SEA-Japan

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NAMURA completes VLOC, IRON SOUTHERN CROSS

Namura Shipbuilding Co., Ltd. delivered IRON SOUTHERN CROSS, a 250,993DWT VLOC (very large ore carrier) built at its Imari Shipyard & Works, to ERICA NAVIGATION S.A. on January 9, 2015. This is the commemorable 20th vessel of a 250,000DWT type VLOC called "WOZMAX." The vessel has the most suitable principal dimensions that satisfy the restrictions of the three major ports in Western Australia (WOZ) — Port Hedland, Port Walcott, and Dampier — known as iron ore loading ports. "WOZMAX" can achieve a loading capacity of 250,000 metric tons at 18m draft.

The vessel was constructed to comply with the latest requirements of the international regulations. Improved propulsion performance and fuel oil saving can be achieved with adoption of the Namura flow Control Fin (NCF) and Rudder-fin (R-Fin) developed by Namura, optimizing bow shape, and applying low friction type anti-fouling paint on the outer hull. The propulsion system of the vessel is a MAN B&W 7S80MC-C (Mark 7) type main engine with a single fixed pitch propeller of the non-hub vortex and high-efficiency type to improve propulsion performance.

For environmental safety, the vessel is equipped with an air seal type stern tube aft sealing device to prevent oil leakage and ballast water treatment system, and adopts the tank arrangement for low sulfur fuel oil. The machinery in the engine room is automated on the basis of the NK M0 concept. For the machinery space equipment, the centralized fresh water cooling system is adopted to ease maintenance. Mooring arrangements satisfy the requirements of Ponta Da Madeira in Brazil. IMO PSPC-WBT is applied for corrosion protection of water ballast tanks to increase safety of the vessel.

Principal particulars

L (o.a.) x B (mld) x D (mld) x d (mld):	329.95m x 57.00m x 25.10m x 18.00m
DWT/GT:	250,993t/132,587
Main engine:	MAN B&W 7S80MC-C (Mark 7) diesel x 1 unit
Speed, service:	about 15.0kt
Complement:	25
Classification:	NK
Registry:	Republic of Liberia

For further information please contact:
Website: http://www.jsea.or.jp
JAPAN SHIP EXPORTERS' ASSOCIATION
15-12, Toranomon 1-chome, Minato-ku, Tokyo 105-0001 Tel: (03) 6206-1661 Fax: (03) 3597-7800 E-Mail: postmaster@jsea.or.jp

JMU completes Panamax bulk carrier of G-Series, MACHERAS

Japan Marine United Corporation delivered MACHERAS, a G-Series Panamax bulk carrier, to Lavender Maritime S.A. at its Maizuru shipyard on January 15, 2015.

This Panamax bulk carrier of G-Series succeeded in dramatically reduction of fuel oil consumption by using various and comprehensive measures for energy-saving, so that GHG (Greenhouse Gas) emission can be reduced overwhelmingly.

This Panamax bulk carrier has larger deadweight and cargo hold capacity suitable for carrying grain, bulk coal and iron ore in its 7 cargo holds, and has been developed with expertise and vast experience of Japan Marine United Corporation. SSD (Super Stream Duct) and SURF-BULB (Swept-back Up-thrusting Rudder Fin with Bulb) equipped in front and behind its propeller, respectively, to improve the propulsion performance. Furthermore, unique bow shape of LEADGE-Bow can reduce the added resistance due to waves, and well-refined shape of superstructure can attain low wind resistance.

Besides the above, compliance with fuel oil tank protection rule and MARPOL NO_x tier-II for main engine and application of ballast water treatment system make the vessel more environmentally friendly.

In view of the safety and maintenance of the vessel, CSR (Common Structural Rules) for bulk carriers and PSPC (Performance Standard for Protective Coatings) for ballast water tanks are applied.

Principal particulars

L (o.a.) x B (mld.) x D (mld.) x d (mld.): 229.0m x 32.26m x 20.0m x 14.45m
DWT/GT: 81,000t/43,229
Main engine: MAN B&W 6S60ME-C diesel x 1 unit
Speed: 14.5kt
Complement: 25
Classification: LRS

MHI and Kanda jointly complete 11,000GT roll on/off cargo ship, HIDAKA

Mitsubishi Heavy Industries, Ltd. (MHI) and Kanda Shipbuilding Co., Ltd. (Kanda) have jointly completed the HIDAKA, an 11,000GT-class roll-on/off type cargo ship, and delivered the vessel to the owner, Kinkai Yusen Kaisha Ltd. on January 28, 2015. Under the collaborative project, MHI developed the principal design and high-efficiency underwater hull form. Kanda carried out the following detail design, construction, and delivery of the vessel.

The vessel was designed as a high-speed Ro/Ro cargo ship with a loading capacity of 161 13m-long chassis and 109 passenger cars. The vessel has three chassis decks and one passenger car deck and is equipped with a 7m wide stern and bow ramp doors on the starboard side and two hoistable hold ramp ways to facilitate roll-on and roll-off cargo handling. The adoption of a bow thruster, two stern thrusters, a reaction-type hanging rudder and a controllable-pitch propeller ensures efficient maneuverability in ship operation at harbors and sea. A pair of fin stabilizers is provided to reduce rolling and protect cargoes. The electronically controlled low-speed main diesel engine enables low fuel consumption and low NO_x emissions.

The HIDAKA is the first vessel of three new buildings and is now plying a domestic route between Tsuruga, Fukui, and Tomakomai, Hokkaido.

Principal particulars

L (o.a.) x L (b.p.) x B (mld.) x D (upper deck) x d (mld.): 179.90m x 171.00m x 27.00m x 23.27m x 6.80m
DWT/GT: 6,300t/11,185 (Japanese tonnage)
Main Engine: MAN B&M 9S50ME-C8.2 diesel x 1 unit
MR: 14,940kW x 127min^{-1}
CPP: 1 set
Speed, service: 23.0kt
Classification: JG, restricted greater coasting service
Registry: Japan
Vehicle loading capacity
13m-long chassis: 161 units
Passenger cars: 109 units
Complement
Passengers: 12
Crew members: 15
Cargo handling equipment
Stern ramp door (3 Deck): 1 set
Bow ramp door (3 Deck): 1 set
Hoistable-hold ramp way: 2 sets (2-3 & 3-4 decks)
Fixed ramp way: 1 set (1-2 deck)
Diesel generators: 1,250kW x 4 units
Bow thruster: 1 set
Stern thruster: 2 sets
Fin stabilizer: 1 set

Paving the way for hydrogen supply chain

Kawasaki starts testing Japan's 1st industrial hydrogen liquefaction system

Kawasaki Heavy Industries, Ltd. has started testing a hydrogen liquefaction system based on its own proprietary technology. The hydrogen liquefaction plant with a production capacity of five tons has been installed in Kawasaki's Harima Works in Hyogo Prefecture, Japan. The liquefaction plant mainly consists of a hydrogen liquefaction machine and a tank specially designed to store liquefied hydrogen.

Kawasaki will test the system's performance, reliability, maintainability, etc. and make technological improvements leading to possible commercialization, targeting development of a larger, more efficient liquefaction system to promote widespread use of hydrogen energy. Hydrogen is now expected to become a primary source of energy in the future. Now that fuel cell vehicles are scheduled to be launched in the market by the end of this year, use of hydrogen is expected to dramatically increase. Therefore, efficient transportation and storage systems are necessary to bring a large amount of hydrogen to the market.

H_2 Liquefaction test plant

An image of 160,000m^3 LH_2 carrier

Kawasaki is working to develop and commercialize the infrastructure technologies needed to build a complete supply chain, ranging from production to transportation, storage, and use of hydrogen. Mass transport and storage is the key technology besides the hydrogen liquefaction system. Kawasaki is moving forward with developing and commercializing a liquid hydrogen carrier and storage tanks. (See "LH_2 carrier construction approval: Kawasaki obtains ClassNK Aip for LH_2 cargo containment system" on Page 4 for SEA-Japan No. 364)

MES delivers 66,000DWT type bulk carrier, BULK CASTOR

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) completed and delivered a 66,000DWT type bulk carrier BULK CASTOR (HN: 1891) at its Tamano Works on 15th January, 2015 to Venus Ocean Navigation S.A., Panama. This is the sixth ship of MES "neo66BC," a wide beam shallow draft vessel of the new generation ship.

1. The vessel has five cargo holds and four cranes for handling cargo, and keeps the superior usability of "Mitsui 56."
2. The ship is designed to have enough deadweight more than 66,000 metric tons and capacity more than 82,800 cubic meters for loading various cargoes like coal, ore, grain, as well as lengthy/heavy cargoes such as steel pipe and hot coil.
3. Fuel oil consumption is less than that of a conventional Supramax bulk carrier despite its enlargement.
4. As a result of research work of interviews with ship owners and operators, investigations on ports all over the world and present trade patterns, wide beam (over-Panamax) and shallow draft make it possible to have wide flexibility for operations and high transport efficiency.
5. The new hull form makes it possible to keep good performance in rough sea conditions as well as calm sea conditions and shows better maneuverability.
6. The size of hatch opening is the largest for this type of vessel in terms of both length and width.
7. Main Engine, MITSUI-MAN B&W Diesel Engine 7S50ME-B9.3, complying with MARPOL NO_x restriction (Tier-II) for exhaust gas emissions, gives superior fuel oil consumption over wide range of output.
8. Considering strengthened restriction for SO_x, the ship has low sulfur fuel oil tanks, which are designed for operation in ECA (Emission Control Areas).
9. The vessel is designed in accordance with IACS Common Structural Rules.

Principal particulars

L (o.a.) x B x D:	199.99m x 36.00m x 18.45m
DWT/GT:	66,624t/38,227
Main engine:	Mitsui-MAN B&W 7S50ME-B9.3 diesel x 1 unit
MCO:	8,470kW
Speed, service:	About 14.5kt
Complement:	25
Classification:	NK
Registry:	Republic of Panama
Delivery:	January 15, 2015

MHI completes 35,000GT-class domestic RoPax ferry, IZUMI

Mitsubishi Heavy Industries, Ltd. (MHI) delivered the IZUMI, a 35,000GT-class domestic RoPax ferry, to the owner, Hankyu Ferry Co., Ltd., on January 15, 2015. The vessel was designed and built at the Shimonoseki Shipyard & Machinery Works of MHI, and is now plying a Seto Inland-sea route between Shin-Moji and Izumi-Otsu.

This vessel uses technical configurations designed for eco-friendly energy saving, including a dual-hybrid propulsion system developed by MHI. The system consists of two main medium-speed marine diesel engines to drive the conventional twin-shaft controllable pitch propellers (CPP) and shaft generators used as accelerators. With the dual operation mode of the shaft generators and accelerators, the main engine can maintain high efficiency over a wide power range, and the fuel consumption can be reduced greatly.

The Mitsubishi Air Lubrication System (MALS) is applied to the vessel. The MALS is MHI's proprietary technology that reduces frictional resistance between the ship hull and seawater by introducing a layer of air bubbles blown from the ship's bottom.

For amenity of passengers, various public spaces and private rooms for the passengers are designed with the theme of "Wa no Omotenashi (Japanese style hospitality)" and "Four seasons in Japan." Enhanced facilities include a panoramic view from the bow and an open-air bath.

Principal particulars

Length (o.a.):	about 195.0m
Length (b.p.):	179.60m
Breadth (mld.):	29.60m
Depth (mld.):	20.60m
Draught (mld.):	6.70m
GT:	15,897 (Japanese tonnage) about 35,300 (International tonnage)
Main engines:	Wartsila 12V38C diesel x 2 units
MR:	8,700kW/unit
CPP:	2 units
Speed, service:	23.5kt
Cargo loading capacity:	277 trucks 188 cars
Complement:	643 passengers 35 crew members
Classification:	JG
Registry:	Japan

Naikai completes 37,700 DWT general cargo ship, AFRICAN ROOK

Naikai Zosen Corporation completed construction of the 37,700DWT general cargo ship, AFRICAN ROOK, for the ship owner, African Rook Shipping Co. Ltd., at the Setoda Works on February 16, 2015. This cargo ship has been built with double-side shells for every cargo hold as the most advanced version for better safety in ship operation.

The double-side shell construction ensures stronger structural performance and better stability against external damage than the conventional cargo ship as well as easier maintenance inside the cargo holds. Should external damage occur, the inner shell of the vessel can prevent loss or outflow of cargoes and maintain the quality of cargoes. This construction complies with the international regulations and protects the fuel oil tanks for marine conservation.

Designed with a wide beam and shallow draught, the ship can enter ports with shallow water and navigate rivers, channels, and lakes. For securing course-keeping stability, the ship is designed with an adequate rudder area and a special stern form. The vessel has a versatile cargo-loading capacity for grains, coal, ore, steel products, and lumbers, etc. Of the total five cargo holds, the Nos. 2 through 4 holds are the box-shaped type. Four 30t deck cranes and wide hatch openings facilitate handling of particularly lengthy cargoes. Lumber loading capacity has been increased by the most suitable arrangement of ballast tanks.

The vessel is an eco-ship that uses an economical low-speed main engine combined with a large-diameter propeller. The Super Stream Duct (SSD) and Surf-Bulb (Rudder Fin with Bulb) are installed for increased fuel efficiency. The seaworthy bow design also enables economical ship operation.

Principal particulars

L (o.a.) x L (b.p.) x B x D x d:	183.00m x 177.00m x 30.60m x 14.50m x 10.00m
DWT/GT:	37,700t/23,750
Cargo hold capacity:	47,125.3m^3 (grain)
Main engine:	Hitachi-MAN B&W 6S46ME-B8.3 diesel x 1 unit
D.C.S.O.:	5,690kW x 107.0 min^{-1}
Speed, service:	About 14.1kt
Complement:	25
Classification:	ABS
Registry:	Panama
Completion:	February 16, 2015

Sanoyas completes Handy Cape bulker, CIELO D' ITALIA

Sanoyas Shipbuilding Corporation delivered the 117,000DWT Handy Cape bulk carrier, CIELO D' ITALIA (HN: 1315), ordered by Clio Marine Inc., to d'Amico Dry Limited February 3, 2015. The carrier was constructed at the Sanoyas Mizushima Shipyard.

The carrier is the first of the new version of Sanoyas 117,000DWT Handy Cape bulk carrier series. The vessel has large deadweight and cargo hold capacity, and has improved fuel consumption by 10% compared with the previous version of the 120,000 DWT type featuring 10% improvement in fuel efficiency from the existing design. For improvement of propulsion efficiency, the vessel is equipped with low-speed and ultra-long stroke electronically controlled main engine combined with a high-efficiency propeller and moreover associated energy saving devices such as Sanoyas developed "STF" (Sanoyas Tandem-Fin (patent): max. 6% energy saving) on the stern shell and highly efficient appendages on the rudder, which also contribute to the reduction of CO_2 emissions.

Eco-friendly features are ensured with various countermeasures such as the main engine complying with the NO_x emission Tier II limit for the prevention of air pollution, the Ballast Water Treatment System, and fuel oil tank protection for the conservation of the marine environment. In addition, independent holding tanks for accommodation discharges, dirty hold bilge, and rainwater on the upper deck are provided.

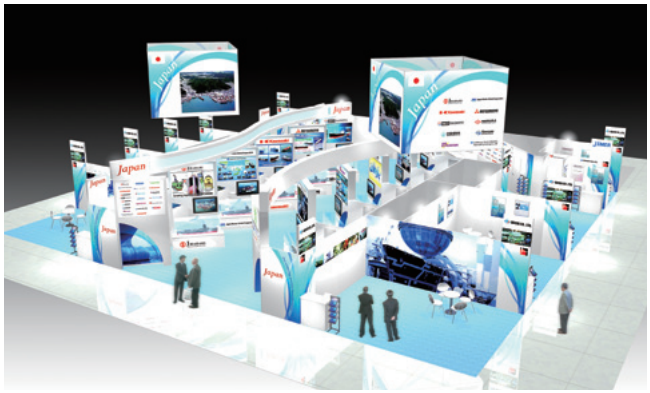
For efficient cargo handling, cargo hatches are widened as much as possible and the same width hatches are provided from Nos. 1 through 7. Dedicated fresh water tanks are installed for storing hold-washing water generated by a large capacity fresh water generator. For improvement of the vessel's maintenance, access trunks are arranged from the upper deck to the double bottom even under the laden condition.

Principal particulars

L (o.a.) x L (b.p.) x B x D x d: 245.00m x 241.60m x 43.00m x 21.60m x 15.626m
DWT/GT: 117,438t/63,087
Cargo hold capacity: 135,644m^3 (grain)
Main engine: MAN B&W 6G60ME-C9.2 diesel x 1 unit
MCO: 11,010kw
Speed, service: About 14.5kt (at c.s.o. with 15% sea margin)
Complement: 25
Registry: Republic of Panama
Classification: ABS
Delivery: February 3, 2015

JSEA participates in NOR-SHIPPING 2015

The 25th NOR-SHIPPING 2015 (The 25th International Shipping Exhibition) will take place at the Lillestrom Exhibition Centre in Lillestrom for four days from June 2 through 5. This event is organized by the Norway Trade Fairs (NORGES VAREMESSE) and is sponsored by the Norwegian Shipowners' Association and organizations related to the maritime industry. The Japan Ship Exporters' Association consisting of 10 Japanese shipbuilders will participate in the exhibition with the financial support of The Nippon Foundation and in cooperation with The Shipbuilders' Association of Japan. JSEA will use a 220m^2 exhibition area where Japanese shipbuilding technology will be presented. Particular ship hull forms and newly developed ship designs will be introduced with photographs, a liquid crystal display (LCD) system and two 120-inch screens. The JSEA and the Japan Ship Machinery & Equipment Association (JSMEA), with a stand of 220m^2 next to the JSEA stand, will form the Japan Stand. The JSEA will also hold a reception at the Radisson Blu Scandinavia Hotel in Oslo on June 3 hosted by the Japanese ambassador to Norway and the President of JSEA (by invitation only).



Exhibitors:

Imabari Shipbuilding Co., Ltd.
Japan Marine United Corporation
Kawasaki Heavy Industries, Ltd.
Mitsubishi Heavy Industries, Ltd.
Mitsui Engineering & Shipbuilding Co., Ltd.
Namura Shipbuilding Co., Ltd.
Oshima Shipbuilding Co., Ltd.
Sanoyas Shipbuilding Corporation
Shin Kurushima Dockyard Co., Ltd.
Sumitomo Heavy Industries Marine & Engineering Co., Ltd.

SBI SAMBA

Owner: Wisdom Marine Lines S.A.
Builder: Imabari Shipbuilding Co., Ltd.
Ship type: Bulk carrier
L (o.a.) x B x D: 228.95m x 35.00m x 19.90m
DWT/GT: 84,867t/45,200
Main engine: Mitsui-MAN B&W 6S60ME-C7.1, 2-cycle diesel x 1 unit
Speed, service: About 14.5kt
Classification: NK
Completion: January 23, 2015

GOLDEN KATHRINE

Owner: Front Fuji Inc.
Builder: Japan Marine United Corporation
Hull No.: 5004
Ship type: Bulk carrier
L (o.a.) x B x D: 292.0m x 45.00m x 24.55m
DWT/GT: 182,000t/93,200
Main engine: MAN B&W 7S65ME-C diesel x 1 unit
Speed, service: 15.05kt
Classification: ABS
Registry: Hong Kong
Completion: January 16, 2015

CEMTEX HUNTER

Owner: U-Ming Marine Transport Corporation
Builder: Oshima Shipbuilding Co., Ltd.
Hull No.: 10753
Ship type: Bulk carrier
L (o.a.) x B x D x d: 228.41m x 36.50m x 19.89m x 12.028m
DWT/GT: 85,066t/46,935
Main engine: Mitsui-MAN B&W 6S60ME-C8.2 diesel x 1 unit
Speed, service: 14.00kt
Registry: Republic of China
Classification: CR/NK
Completion: October 31, 2014

ALFA BALTICA

Owner: Shinobu Shipping Company Limited
Builder: Sumitomo Heavy Industries Marine & Engineering Co., Ltd.
Hull No.: 1380
Ship type: Tanker
L (p.p.) x B x D: 224.64m x 42.00m x 21.45m
DWT/GT: 106,200t/57,312
Main engine: Mitsui MAN B&W 6S60ME-C8 diesel x 1 unit
Speed, service: About 15.0kt
Classification: LR
Completion: February 27, 2015

MTM PENANG

Owner: Forever Shipping S.A.
Builder: Shin Kurushima Dockyard Co., Ltd.
Hull No.: 5822
Ship type: Chemical tanker
L (o.a.) x B x D x d: 143.02m x 24.6m x 13.2m x 10.1m
DWT/GT: 22,413t/13,122
Main engine: Kobe diesel 6UEC45LSE-1 diesel x 1 unit
Speed, service: 14.0kt
Registry: Singapore
Classification: NK
Completion: February 20, 2015

BASIC CHALLENGER

Owner: Venus Ocean Navigation S.A.
Builder: Saiki Heavy Industries Co., Ltd., Onomichi Dockyard Co., Ltd.
Hull No.: 664
Ship type: Super box shaped bulker
L (o.a.) x B x D x d: 177.80m x 28.60m x 15.00m x 10.85m
DWT/GT: 36,936t/22,866
Main engine: Mitsubishi 6UEC45LSE (Derating type) diesel x 1 unit
Speed, service: About 14.7kt
Registry: Panama
Classification: NK
Completion: December 17, 2014