

# NEXT GENERATION DRY CARGO VESSELS

# For decades we have designed increasingly economic and fuel-efficient quality ships:

# **Hull form**

Slender lines and moderate flare gives reduced drag and better seagoing performance, optimised for the sailing pattern. The bulb results in enhanced icebreaking performance compared to completely vertical stem and further reduces the resistance. The hull form of the aft ship is optimised for best possible propulsion characteristics.

# Main engine

While complying with Ice Class 1A requirements and still making safe navigation the highest concern, emissions and the EEDI score is reduced by installing the most efficient engine power.

# Dynamic Drive & Combinator mode/variable RPM

With the improved design of the hull and by implementing Bergs Dynamic Drive system, the vessels overall performance is always optimised. A frequency converter has been installed, making it possible to run the main engine on a variable RPM depending on load, while at the same time still supplying the electrical AC demand with the shaft generator.

Reduction of the engine and propeller RPM at lower speeds makes the propeller run more efficient, while at the same time the specific fuel consumption of the main engine is improving. A fully automatic system will constantly choose the optimal load point.

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# Propulsion

A large diameter propeller running inside a propeller nozzle improves propulsion efficiency, especially at lower speeds it delivers more thrust; less power demand in seaway and while icebreaking, which enables to reduce installed main engine power.

#### **Electrical consumption**

The electrical consumption is reduced by various measures, such as applying LED lighting, frequency control (possibility of reducing RPM) for various large electricity consumers.

# **Consumption metering**

Fuel consumption monitoring is installed for main engine and auxiliaries, and shore connection as well as shaft generator is monitored to fully measure the energy consumption on board in real time.

## Shore connection

The installed frequency converter makes it possible to install a new 125 A shore connection which can accept both 50 and 60 Hz from the shore grid. This enables the ship to shut down all engines while in port (no emissions) also during loading, unloading and when pumping ballast water.

## **Heat recovery**

Cooling water heat exchangers are installed for the main and auxiliary engines. The captured excess heat will be re-used for domestic heating, tank heating, hold drying etc.



# A sustainable Swedish partner over generations