

## Large bulk carrier "SG OCEAN" equipped with dual-fuel engine "6DE23DF" entered service

On January 30, the large bulk carrier "SG OCEAN" equipped with our dual-fuel engine for marine vessels "6DE23DF", built at the Tsu Shipyard of Japan Marine United Corporation entered service.

The vessel is the first Capesize LNG-fueled bulker to be delivered at a shipyard in Japan and will be used to transport iron ore and coal from Australia to Japan. In addition, by using LNG instead of heavy oil, which is a conventional fuel, greenhouse gas emissions can be reduced by about 25%, sulfur oxide (SOx) emissions by about 100%, and nitrogen oxide (NOx) emissions by about 75%.

The 6DE23DF engine on board the vessel can switch between LNG-fueled gas mode and liquid-fueled diesel mode depending on the conditions. It is an environmentally friendly, high-performance engine that can reduce not only CO<sub>2</sub> but also SOx, NOx and PM (particulate matter) at the same time.

We have a lineup of 4 types of LNG-fired technology with an output of 800~4,000kW, and with the launch of this vessel, all 4 types have been introduced to the market.

We regard global environmental conservation as one of its important management issues and is promoting the reduction of environmental impact in all of its business activities, including product development, procurement, production, sales, logistics, and after-sales service. In addition, as a member of society, we will contribute to the development of a sustainable society by collaborating with our business partners and business partners to achieve the major goal of zero environmental impact.



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