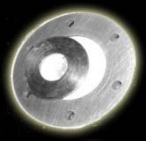
Endurance Rebuild Kits



Endurance Engine pumps

Run dry Bilge Pumps

Multi Point Bilge pumps

Filtration & Pollution control

KPM Marine D.E. Ltd.

Safety critical Design and Engineering for the Marine industry

Innovating Safety at Sea

Case study Generating Peace of Mind

Generators are increasingly being used by commercial and pleasure boaters to meet electrical demands of equipment. However; in some commercial applications the position of the generator has proven to be a problem due to the larger sizes of boats and the priming heads and length of piping encountered. In addition the increased exhaust/water back pressure effect was overloading the pump and its performance. KPM were approached by a customer to provide a solution for Dorset Cruises whom were suffering with overheating of their generator and accelerated wear of the factory fitted pump due to sand.

Photo's Courtesy Dorset cruises

Problem: Generator Cooling

Dorset cruises were having to consistently rebuild the standard pump in order to achieve priming. In addition due to the standard pump having to draw a higher head the flow through the generator was severely diminished causing an overheat cut out . Due to the extreme nature of the problems KPM engineers opted to undertake a survey of the setup to ascertain the running conditions and fault modes.

- Excessive sand creating wear of the Sherwood pump and accelerated loss of performance.
- Increased prime height and length of piping due to the position of the generator causing extended run dry periods and damage to the impeller.
- Increased water/exhaust backpressure created by extra run lengths effecting the pump performance and the cooling of the generator. This would cause loss of electric to the whole ship.
- The existing pump was unreliable and would fail at any point no matter how much maintenance was undertaken. This was not only costly in spares and time but also effected quality of service to its customers.

KPM Solution

Due to the extreme operating conditions KPM duplicated the boats setup in its test department to provide the best solution. The result was the KPM 40-05 pump which was not only more robust but also had an extra 20% flow capacity engineered in to compensate for the more demanding conditions . The TIBS system ensured that prime could be maintained to a height of 12 feet via a strainer through 24 feet of pipe and cope with the back pressure created by the water trap. In addition the porting configuration allowed the smooth transfer of sand without damage to the pump. The pump has been a significant improvement to the operating efficiency of the generation plant.

Increased pump life due to reduced wear and stress on bearings
Increased Impeller Life with no reported failures to date.
Increased Run dry capability exceeds SOLAS requirements.
Reduced wear in sandy water.
Reduced spares cost and save £££'s.
Eliminate winter stick. No failure reported
Improved long term Prime even after run dry.

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