

BANGKOK-MAX:



Innovative 2000 TEU Container Feeder Vessel

Knud E. Hansen A/S and JV partner ABB developed what is described as a highly fuel efficient 2000 TEU Container Feeder Vessel, a vessel's whose main dimensions have been optimized for calling in Bangkok. Propulsion efficiency is boosted by an electrically driven counter rotating ABB Azipod unit, which is fitted behind the directly driven main propeller. The power balance between the main propeller and the Azipod is approximately 65/35%, and as the Azipod can be turned 360 degrees, the vessel will have state of the art maneuverability. Compared to a vessel with a conventional diesel-direct propulsion system the main engine has been down-sized, and with a correspondingly smaller propeller diameter in combination with a low shaft line, ballast water to submerge the propellers in light loaded conditions is generally not necessary. At 18 knots the main engine with its shaft generator will deliver the entire propulsion power including the electrical power for the Azipod unit, the hotel load and the reefer containers. Additional auxiliary power is only necessary if higher speeds (up to 21 knots)

are required or if an exceptionally large number of reefer containers are carried.

Three auxiliary engines with a total electrical power output of approximately 8000 kW are arranged in an auxiliary engine room, which is completely segregated from the main engine room. With the main engine stopped, the vessel is able to navigate with a speed of more than 13 knots on auxiliary power and the Azipod alone, which provides a very high degree of redundancy and more than sufficient "return to port" capability.

The vessel has an overall length of 172m and a beam of 30m. Deadweight at the Bangkok-max draft of 8.2m is approximately 18,300 tons, while it is approximately 28,400t at the fully loaded draft of 10.5m.

HFO tanks have been arranged in a simple, square block below the deckhouse in order to minimize the need for trim compensating ballast water and changes of trim during a voyage. Additionally, the tanks are segregated from the sides and the bottom in preparation for Clean Design Class notation. Space has also been prepared in the engine

casing for scrubbers or a SCR system so that the vessel can be adapted for navigating in Emission Control Areas. The vessel is even prepared for zero-emission port calls, because containers holding batteries can be stored on the aft deck and connected to the DC grid.

Five tiers of high-cube containers can be stacked in the holds and six on the hatches. In the gearless version the vessel will carry up to 1,448 TEU on deck and 668 TEU in the holds corresponding to a total high-cube capacity of 2,116 TEU.

As designed, the reefer capacity below deck is 438 TEU (or 258 FEU), and with three tiers on the hatches and four on the aft deck the capacity on deck is 746 TEU (or 370 FEU), giving the vessel a total potential reefer capacity of 1184 TEU (or 628 FEU).

But with 8000 kW of auxiliary power installed, access to the reefer units is practically the only limiting factor for the number of reefers that can be carried, so the capacity on deck may be further increased by higher lashing bridges aft and/or lashing bridges between the hatches.