

Application

Gas: 100% Nitrogen
Suction Pressure: 8 barg / 116.0 psig
Discharge Pressure: 14 barg / 203.1 psig
Suction Temperature: 30 °C / 86 °F
Discharge Temperature: 130 °C / 266 °F

Failure Mode

Broken internal parts. Increase of temperature and leakage rate of piston rod packing after only 2500 hours of operation.

Root Cause

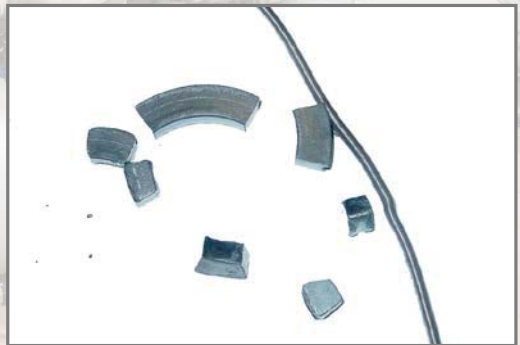
Sealing material was too brittle with only 0.5% of elongation at break. Due to ring breakage, springs were also affected and leakage rates went up because sealing efficiency was no longer given.

Solution

Material change from competitor material (resin material) to PTFE based sealing material with increased elongation at break of more than 10%. Lifetime was extended to more than 8,760 hours in dry-running Nitrogen application.



Packing with damaged internals



Damaged spring & sealing ring

FIELD CASE

Packing Internals

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