

SEALING SOLUTIONS FOR SUBSEA SYSTEMS IN THE NORTH SEA



The Aasgard oil and gas field in the North Sea has been operating since 1999. Innovative subsea processing technologies were used to compress the oil and gas on the site's seabed to improve recovery rates as the field ages and as equipment begins to draw from increasingly deeper subsea reservoirs. The operator required seals for the lid and body of the control power distribution unit in order to protect its vital electronics in the harsh, unforgiving subsea environment.

As a globally trusted source for engineered components, seals, assemblies, and sub-systems for demanding environments, Technetics was uniquely positioned to evaluate and specify a sealing solution for this application. The system designer and Technetics engineers subsequently underwent a two-year testing phase to examine the performance of a variety of sealing options.

Due to the extremely demanding environment in which the subsea pressure vessel would be operating, finding a sealing solution that would meet both the operator's and governmental requirements turned out to be lengthy and complex. Specifically, the operator noted that the seal needed to meet high-pressure

requirements with a strict leak rate of 10-11 cc/sec He for a period in excess of 10 years.

Based on the extensive testing results, Technetics identified a HELICOFLEX® spring energized metal seal as the ideal sealing solution. The HELICOFLEX® seal consists of a close-wound helical spring core and outer jacket material that provides a highly ductile and plastic sealing surface. This combination of materials allows it to provide consistent and reliable sealing performance under uneven flange pressures and imperfections in the flange surface. Benefits of the HELICOFLEX® seal include helium tightness, long seal life, and excellent corrosion resistance.

This solution not only secured the electronic equipment inside the vessel, but it also alleviated any environmental and safety concerns from potential leakage and failure of the system. Thus, the installation of the HELICOFLEX® spring energized metal seal provided the required sealing integrity.

To learn more about the HELICOFLEX® seal, download the HELICOFLEX® seal PDF, request a quote, or contact your Technetics Industry Representative for a custom-engineered solution for your application.