

# DONG YI 601 – BULK CARRIER



Shipbuilder: ..... **Penglai Zhongbai Jinglu Ship Industry Co., Ltd**  
 Vessel's name: ..... **Dong Yi 601**  
 Owner/Operator: ..... **Fujian Dong Yi Shipping Co., Ltd**  
 Country: ..... **China**  
 Designer: ..... **Shanghai Merchant Ship Design & Research Institute, CSSC (SDARI)**  
 Country: ..... **China**  
 Model test establishment used: ..... **China Ship Scientific Research Center**  
 Flag: ..... **China**  
 Total number of sister ships already completed (excluding ship presented): ..... **3**  
 Total number of sister ships still on order: **6**

**D**elivered in May 2022, *Dong Yi 601* is the leading vessel of the series of new generation of gearless 'DOLPHIN' bulk carrier developed by SDARI for domestic trade in Chinese waters. Three of the vessels, of which this is the first, are being built by Penglai Zhongbai Jinglu Shipindustry for Fujian Dong Yi Shipping with several more being built for other owners.

The five-hold configuration is similar to a Supra or Ultramax design but the hull dimensions of 225m loa, beam of 36.5m, 12.5m draught and deadweight of 76,006tonnes are higher than that class of vessel as is the 99,771m<sup>3</sup> grain capacity bringing the ship nearer to the Panamax class. With an average hold length of over 36.3m this is longer than vessels of similar tonnage which would normally have seven holds. The large holds and 26.1m length hatches with side rolling hatch covers ensure high efficiency cargo operations.

The vessel's hull form is optimised to achieve a higher propulsive efficiency and lower resistance in order to reduce fuel consumption and emissions. The vessel's superstructure layout adopts low wind resistance ensuring fuel consumption is about 28% lower than ships of similar capacity.

Power comes from a MAN B&W 6S50ME-C9.7 super long-stroke engine producing 7,512kw at 85rpm and driving a single 7m diameter fixed pitch propeller. Normal service speed at 80% MCR is 13kt. A CSSC XIANDAI / ZFC6 502-84E shaft generator at the engine free end feeds 520kW of power to the ship's systems.

A propeller boss cap further aids efficiency allowing for an attained EEDI of 2.96 comfortably below the domestic required figure 3.93 and the IMO required figure 3.61.

## TECHNICAL PARTICULARS

Length oa: ..... 225.0m  
 Length bp: ..... 221.5m  
 Breadth moulded: ..... 36.5m

Depth moulded to main deck: ..... 18.8m  
 Draught scantling: ..... 12.5m design: ..... 11.3m  
 Gross: ..... 45,287  
 Displacement: ..... 87,524  
 Deadweight scantling: ..... 76,006t design: ..... 66,707t

Speed, service (80%MCR output): ..... 13

Cargo capacity (m<sup>3</sup>) Grain: ..... 99,771  
 Bunkers (m<sup>3</sup>) Heavy oil: ..... 815 Diesel oil: ..... 225  
 Water ballast (m<sup>3</sup>): ..... 25,740

Daily fuel consumption (tonnes/day) Main engine only: ..... 21

Classification society and notations: ..... CCS  
 ★CSA Ice Class B; In-Water Survey; Loading Computer (S, I, G); R1  
 ★CSM Machinery Notation AMP5; AUT-0; Gd-ECO(CD24); Gd-EP; SCM

% high-tensile steel used in construction: ..... 60

Propulsion Main engine(s) Design: ..... MAN Model: ..... 6S50ME-C9.7 Tier II Manufacturer: ..... CSSC Marine Power Co., Ltd Number: ..... 1 Type of fuel: ..... VLSFO & MGO Output of each engine: ..... 7,512kW Is this a diesel-electric or hybrid?: ..... N

Propeller(s) Material: ..... Copper alloy (Cu3) Designer/Manufacturer: ..... SMARD Number: ..... 1 Fixed/Controllable pitch: ..... Fixed Diameter: ..... 7.0m Speed: ..... 85rpm

Main-engine driven alternators Number: ..... 1 Make/type: ..... CSSC Xiandai / ZFC6 502-84E (free end) Output/speed of each set: ..... 520kW / 1,450rpm

Diesel-driven alternators Number: ..... 2 Engine make/type: ..... Anqing CSSSE / 6DK-20E Type of fuel: ..... VLSFO & MGO Alternator make/type: ..... CSSC Xiandai / HFC Output/speed of each set: ..... 700kW / 750rpm

Boilers Number: ..... 1 Type: ..... Exhaust gas & oil-fired composite steam boiler Make: ..... Qingdao Marine Boiler Output, each boiler: ..... oil-fired side 1,300kg/h / exhaust gas side 600kg/h Stern appendages/special rudders: ..... Flap type rudder

Other cranes Number: ..... 1 Make: ..... Wuxi Huahai Marine Equipment Co., Ltd Type: ..... Hydraulic slewing crane Tasks: ..... provision handling Performance: ..... SWL 3.5t 1.5-7m

Mooring equipment Number: ..... 2+2 Make: ..... CSSC Nanjing Luzhou Machine Co. Ltd Type: ..... hydraulic

Special lifesaving equipment Number of each and capacity: ..... 25P Make: ..... Jiangyinshi Beihai LSA Co., Ltd Type: ..... free fall

Cargo/capacity Hatch covers Design: ..... NSH Poseidon Ships Equipment Co., Ltd Manufacturer: ..... NSH Poseidon Ships Equipment Co., Ltd Type: ..... side opening type

Ballast control system Make: ..... Nantong Navigation Machinery Type: ..... Hydraulic

Complement Officers: ..... 10 Crew: ..... 12 Supernumeraries/Spare: ..... 2 Single/double/other rooms: ..... Single

Navigation and other equipment Bridge control system Make: ..... Kongsberg Type: ..... Autochief 600 Is bridge fitted for one-man operation? ..... N Integrated bridge system: ..... N

Radars Number: ..... 2 Make: ..... Furuno Model(s): ..... FAR-2328 / 2338S

Fire detection system Make: ..... Kexun Type: ..... K1302

Fire extinguishing systems Engine room: ..... CO<sub>2</sub> system Make/Type: ..... Wuhan Weili

Waste disposal plant Waste shredder/crusher Model: ..... CFJ-15B Sewage plant Make: ..... Shanghai Shijiu Model: ..... CSWE-30

Efficiency Attained EEDI value: ..... 2.96 Required EEDI value: ..... 3.93 (Domestic) 3.61 (IMO)

Installed Fuel Meters: ..... Volume fuel meters have been installed in fuel supply module and in/out of M/E.

Energy Saving Technologies\*: ..... Tank Energy Saving System (TESS) has been installed for FO heating to save steam consumption. VFD for sea cooling water pumps have been installed

Performance Monitoring Regime: ..... Propeller boss cap

Delivery date: ..... 29 April 2022



