A diamond standard for pump seals

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Pumps require maintenance: As much as we would hope to install the equipment and not have to revisit it again, we know that this is highly unlikely ever to be the case.

One of the most frequent equipment change outs required in piped and pressurised rotating machinery are the mechanical shaft seals. Over time seals can become damaged or wear out, especially if the equipment has been subjected to dry-running conditions for even a short period of time. This is where EagleBurgmann can provide a long term solution to solve a very common problem.

The key to reducing maintenance costs is to increase the Mean Time between Failures of the equipment at hand. EagleBurgmann can help you achieve this by providing high performance seal componentry that will withstand extreme use and even a level of misuse.

Enter the DiamondFace range of seals. Wear is unavoidable, but what you can do is implement the hardest wearing parts to bring down the overall cost of operations.

DiamondFace is an innovative new micro-crystalline diamond coating which makes mechanical seals harder wearing than ever.

Because the DiamondFace coating increases all known practical requirements, the service life of mechanical seals is multiplied, and life cycle costs are greatly reduced.

In engineered pump seals the DiamondFace technology demonstrates maximum robustness, even with sharply fluctuating media content in the pumped product mixture, making it the perfect choice for unconventional gas and shale oil applications, mineral sands processing, and other resources industries.
DiamondFace is also perfect for sliding bearings, with axial and radial bearings for magnetic couplings and pumps functioning in high-stress conditions. The considerable strength of the facing means seals are leak-free and maintenance-free for pumping and mixing.

This nano-thin technology was developed in 2007 by EagleBurgmann in 2007, an internationally leading company in industry sealing technologies, which brought the DiamondFace mechanical seals to market for the very first time.

With a thickness of only 15 nanometres, the microcrystalline layer is applied to the face of the seal under vacuum at temperatures up to 2000 degrees Celsius, making it one of the longest wearing seals on the market to date.

Effectively, there is no wear at all on the diamond layer, even when DiamondFace is made to run against itself. With no problems caused by running without lubrication, there is low heat generation, and less cooling capacity required. In dry running the DiamondFace coating wears at a rate of between 0.08 to 0.2 nanometres per hour.

Total life cycle costs for DiamondFace seals is greatly reduced, thanks to longer maintenance intervals, and the capacity of DiamondFace to stand up to harsh conditions such as running dry.

DiamondFace high performance seals are also resistant to electrochemical corrosion in feed water pumps. The technology makes dosing systems superfluous, while retaining outstanding operating times.

DiamondFace seals have a wide spectrum of applications in many different industries, including oil and gas, mining and processing, food and beverage manufacturing, water and waste water, power plants, pharmaceutical industry, and other special applications.

For more information about how DiamondFace seals can help your company cut maintenance costs, visit eagleburgmann.com

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