

CPI 192 Material Pressure Breaker Eliminates Blow-by Issues

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The Challenge

Customer was experiencing excessive packing blow-by and premature failure across all compressors using the OEM packing set. The suggested solution by the OEM required a significant customer investment per compressor. CPI, part of the Howden group, was asked to explore a possible solution in utilizing the OEM packing case. Operating Conditions: 250 PSI Inlet to 1200 PSI Discharge: -3 Stages.

The Solution

CPI's solution included an upgraded rebuild kit with specific design changes of moving to a 3-piece pressure breaker in CPI 192 material and a CPI 192 back-up ring in the remaining 5 sealing cups on this case. CPI also conducted a skid lubrication rate review and potential adjustments to the lubrication rates were presented to the customer.

The provided solution allowed the customer to continue utilizing the OEM case in combination with the above described CPI material and design changes. The CPI engineered packing set was installed at two customer locations with a CPI representative on site in both instances. Both locations logged dramatic improvement from start-up, virtually eliminating the blow-by issues.

Additionally, CPI's recommendations on the lubrication rates provided a reliable solution to the operational problem.

CPI 192 Material

CPI 192 is a proprietary polymer alloy developed exclusively by CPI, which has become widely specified for extreme service in both lubricated and oil-free gas compressors. The unique self lubricating properties of CPI 192 material have allowed its successful application as piston and rod seals in high pressure oil-free compressors, including those handling "bone-dry" gases. (For example: rod packings in oil-free conditions up to 350 bar.)

In oil-lubricated compressor applications the mechanical properties of CPI 192 have enabled its use in high pressure conditions which traditionally required metallic (eg: bronze) components to be used, or where filled-PTFE components have exhibited extrusion or high wear rates. (For example: ethylene primary compression to 400 bar.)

