



# ZHONG HUA FU XING: Ro-pax cruise ferry

Shipbuilder: .....Shandong Huanghai Shipbuilding Co., Ltd.  
Vessel's name: ..... **Zhong Hua Fu Xing**  
Owner/Operator: ..... Bohai Ferry Co., Ltd.  
Country: ..... China  
Designer: .....Shanghai Merchant Ship Design & Research Institute (SDARI)  
Country: ..... China  
Model test establishment used: .....Shanghai Ship & Shipping Research Institute (SSSRI)  
Flag: ..... China  
IMO number: ..... **9849875**  
Total number of sister ships already completed (excluding ship presented): ..... **1**  
Total number of sister ships still on order: ..... Nil

Bohai Ferry, China's largest ro-pax operator and first cruise ship operator having bought *Costa Voyager* in 2014, took delivery of the 44,403gt *Zhong Hua Fu Xing* in November from Shandong Huanghai Shipbuilding. The ship, which was designed by SDARI, is a 1,689 passenger/3,070 lane metre ro-pax cruise ferry. Not only is the ship the first luxury cruise ferry in China, it can also boast the highest deadweight and greatest capacity for both passengers and vehicles of Chinese ro-paxes. Its blue and white hull painted to resemble a whale is a distinctive feature.

The vessel's principal particulars are an overall length of 212m, beam of 28.60m, design draught of 6.35m and service speed 18.8knots. Three vehicle holds are arranged from Deck No.1 to No.7 through the vessel allowing for cars and freight. Three ramps, one at the bow, one at the stern and a stern quarter ramp on the vessels starboard side, allow for rapid loading and discharging of vehicles.

There are 461 passenger cabins, which are said to be of high standard with a more luxurious interior design and entertainment features than are found on most domestic ferries. The automatic management of cabin HVAC services, low noise and vibration levels due to an optimised hull form and high insulation levels, have allowed the vessel to be assigned a comfort notation by China Classification Society.

*Zhong Hua Fu Xing* has a twin propulsion mechanical system, with each featuring a MAN 14V32/40 medium-speed engine producing 7,000kW of power at 750rpm. Each engine is connected to a dedicated Reintjes reduction gearbox and drives one of the ship's twin controllable pitch 4.8m diameter propellers at 106rpm. The long tailshafts are supported by V-brackets outside of the hull. Twin twisted flap rudders are fitted. This arrangement confers redundancy and allows a service speed of 18knots.

## TECHNICAL PARTICULARS

Length oa: ..... 212.00m  
Length bp: ..... 197.00m  
Breadth moulded: ..... 28.60m

Depth moulded  
to main deck: ..... 9.20m  
to upper deck: ..... 15.30m  
Draught  
scantling: ..... 6.50m  
design: ..... 6.35m  
Gross: ..... 44,403gt  
Displacement:  
design: ..... 24,344t  
scantling: ..... 25,094t  
Lightweight: ..... 15,738t  
Deadweight  
scantling: ..... 9,356t  
design: ..... 8,606t  
Block co-efficient: ..... 0.6630 (scantling)/  
0.6584 (design)  
Speed, service (90%MCR output): ..... 18.8knots  
Bunkers (m<sup>3</sup>)  
Heavy oil: ..... 728.48  
Diesel oil: ..... 181.08  
Water ballast (m<sup>3</sup>): ..... 3,035.14  
Daily fuel consumption (tonnes/day)  
Main engine only: ..... 58.74  
Auxiliaries: ..... 3.41  
Classification society and notations: ..... CCS  
★CSA RO/RO Passenger Ship, Ice Class  
B; Clean; AFS;GPR; AMPS; COMF(Noise  
3);COMF(VIB,3)  
★CSM MCC SCM PMS  
% high-tensile steel used in construction: ..... 58%  
Heel control equipment: ..... Anti-heeling tank  
Roll-stabilisation equipment: ..... Fin stabilizer  
Propulsion  
Main engine(s)  
Design :..... Four-stroke engine,  
Diesel-mechanic drive, turning counter-clockwise  
Model: ..... MAN 14V 32/40  
Manufacturer: ..... MAN  
Number: ..... 2  
Type of fuel: ..... HFO&MDO  
Output of each engine: ..7,000kW/750rpm  
Is this a diesel-electric or hybrid?: .....No  
Gearbox(es)  
Make: ..... Reintjes  
Model: ..... SVA 1180 PDR  
Number: ..... 2  
Output speed: ..... 750/106.3  
Propeller(s)  
Material: ..... Ni-Al-Bronze  
Designer/Manufacturer: ..... MAN  
Number: ..... 2  
Fixed/Controllable pitch: ..... Controllable  
Diameter:..... 4,800mm  
Speed: ..... 106.6rpm  
Main-engine driven alternators  
Number: ..... 2  
Make/type: ..... KFS /AB-HW4-1800  
Output/speed of each set: ...1,880kW/1,500rpm  
Diesel-driven alternators  
Number: ..... 4  
Engine make/type: ..... Wärtsilä/4L20

Type of fuel: .....HFO & MDO  
Alternator make/type: ..... Wärtsilä /TEC6  
502-6SB43  
Output/speed of each set: ...800kW/1,000rpm  
Exhaust-gas Boiler:  
Manufacturer: ..... GSz  
Type: ..... GFL160-0.6  
On main engines?: .....Yes  
On auxiliary engines?:.....No  
Oil-fired Boilers  
Number: ..... 1  
Type: ..... LSK3-0.6  
Make: ..... GSz  
Output, each boiler:.....3,000kg/h  
Stern appendages/special rudders: ..... Twisted  
ap rudder  
Bow thruster(s)  
Make: ..... Kawasaki-KWJ  
Number: ..... 2  
Output (each): ..... 1,000kW  
Other cranes  
Number: ..... 2  
Make: ..... Jiangyin Senhai  
Type: .....Hydraulic telescopic type  
Tasks: .....Provision crane  
Performance: .....2t x 7m  
Mooring equipment  
Number: ..... 7  
Make: ..... Rolls-Royce  
Type: ..... Hydraulic  
Special lifesaving equipment  
Number of each and capacity: ....MES 500P x2,  
lifeboats 120P x4, 90P x2  
Make: .....MES: Shanghai Youlong Rubber  
Products Co.,Ltd. / lifeboat: Jiangyinshi  
Beihai LSA Co.,Ltd.  
Type: ..... Gravity-hydraulic type lifeboat  
If MES, vertical or sloping chutes?:..... Vertical  
Vehicles  
Number of vehicle decks: ..... 3 (fixed)  
Total lane length: ..... 3,070m  
Doors/ramps/lifts/moveable car decks  
Number of each: ..... 3/ 3/ 0/ 0  
Type: ..... Electric-hydraulic driven  
Designer: ..... SMS-SME Pte. Ltd.  
Ballast control system  
Make: .....Sealantern Electronics Co., Ltd.  
Type: ..... Pneumatic  
Ballast water treatment system  
Make: .....Sealantern Electronics Co., Ltd.  
Complement  
Officers: ..... 11  
Crew: ..... 78  
Supernumeraries/Spare: ..... 6  
Passengers  
Total: ..... 1,689  
Number of cabins: ..... 461  
Navigation and other equipment  
Bridge control system  
Make: .....SaierNico  
Is bridge fitted for one-man operation? .....No  
Integrated bridge system: .....No  
Radars  
Number: ..... 3  
Make: ..... Furuno  
Model(s): .....FAR-2837SW, FAR-2827W,  
FAR-2827  
Fire detection system  
Make: ..... Apollo  
Type: ..... Syncro ASM  
Fire extinguishing systems  
Engine room:  
Make/Type: .....Shanghai Sure-safe Fire  
Equipment Co., Ltd. / CO<sub>2</sub>  
Vehicle spaces:  
Make/Type: .....Shanghai Sure-safe Fire  
Equipment Co.,Ltd./CO<sub>2</sub>; Shanghai Sure-safe Fire  
Equipment Co., Ltd./deluge system  
Cabins:  
Make/Type: .....Shanghai Sure-safe Fire  
Equipment Co., Ltd./water sprinkler system  
Public spaces:  
Make/Type: .....Shanghai Sure-safe Fire  
Equipment Co., Ltd./water sprinkler system  
Waste disposal plant  
Sewage plant  
Make: .....Jiangsu Nanji  
Model: ..... WCMBR-400(U)  
Contract date: .....16 January 2018  
Launch/float-out date: .....8 June 2019  
Delivery date: .....4 November 2019

