

Canned Sealless Pumps for Hazardous Applications

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Abstract : Oil and Gas industry has many applications considered as toxic or hazardous, where process fluid leakage is not permitted and leads to health, safety, and environmental impacts. Caustic/Acidic applications, High Benzene Concentrations, Hydrogen sulfide rich oil/gas as well as liquids operating above their auto-ignition temperatures are examples of such liquids that pose as a risk to the industry operation, and for those, special arrangements are in place to allow for the safe operation environment. Pumps in the industry requires special attention, specifically in the interface between the fluid and the environment, where the potential of leakages are foreseen. Mechanical Seals are used to contain the fluid within the equipment, but the prices are ever increasing for such seals, along with maintenance, design, and operating requirements. Several alternatives to seals are being employed nowadays, such as Sealless systems, which is hermitically sealed from the atmosphere and does not require sealing. This technology is considered relatively new and requires more studies to understand the limitations and factors associated from an owner and design perspective. Things like financial factors, maintenance factors, and design limitation should be studies further in order to have a mature and reliable technical solution available to end users.

Keywords : pump, sealless, selection, failure

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