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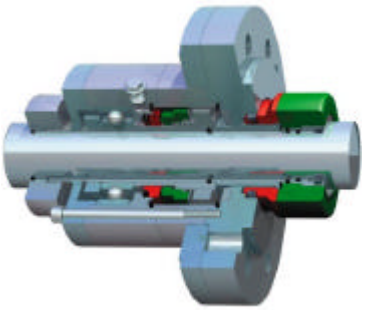
Mechanical Seal Quality Tester

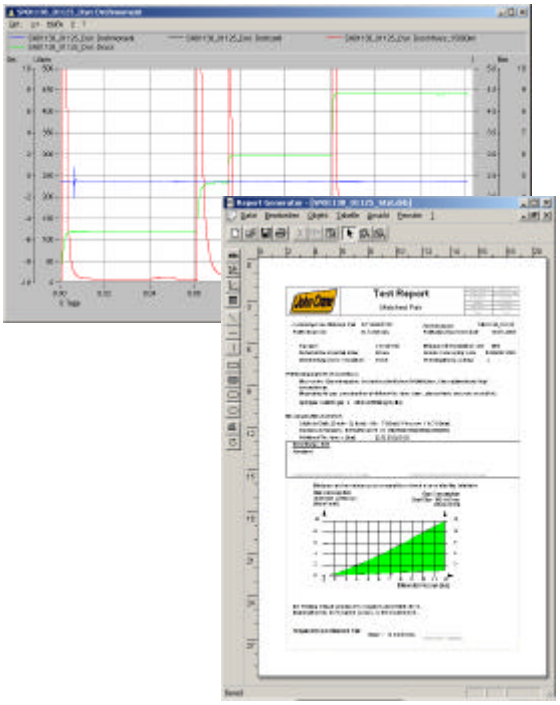
Mechanical seals are very small but nevertheless very important. On rotating shafts and axels such as we find in pumps or agitators is where these small and mostly invisible helpers can be found. The importance of a mechanical seal is very great. Especially since such little parts, once defective, can halt entire production lines or chemical processes.
John Crane is one of the leading companies in development, construction and production of mechanical seals. A mechanical seal leakage test rig based on imc's µ-MUSYCS has been installed in its German plant in Fulda.

Agitators are equipped with mechanical seals

The test of a mechanical seal depends on its design and purpose. Nevertheless several factors are important for every seal test. The rotational speed of the shaft or axel, the pressure, the temperature and the nature of the medium.
Thus a test & measurement system must be very flexible and versatile. µ-MUSYCS and its successor CRONOS PL meet all of those requirements



A modern mechanical seal made by John Crane



A curve display and a report made after a successful test

With the help of John Crane engineers, an automatic rig has been created to verify the quality of a seal under test. The rig includes all hardware and software components necessary. But the heart of the test rig is the imc measurement system µ-MUSYCS and a special software turnkey solution.
Depending on the item, various test cycles can be performed. By applying different pressures, temperatures and by varying the rotational speed, different loads and operating points are simulated. The measurement data taken during the test cycle are automatically evaluated and stored.
Special flow meters detect and record even the smallest leakage and transfer their information to the central measurement device.

Finally, after a test or a test cycle a protocol containing all information and important parameters of the test is created. All values including those protocols are saved to a data server and can be used for further statistical evaluations.
For that purpose FAMOS, the imc offline data evaluation software, can be used. It provides the John Crane test and development personal with all necessary mathematical, analytical and statistical functions.