



CHINA STEEL LIBERTY: Bulk carrier

Shipbuilder: **CSBC Corporation, Taiwan**
 Vessel's name: **China Steel Liberty**
 Owner/Operator: **China Steel Express Corporation**
 Country: **Taiwan**
 Designer: **CSBC Corporation**
 Country: **Taiwan**
 Model test establishment used: **SSPA Sweden**
 Flag: **Taiwan, R.O.C.**
 IMO number: **9832975**
 Total number of sister ships already completed (excluding ship presented): **2**
 Total number of sister ships still on order: **1**

As part of a fleet renewal programme, begun in 2017, Taiwanese shipowner China Steel Express ordered a pair of ECO Newcastlemax bulkers at local builder CSBC. The order was later extended to four ships and the first of these was *China Steel Liberty* delivered in May. Two sisters *China Steel Harmony* and *China Steel Brilliance* followed in 2019 with the final vessel *China Steel Prestige* due for delivery early in 2020.

China Steel Liberty has been built to the limits of the Newcastlemax dimensions of 300m loa and 50m beam. Like many of the latest ships built to these dimensions, its deadweight of 208,600 comfortably exceeds the 185,000 tonnes that was once usual for this class of vessel. Cargo arrangements are typical for a Capesize ship with nine holds and nine hatches.

The ECO ship label applies to this deadweight and to the reduced fuel consumption compared to older ships. The attained EEDI is 2.20 which is comfortably below the 2.51 required for the vessel. The ship's accommodation has been built to a low resistance design aiding in reducing fuel consumption.

The vessel features a number of energy saving measures including the yard's sea-sword bow form, which is another of the vertical bulbless variants that have replaced the old bulbous bow designs of just a decade or so ago. Other measures featured are a rudder fin, twisted rudder, rudder bulb and a 9.1m high efficiency fixed pitch propeller. The main engine is a Mitsui-built MAN B&W 6S70ME-C8.5 type producing 14,900kW at 73rpm allowing a service speed of 16.5knots.

In order to have some flexibility for meeting the 2020 sulphur cap rules, the ship has been constructed as scrubber ready but none was installed on delivery.

TECHNICAL PARTICULARS

Length oa: 299.7m
 Length bp: 295.2m

Breadth moulded: 50.0m
 Depth moulded: 25.0m
 to main deck: Nil
 to upper deck: 25.0m
 to other decks: Nil
 Draught
 scantling: 18.5m
 design: 16.0m
 Gross: 105,964gt
 Displacement: abt. 236,100t
 Lightweight: abt. 27,500t
 Deadweight: abt. 208,600t
 scantling: abt. 208,600t
 design: abt. 17,400t
 Block co-efficient: abt. 0.84/scantling
 Speed, service (80%MCR output): 14.5

Cargo capacity (m³)
 Bale: abt. 210,500
 Bunkers (m³)
 Heavy oil: abt. 4,600
 Diesel oil: abt. 460
 Water ballast (m³): abt. 133,000
 Daily fuel consumption (tonnes/day)
 Main engine only: 46.6

Classification society and notations:.....
 CR CR100+E Bulk Carrier, BC-A(Holds 2,4,6 and 8 may be empty), GRAB[21], ESP, PSCP, PMA, NR-II, IWS, LCS, BWM, EEDI, SEEMP, SRE, Sox Scrubber Ready-I, CMS(CAU)+ PCM LR+100A1,BulkCarrier,ESP,ESN,BC-A,strengthened for heavy cargoes, 'hold nos. 2, 4, 6 & 8 may be empty', ShipRight (SDA, FDA, CM, ACS(B,D)), strengthened for regular discharge by heavy grabs[21], *IWS, LI, ECO(BWT,IHM),+LMC, UMS, "ShipRight(BWMP(F,T),SERS,SCM)",EGCS-R(A)

Propulsion
 Design: MAN B&W
 Model: 6S70ME-C8.5
 Manufacturer: MITSUI
 Number: 1
 Type of fuel: HFO
 Output of each engine: . 14,900kW x 73.0rpm
 Is this a diesel-electric or hybrid?: No

Propeller(s)
 Material: Ni-Al-Bronze
 Designer/Manufacturer: CSBC/Dalian Huarui Heavy Industry Group Co., Ltd
 Number: 1
 Fixed/Controllable pitch: Fixed
 Diameter: 9.1m

Diesel-driven alternators
 Number: 3
 Engine make/type: Yanmar 6EY22(A)LW
 Type of fuel MDO / HFO
 Alternator make/type: Taiyo Electric Co., Ltd
 Output/speed of each set: 950kW
 Boilers
 Number: 1
 Type: ...MA type boiler, vertical oil fired boiler
 Make:Kangrim Heavy Industries Co.,Ltd
 Output, each boiler:1,300kg/h
 Mooring equipment
 Number:2 x mooring winch/windlass + 4 x mooring winch
 Make:Manabe Zoki
 Type:Electric

Special lifesaving equipment
 Number of each and capacity: 1 x 25 persons
 Make:Jiangsu Jiaoyan Marine Equipment Co., Ltd.
 Type:Diesel engine, free-fall type

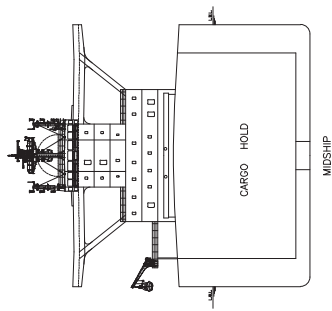
Hatch covers
 Design: MacGregor
 Manufacturer: CSBC
 Type (upper deck/other decks): ... Upper deck

Cargo tanks
 Number: 9
 Product range: Ore
 Ballast water treatment system
 Make: Headway Technology Co., Ltd.
 Capacity: 3,900m³/h x 2
 Complement
 Officers: 15
 Crew: 10
 Radars
 Number: 2
 Make: JRC

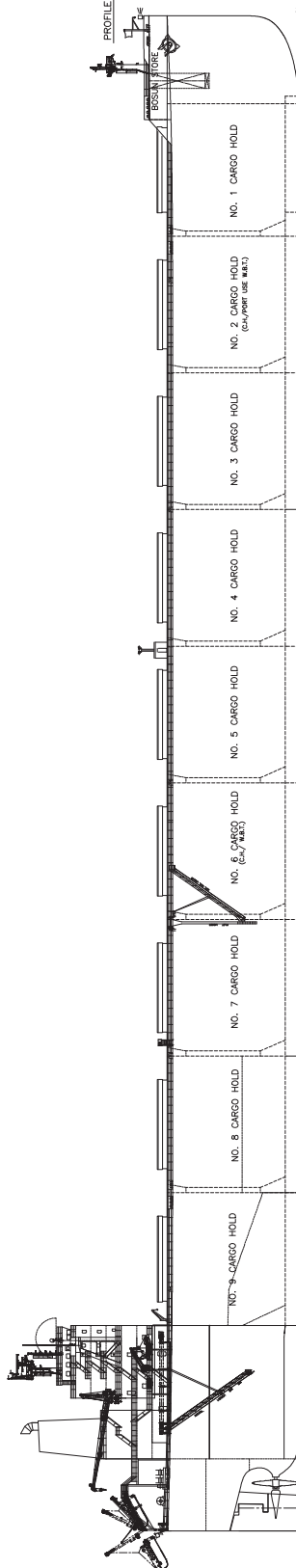
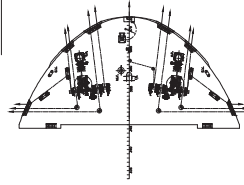
Fire extinguishing systems
 Engine room:
 Make: NK
 Type: High Expansion Foam

Efficiency
 Attained EEDI value: 2.20
 Required EEDI value: 2.51
 Energy Saving Technologies*: Twisted rudder, rudder bulb, high efficient propeller, sea sword bow, rudder fin

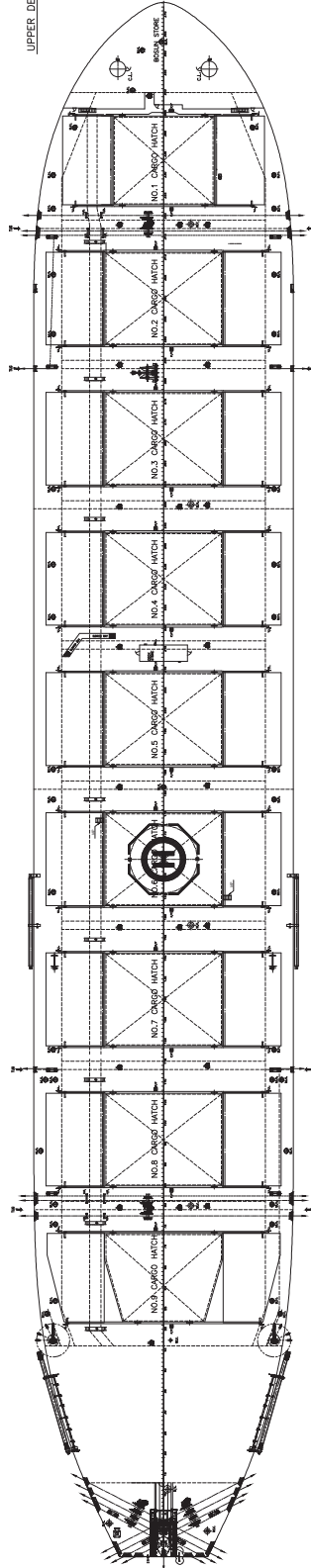
Contract date: 17 August 2017
 Launch/float-out date: 19 January 2019
 Delivery date: 20 May 2019



F'OLE DECK



UPPER DECK



HOLD AND TANK TOP PLAN

