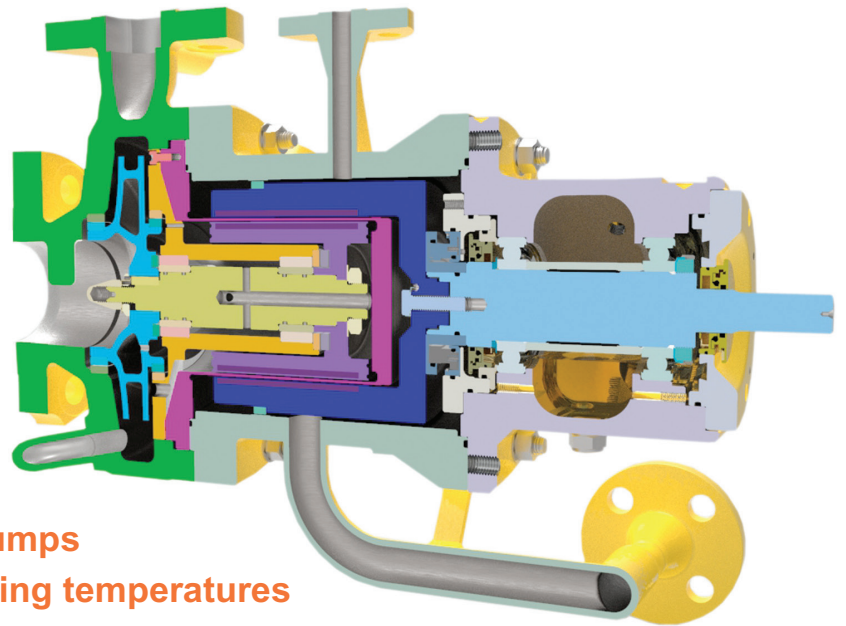


CMC Thrust Bearing Upgrade

The CMC Thrust Bearing, made from Ceramic Matrix Composite material, is a more robust and resilient alternative to the standard silicon carbide internal thrust bearing. The CMC thrust bearing conversion is suitable for a wide selection of HMD Kontro sealless pumps operating in a wide variety of operating temperatures and process liquids. It offers a more robust design solution for cavitation, volatile liquid and marginal pumping applications.



The CMC material comprises of a silicon oxy-carbide matrix with continuous carbon fibre re-inforcing. This gives the material comparable wear and chemical resistance characteristics to silicon carbide, but with greater fracture resistance to shock or vibration loading.

Key Benefits of the CMC Thrust Bearing Conversion:

- **More robust design and optimised MTBF**
 - Mode of failure far more benign than the standard bearing design.
 - Improved handling of volatile and heat sensitive liquids.
 - More resilient for closed discharge or potential dry-run circumstances.
 - Potential to increase pump, mean time between failures (MTBF), thereby reducing downtime and running costs.



- **Low cost conversion opportunity**

- Minimal replacement parts required (internal thrust bearing only).
- Short lead time component.

- **Simple retrofit capability**

- Easy field installed conversion for existing units.
- No special tools required.
- Available as a service kit option.



Suitable for:

- HMD Kontro GSA / GSI Frame 1, 2, GSP Frame 1, 2, 3, GSPV, GSPLF, LMV-801S Frame 1, 2 and GSPX pumps.
- Wide range of liquids plus services containing liquified gases or heat sensitive liquids.
- Cavitation (or low NPSHa) applications or those with an increased risk of dry-running.
- Use with the ZeroLoss® shell conversion to provide a highly robust pump.

Properties of CMC material:

Density	2000 kg/m ³
Maximum continuous operating temperature	600°C
Ultimate tensile strength	245 MPa
Modulus of elasticity	79.8 GPa
Strain at failure	0.34%
Poisson's ratio	0.51
Flexural strength (4 point bend)	267 MPa
Izod impact strength	213 000 kJ/m ²

To maximise your uptime, please contact HMD Kontro's highly skilled Aftersales Technical Support Team who have vast experience in the operational aspects that customers may encounter during the lifetime of their sealless pump installations. We are keen to share this knowledge with you to ensure your pump maintenance is optimised and straightforward, fast and cost effective. Our Engineers are always on hand to provide trouble shooting advice and to recommend suitable upgrades, spares kits and stock inventory levels for pumps located at any plant or location around the globe.

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