



Ballast Water Management Technology
A CALGON CARBON COMPANY

Murakami Hide shipyard in Japan selected the Hyde GUARDIAN system for several LPG tanker newbuilds.



Vessel Type: LPG Tanker

Ballast Pump Capacity: 240 m³/hr

System Model: HG250G

THE PREPARATION

For any vessel carrying hazardous cargo, it is careful during the planning stage to understand if the ballast water will also be considered a hazard. This is typically the case if the ballast manifold passes through the cargo area.

THE DESIGN

This Japanese yard built several LPGs including a tank separation system. This ensured that the ballast water was considered non-hazardous and thus the ballast water treatment system did not need to be certified for use in an explosive atmosphere. The cost of such a certification is significantly higher than that of a standard product.

The ballast pump was designed with a variable frequency drive enabling the crew to perform operations at a variety of flow rates.

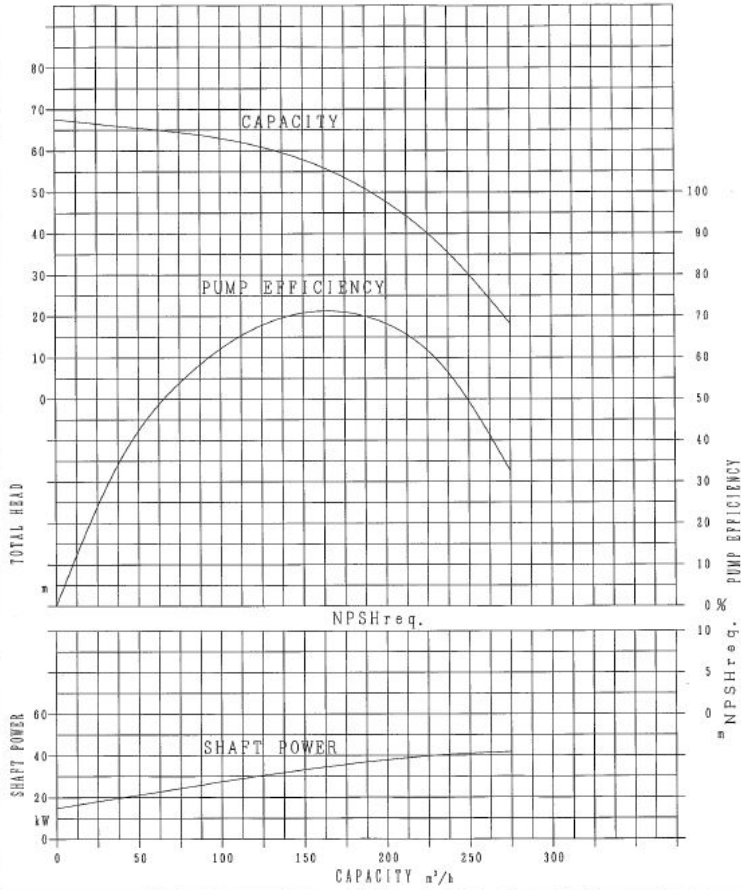
THE CONFIGURATION

In order to ensure the Treatment Rated Capacity of the ballast water treatment system could not be exceeded, a positioner was added to the effluent valve. The system then could be programmed such that if flow exceeded 250 m³/hr, the positioner would close the valve to restrict flow and maintain proper treatment of all ballast water discharge.

The piping system was also arranged with the UV chamber was mounted in a vertical orientation, with flow upwards through the chamber. This ensures that air cannot become entrapped in the chamber which can create a potentially dangerous situation.

EXPECTED PERFORMANCE CURVES

SERVICE _____
 TYPE ESCE-2000 OUTPUT 45 kw LIQUID S.W.
 No. OF REV. 1800 r/min S.P. G.R. 1.025



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Customer signature indicates acceptance and receipt of this report.

