

ANE MÆRSK – First methanol-fuelled containership for Maersk



Shipbuilder:..... **Hyundai Heavy Industries, Korea**
Designer:..... **Hyundai Heavy Industries, Korea**
Vessel's name:..... **Ane Mærsk**
Owner/Operator:..... **Maersk**
Country:..... **Denmark**
Flag:..... **Denmark**
Total number of sister ships already completed:..... **9 (per Feb 2025)**
Total number of sister ships still on order:..... **2 (total series is 12 ships)**
Contract date:..... **August 2021**
Delivery date:..... **January 2024**

Ane Mærsk is the world's first dual-fuelled methanol mainliner container ship, having a nominal container capacity of 16,592TEU. It is the first in a series of 12 sister ships built at Hyundai Heavy Industries in Ulsan, Korea.

This vessel represents a significant step towards net-zero greenhouse gas emissions in container transport. When operating on green methanol, *Ane Mærsk* can save approximately 280tonnes of CO₂ per day compared to conventional vessels using heavy fuels. With all 12 sister ships in operation, the annual CO₂ savings will be around 1.5 million tonnes.

Ane Mærsk features an innovative design with accommodation at the bow and the funnel at the stern, a first for a container ship of this size. Despite similar dimensions to conventional 15,000teu vessels, she can carry over 1,000 additional teu, even after allocating one cargo hold bay for methanol storage tanks. The total methanol capacity is 16,000m³ in two tanks forward of the engine room.

One challenge with the forward accommodation was ensuring the torsional strength of the 'open shoebox' hull. This was addressed in the structural design, resulting in deformation levels and hatch cover designs similar to conventional 15,000teu.

Transient vibrations from slamming impacts are mitigated by the bow shape with a vertical stem and the integrated design of bulwark and accommodation.

The main and auxiliary engines are

methanol dual-fuel types. The main engine is a MAN 8G95ME-C10.5-LGIM, a significant upgrade from the previously largest methanol engine (G50). Electrical power is provided by a 4MW Wärtsilä shaft generator and four Himsen H32DF-LM generator sets, providing a total of 16.5MW. The vessel has 2,000 reefer plugs, approximately 40% of which are located in the holds, which are equipped with both air- and water-cooling systems.

Ane Mærsk is equipped with shore power connection (AMP), refrigerants with reduced global warming potential, enhanced insulation of external walls and windows, LED lights, VFD-control and high-efficiency electric motors. Manoeuvring capability is ensured by a large full-spade high-efficiency rudder and two 1,800kW tunnel thrusters at both bow and stern.

TECHNICAL PARTICULARS

Length, oa350.6m
Length, bp343.2m
Breadth, moulded53.5m
Depth, moulded33.2m
Gross tonnage172,093
Displacement221,700m³ (summer load)
Design, draught17m (summer load)
Design, deadweight.... 174,000dwt (summer load)
Lightweight47,700tonnes
Max speed21knots
Range23,000nm (in methanol mode)

Propulsion

Main engine(s):
Number of engines1
MakeMAN B&W
Model8G95ME-C10.5-LGIM
Output of each engine44,187kW

Propeller(s):

Number of propellers1
MakeNakashima
ModelSolid keyless
Diameter10m
MaterialNi-Al-Bronze
Number of blades5
Speed74.4rpm (corresponding to MCR)
Fixed/controllable pitchFixed
Open/nozzledOpen
Special adaptationsPre-swirl device

Deck machinery and bridge electronics

Winch(es):

Number of winches8 fwd + 8 aft
MakeFlutek
ModelEMWR/L300D1
Capacities30tonnes@15m/min

Other deck machinery/equipment:6 x 1tonne capstans

Bridge electronics

Radar(s)JRC / JMR-9296-6X / JMR-9282-S
AutopilotYDK / PT900A
GMDSSJRC / JHS-800S / JSS-2250
GPSSAAB / R6
GyroYDK / Dual FOG-50
Chart plotterJRC / JAN471A NeCST
Engine monitoring systemTriton
Fire detection systemConsilium/
Salwico Cargo
Other communication systemsVSAT / Sailor
1000 XTR

Onboard capacities:

LFO/MGO/ULSFO6,200m³
Methanol16,000m³
Fresh water600m³
Sullage72m³ (treated sewage and grey water tank)
Ballast water49,600m³

Complement:

Number of crew28 (+ 6 Suez Canal crew)
Number of passengers0
Number of cabins30

Classification

Classification societyABS
Notations✱A1, Container Carrier, (E), ✱AMS,
✱ACCU, RW, SH, SHCM, SH-DLA, SFA(25), FL(25),
CPS, TCM, ESA, NIBS, UWILD, RRDA,POT, FOC,
CRC(SP), SLAM-B, SLAM-S, CS-Ready, LFFS(DFD-
Methanol), IHM, EGC-EGR, Selev

Other important international regulations

complied with:

IMO Res. MSC.391(95), International Code of
Safety for Ships Using
Gases or Other Low-Flashpoint Fuels (IGF code),
IMO MSC.1/Circ.1621 Interim Guidelines for the
Safety of Ships Using Methyl/Ethyl Alcohol
as Fuel

