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MHI completes 5,700GT cargo-passenger ship, TACHIBANA-MARU

Mitsubishi Heavy Industries, Ltd. (MHI) delivered the TACHIBANA-MARU, a 5,700GT cargo-passenger ship to the co-owners, Japan Railway Construction, Transport and Technology Agency and Tokai Kisen Co., Ltd. on June 4, 2014. The vessel was designed and built at the Shimonoseki Shipyard & Machinery Works of MHI, and is now servicing an island route between Takeshiba and Hachijojima, Tokyo.

The vessel employs a tandem-hybrid contra-rotating propeller (CRP) propulsion system developed by MHI. The system consists of single-shaft propulsion propellers driven by a low-speed marine diesel engine and electric-drive azimuth propulsion propellers that enable the direction of propulsion power to be freely changed.

In comparison with the conventional twin-shaft propulsion system, the new system requires fewer components for the propulsion systems such as skegs, shaft brackets and rudders, reduces water resistance, and improves energy-saving efficiency by allowing the use of only fuel-efficient low-speed diesel power in bays and channels where slower navigation speeds are required.

The propulsion system can deliver the required power using only a single-shaft configuration, with the load shared between a single diesel engine and an electric drive system, and so ensures higher passenger comfort by reducing both noise and vibration. In addition, the electric-drive azimuth propulsion system can be used as a stern thruster in combination with the bow thruster to enhance safety and maneuverablility when approaching or departing a pier.

Principal particulars

Dimensions:
L (o.a.) x L (b.p.) x B (mld.) x D (mld.) x d (mld.): 118.0m x 109.20m x 17.00m x 8.95m x 5.40m
GT: 5,681 (Japanese tonnage)
Speed, service: 19.0kt
Cargo loading capacity: 34 containers
Passenge capacity: 1,000 (Coasting service)
596 (Restricted greater coasting service)
Crew: 60
Diesel propulsion
Main engine: Mitsubishi 6UEC35LSE-Eco-B2 x 1 unit MR 4,350kW
Propeller: CPP 1 set
Electric propulsion
Electric motor: 1,500kW x 1 unit
Azimuth propeller x 1 unit
Classification: Japanese Government
Flag: Japan (Tokyo)

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

Kawasaki delivers 58,000DWT bulk carrier, FALMOUTH BAY

Kawasaki Heavy Industries, Ltd. has delivered the FALMOUTH BAY to "K" Line Bulk Shipping (UK) Limited at its Sakaide Works. The vessel (HN: 1694) is the 32nd state-of-the-art bulk carrier with a capacity of 58,000DWT to be developed by Kawasaki.

The vessel has a flush deck with a forecastle and five holds that are designed for optimum transport of grains, coals, ores and steel products. Four 30t deck cranes are installed along the centerline in between the hatch covers to enable cargo loading and unloading in ports that lack cargo-handling facilities.

The vessel employs the latest in technology to achieve maximum fuel economy, including an energy-saving main diesel engine, highly efficient propellers, as well as the Kawasaki semi-duct system with contra fins (SDS-F) and rudder bulb with fins (RBS-F), which all contribute to the enhanced propulsion performance. The main engine and generator engine comply with Tier II NO_x emission standards set by the International Convention for the Prevention of Pollution from Ships.

Principal particulars

L (o.a) x L (b.p.) x B x D x d (ext.): 197.00m x 194.00m x 32.26m x 18.10m x 12.65m
DWT/GT: 58,616t/33,126
Cargo hold capacity: 73,614m^3
Main engine: Kawasaki-MAN B&W 6S50MC-C7 diesel x 1 unit
MCO: 8,630kW x 116rpm
Speed, service: about 14.45kt
Complement: 28
Classification: NK
Delivery: April 23, 2014

Sanoyas completes Panamax bulk carrier, CRYSTAL STAR

Sanoyas Shipbuilding Corporation delivered the Panamax bulk carrier, CRYSTAL STAR (HN: 1326), to Southern Route Maritime, S.A. on June 10, 2014. The vessel was constructed at the Mizushima Shipyard of Sanoyas and is the first vessel of a series of newly developed 82,000DWT type Panamax bulk carriers. The vessel has larger cargo hold capacity and further improved fuel consumption by 10% compared with the previous version of 83,000DWT type featuring 10% improvement in fuel efficiency from the existing design.

For improvement of propulsion efficiency, the vessel is equipped with a low-speed and long-stroke electronically controlled main engine combined with a high-efficiency propeller and associated energy saving devices such as the 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 include various countermeasures such as the main engine complying with the NO_x emission Tier II limit for the prevention of air pollution, Ballast Water Treatment System and fuel oil tank protection for the protection of marine environment. In addition, independent holding tanks are provided for accommodation discharges, dirty hold bilge water, and rainwater on the upper deck.

Furthermore, for improvement of vessel maintenance, access trunks are arranged for access from upper deck to double bottom even under the laden condition. Wooden furniture in the accommodation provides officer/crew comfort in the vessel and safe maneuverability is achieved with the organized arrangement and rear visibility in the wheelhouse.

Principal particulars

Owner: Southern Route Maritime, S.A.
Hull No.: 1326
L (o.a.) x L (b.p.) x B x D x d: 229.00m x 225.80m x 32.24m x 20.20m x 14.668m
DWT/GT: 82,172t/43,432
Cargo hold capacity: 96,597m^3 (grain)
Main engine: MAN B&W 6S60ME-C8.2 diesel x 1 unit
MCO: 8,740kW
Speed, service: about 14.5kt (at c.s.o. with 15% sea margin)
Complement: 25
Classification: NK
Registry: Panama
Delivery: June 10, 2014

JMU completes 5,200DWT Platform Supply Vessel, PACIFIC LEADER

Japan Marine United Corporation (JMU) delivered PACIFIC LEADER, a 5,200DWT large size Platform Supply Vessel (PSV) to Singapore-based ship owner and operator, Swire Pacific Offshore Operation (Pte) Ltd at Maizuru Shipyard on April 25, 2014.

She is the first vessel of "L-Class" fuel-efficient PSV for Swire Pacific Offshore. PACIFIC LEADER was constructed under survey of DNV-GL with features of both "special-purpose ship" (SPS) and "clean class" notations.

Featuring a diesel-electric propulsion system, PACIFIC LEADER is powered by four diesel-powered generators, each rated for 1,980kW. These engines drive twin azimuth thrusters to a maximum speed of 14 knots and a cruising speed of 10 knots. With the aid of three controllable-pitch bow thrusters, the vessel is also rated for dynamic positioning system (DP-2).

On board, PACIFIC LEADER has cargo and tankage capacities including for fuel, fresh water, mud, brine and dry bulk managed by the cargomaxx bulk system with five separate tanks.

Principal particulars

Type of vessel: Platform Supply Vessel (PSV)
L (o.a.) x B x D: 97.29m x 20.00m x 9.00m
DWT/GT: 5,258t/5,179
Main engine generator: MAN 6L27/38
Speed: 14kt
Complement: 37
Classification: DNV-GL

MES receives first order for ME-GI diesel engine for marine use

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) has received the first order of electronically controlled gas injection diesel engine (hereinafter, ME-GI) for MES.

MAN B&W 8S70ME-C8.2-GI will be installed on 2 x 2,400TEU + 400 vehicles ConRo ships to be built by VT Halter Marine Inc. (U.S. shipyard) for Crowley Maritime Corporation (U.S. owner).

ME-GI is Diesel cycle dual fuel engine with high efficiency based on the principle of 2 stroke low speed diesel engine and it can use both heavy oil and natural gas as fuel depending on relative price and availability, as well as environmental considerations.

On existing 4 stroke dual fuel engines, many troubles are seen on the gas combustion system such as knocking or misfire often linked with load fluctuations, resulting in the limitation of gas operation output due to the nature of Otto cycle principle. On the other hand, ME-GI has no difficulty in application for the direct connection to propeller shaft, which is the most efficient way of power transmission.

Natural gas can contribute for significant reduction not only in CO_2 emissions, SO_x, PM emissions and NO_x, but also in fuel cost by shale gas development, therefore it can be an alternative fuel selection for ship owners.

MES built its power generation plant with the world's first low-speed gas injection diesel engine (GIDE) in its Chiba Works in 1994. Through the operation of approx. 20,000 hours, MES has accumulated verification of performance and durability and its various operation know-how of the engine. In addition, in April 2013 MES established the gas supply facilities at workshop and carried out the first full-scale demonstrational running of ME-GI burning natural gas in Japan. MES will continue to expand business opportunities for ME-GI as one of the next generation eco-friendly engines.

Shin Kurushima completes 1st post Panamax PCC, ARIES LEADER

—Mounted with innovative fuel-saving systems—

Shin Kurushima Dockyard Co., Ltd. has delivered Japan's first post Panamax pure car carrier (PCC), ARIES LEADER (HN: 5795), to its owner, Nippon Yusen Kaisha (NYK), at the Onishi Shipyard of Shin Kurushima.

The car carrying capacity of the ARIES LEADER is 7,000 units. The carrier is the first PCC that has adopted an air lubrication system and a hybrid turbocharger for energy saving.

The carrier also uses fuel water emulsion for auxiliary boilers and electronically controlled main diesel engine. This combination is expected to reduce the emission of CO_2 than conventional type PCCs.

The side mark of NYK's PCCs has so far been coated with blue color together with slanted "aurora color" gradation. For the ARIES LEADER, the gradation color is altered to "Green" to emphasize the "eco-friendly flag ship." With this, the NYK group shows their policy for the environment conservation.

Principal particulars

Owner:	Nippon Yusen Kaisha
Builder:	Shin Kurushima Dockyard Co., Ltd.
Ship type:	Pure car carrier
Hull No.:	5795
L (o.a.):	199.98m
B (mld.):	35.80 m
D (mld.):	37.70m
DWT:	18,808t
GT:	69,931
Car loading capacity:	7,000 cars
Delivery:	May 27, 2014

Naikai completes 2,500GT pasennger/car ferry, AKATSUKI MARU

Naikai Zosen Corp. has completed construction of the 2,500GT passenger/car ferry, AKATSUKI MARU, for the co-owner, the Japan Railway Construction, Transport and Technology Agency (JRTT) and Uwajima Unyu Co., Ltd. at the Setoda Works. This passenger/car ferry is the twin-engined and twin screw type, and vehicles can roll onto car decks through ramp doors at the bow and stern, and inboard ramps.

The ship hull has the bulbous bow and catamaran type stern to improve the propulsion and seakeeping performance. To reduce the rolling motion during navigation, fin stabilizers are attached to the mid section of the hull. The ferry is equipped with two bow thrusters, two schilling rudders with the maximum rudder angle of 70 degrees, and controllable pitch propellers (CPP) to improve ship maneuverability on entering and leaving a port. The ferry uses a propeller boss cap fin and aft fins to increase propulsion efficiency.

An escalator is installed for moving up and down decks, and as barrier-free equipment, an elevator is provided at the stern of the starboard side for the aged and the disabled to move between the car decks and the promenade deck.

Principal particulars

Length (o.a.): 116.50m
Breadth (mld.): 16.00m
Depth (mld.): 10.60m
Designed draught (mld.): 4.45m at full load
Scantling draught (mld.): 4.60m
GT: 2,538
DWT: 1,130t in scantling draught
Vehicle loading capacity
Trucks: 35 units (eight-ton type)
Passenger cars: 25
Passengers: 586 people with a 6-hour limitation
Crew: 12
Others: 2
Main engine: Daihatsu 6DKM-36e diesels x 2 units/2 screws
MCO: 3,310kW x 600/215min^{-1} x 2 units
Speed, service: about 20.2kt
Classification: Japanese Government, Class II (limited to coastal area)
Port of Registry: City of Yahatahama, Ehime Prefecture
Completion: May 29, 2014

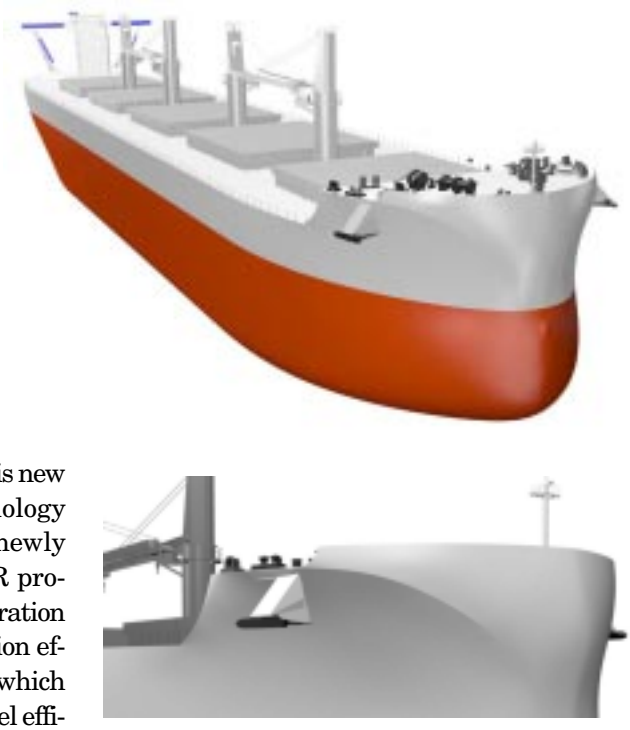
TESS64 AEROLINE 63,700DWT type bulk carrier introduced

Equipped with reduced wind resistance and other new technologies to increase fuel efficiency by 20%

Tsuneishi Shipbuilding Co., Ltd. has introduced the TESS64 AEROLINE, a 63,700DWT type bulk carrier that is equipped with the new AEROLINE technology to reduce wind resistance. Similar to the navigation patterns of the TESS58 vessels, which are the largest in the TESS Handymax series of over 300 ships built so far, this new model is 10 meters longer, which enables a boost in deadweight to the 60,000-ton class for improved transport efficiency. Sales of these new ships have begun, together with Tsuneishi Shipbuilding's first 63,700DWT type bulk carrier developed with environmental friendly shallow draft.

AEROLINE is a new technology for reducing wind resistance, which combines the cut-corner design for the accommodation section in previous models with a newly developed streamlined shape for the fore upper bow, for a 10% reduction in wind resistance. The fore upper bow has been rounded, giving the ship a stylish streamlined design.

Designed for low fuel consumption, the TESS64 AEROLINE is equipped not only with this new AEROLINE technology but also with the newly developed TOP-GR propellers for lower vibration and higher propulsion efficiency, and FAIS which boosts the engine fuel efficiency through direct intake of cool outside air. In developing the hull shape, which is blunt but with low resistance, fuel efficiency was raised by incorporating proprietary energy-saving technologies and an electronically controlled engine, which resulted in 20% increase of fuel efficiency compared with conventional TESS58 models.



AEROLINE appearance (above) and rounded bow design (below)

Moreover, the TESS64 AEROLINE design has emphasized performance under actual sea conditions (actual operating speed at full load draft). With good fuel-efficiency at full load draft, the TESS64 AEROLINE also has a shallow draft design to meet port restrictions, and can carry even more cargo, so boosting the transport ability to 79,000m^3 and increasing the efficiency for cargo loads.

Tsuneishi Shipbuilding Co., Ltd. has expanded its lineup with this debut of the TESS64 AEROLINE in order to meet to the exacting needs of users, and is seeking new growth in orders.

Principal particulars

Type:	63,700DWT type bulk carrier
Length:	Less than 200 meters
Breadth:	32.26 meters
Depth:	18.60 meters
Full load draft:	13.30 meters
DWT:	63,700t
Main engine:	MAN B&W 6S50ME-B9.3 diesel x 1 unit
Cargo hold capacity:	79,000m^3

Kawasaki receives first order of ME-GI engines in Japan

Kawasaki Heavy Industries, Ltd. has received the first order in Japan of the electronically controlled gas injection marine diesel (ME-GI) engine, Kawasaki MAN B&W 8S50ME-C8.2-GI.The order is for two units that will be installed on two pure car and truck carriers (PCTCs) with a capacity of 3,800 vehicles for United European Car Carriers (UECC), a Norwegian shipping company. These PCTCs will be built at Nantong COSCO KHI Ship Engineering Co., Ltd. (NACKS) in Nantong, China, and will go into service in 2016.

The ME-GI engine is a dual fuel marine diesel engine which can use heavy fuel oil and LNG as fuel. When running on LNG, the engine can dramatically improve SO_x emissions compared with the conventional oil-fired 2-stroke diesel engines, and will also be considerably more efficient in reducing CO_2 than the conventional type diesel engine.

The International Maritime Organization (IMO) is set to introduce stringent emissions regulations targeting air pollutants and greenhouse gases such as SO_x and CO_2, for application in Europe as well as around the world. Kawasaki will continue to expand business opportunities for ME-GI engines as one of the next generation of marine engines which can satisfy the emissions control regulations coming into force worldwide.

Principal particulars of Kawasaki MAN B&W 8S50ME-C8.2-GI

Rated output:	11,000kW
Rated speed:	113rpm
Cylinder bore:	500mm
Number of cylinders:	8

YM MODERATION

Owner: Los Halillos Shipping Co., S.A.
Builder: Imabari Shipbuilding Co., Ltd.
Ship type: Container carrier
L(o.a.) x B x D: 293.18m x 40.00m x 24.30m
DWT/GT: 72,370t/71,821
Main engine: Mitsui MAN B&W 10K98ME-C (Mark7) diesel x 1 unit
Speed, service: about 25.0kt
Classification: NK
Completion: March 31, 2014

AFRICAN LARK

Owner: African Lark Shipping Co. Ltd.
Builder: Namura Shipbuilding Co., Ltd.
Hull No.: 369
Ship type: Bulk carrier
L (o.a.) x B x D x d: 179.96m x 30.00m x 14.05m x 9.80m
DWT/GT: 34,402t/21,532
Main engine: Mitsubishi 6UEC45LSE-B2 diesel x 1 unit
Speed, service: about 14.70kt
Classification: NK
Complement: 24
Completion: May 1, 2014

TTM SUCCESS

Owner: New Success Maritime S.A.
Builder: Oshima Shipbuilding Co., Ltd.
Hull No.: 10647
Ship type: Bulk carrier
L (o.a.) x B x D x d (ext.): 182.98m x 32.26m x 17.15m x 12.151m
DWT/GT: 50,428t/29,207
Main engine: Mitsui MAN B&W 6S50MC-C (Mk7) diesel x 1 unit
Speed, service: 14.50kt
Registry: Panama
Classification: NK
Completion: March 14, 2014

GAMSUNORO

Owner: PT PERTAMINA (PERSERO)
Builder: Sumitomo Heavy Industries Marine & Engineering Co., Ltd.
Hull No.: 1378
Ship type: Tanker
L (p.p.) x B x D: 224.64m x 42.00m x 21.45m
DWT/GT: 105,600t/57,100
Main engine: Mitsui MAN B&W 6S60MC-C diesel x 1 unit
Speed, service: about 15.0kt
Classification: LR
Completion: June 24, 2014

MARTIN ISLAND

Owner: Martin Island Shipping S.A.
Builder: Kanda Shipbuilding Co., Ltd.
Hull No.: 537
Ship type: Open hatch cargo ship
L (o.a.) x B x D x d (ext.): 179.8m x 28.40m x 14.25m x 10.00m
DWT/GT: 32,723t/20,981
Main engine: 6UEC45LSE diesel x 1 unit
Speed, service: 14.15kt
Registry: Panama
Classification: NK
Completion: March 28, 2014

SASEBO ECO

Owner: Ionion Shipholding Company Limited
Builder: Sasebo Heavy Industries Co., Ltd.
Hull No.: S815
Ship type: Bulk carrier
L (o.a.) x B x D x d (ext.): 225.00m x 32.20m x 20.00m x 14.429m
DWT/GT: 77,888t/41,773
Main engine: MAN B&W 6S60ME-C8.2 diesel x 1 unit
Speed, service: 14.4kt
Registry: Marshall Islands (Majuro)
Classification: NK
Completion: June 11, 2014