are kept at conventional standard design. As those sealing rings have gaps, they are able to provide a proper wear reserve which is essential in non-lube systems to build up a tribo-film. The ring towards the vent line is of the innovative GTRS design. Due to minimized gapping of this sealing element, this design provides a high sealing performance. The leak rate was reduced by 70 %. All rings are made of the high performance material SK801 which is specially designed for bone dry Hydrogen service. Depending on the application tailor-made materials are available.

Innovative Solutions for Reliable Reciprocating Compressor Application

Conventional gapped packing rings



GTR sealing element consisting of a tangential cut cover ring (1), a **single cut** sealing ring with a single cover segment (2) and a backup ring (3)

FIELD CASE

GTR – Gas Tight Ring in none-lube applications

STASSKOL, Inc.
19911 Morton Rd., Suite 200
Katy, Texas 77449
USA
Phone: +1 713 244 5050
Mail: info@stasskol.com
Web: www.stasskol.com

STASSKOL GmbH
Maybachstrasse 2
39418 Stassfurt
Germany
Phone: +49 3925 288 100
Mail: info@stasskol.de
Web: www.stasskol.de