



ENVIRONMENTAL TECHNOLOGY

Trialling different solutions to improve MTBF

Competitor mechanical seals on a high-pressure service water (HPSW) heat pumps were failing frequently, so the naval pump engineers asked AESSEAL® to investigate alternative sealing arrangements with a view to improving MTBF (mean time before failure).

AESSEAL® initially trialled a CSM™ cartridge single seal for mixers on two pumps. These were selected for their ability to accept radial movement up to 1.5mm, so they could withstand the significant deflection (or bending) of the pump shaft caused by unequal water velocity around the impeller. However, these seals also failed prematurely, after around six months.

AESSEAL® conducted further technical examinations and established that the root cause of the malfunction was bearing failure. This analysis was supported by vibration analysis readings taken by the ship's staff.

SMSS™ cartridge seals which are designed for high movement and displacement applications were subsequently installed on the vessels where the MTBF has increased to from 6 months to 36 months.



Designed for high movement and displacement

Industry:	Marine Industry
Product:	SMSS™
Application:	(HPSW) heat pumps
MTBF Increase:	500%
Reference N.O:	CS0197



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