

Urgent DPE Spring energised seals

An international valve service provider had a problem sourcing replacement seals for an urgent valve repair that had to be back in service within 14 days.

Our client had already approached the OEM for the seals who quoted a lead-time of 8 to 10 weeks, this was obviously unacceptable and nowhere near the delivery time-scale that was required.

Fortunately one of the lead engineers had recently been stationed in the UK working on another project which had involved DMR Seals, we had supplied engineered seals and components for a valve which also required urgent overhaul. After being impressed with the level of service he had witnessed in the UK, he recommended they use us.



Assessment

Our client was based in Canada so there was a 7 hour time difference, this meant all correspondence was done through email and Skype conference calls where possible. We were provided with an outline of the valve design which was a Double Piston Effect (DPE) Ball Valve and confirmed sizes of the seal pocket dimensions along with images of the DPE seals that had been removed from the valve. It was confirmed that the valve had been in service for 10 months and the service conditions were as follows:

Service Media: Hydrocarbons
Design Pressure: 440 bar
Design Temp Range: -100°C to +180°C

Solution

The technical team at DMR Seals identified the appropriate seal jacket, back-up ring and spring materials that were required according to the application details and produced drawings of the seals to be used in our CAD/CAM manufacturing software. The seals were produced using high performance grades of PTFE and PEEK which both had Norsok M-710 Annex C qualification and a cantilever U-Spring energiser manufactured from Phynox was installed into the seals.



Result

The new Double Piston Effect (DPE) seals were collected by our customer only 3 days after our initial assessment and then installed into the DPE ball valve just 2 days later. The valve was Nitrogen gas tested in an underwater chamber facility, delivered back to the end-user and back in service almost a week earlier than requested.