

Hakodate completes 1st 38,000DWT-type Handysize bulk carrier GLOBAL YUQUOT



The Hakodate Dock Co., Ltd. (Hakodate) delivered the 38,000DWT-type log/bulk carrier, GLOBAL YUQUOT, built at the Hakodate Shipyard, to Ocean Cross Lines Corp. on November 12, 2020. The vessel is the first of the series of HIGH BULK 38E jointly developed with Namura Shipbuilding Co., Ltd.

By incorporating all advantages of the previous generation of HIGH BULK 34E, this design was developed with the concept of more competitiveness in maximizing the volume of cargo transport including grain, coal, steel, logs, etc. and more and more eco-friendly characteristics by reducing fuel consumption with optimized hull form and energy-saving devices. Various measures for energy and fuel saving efficiency are adopted adding to the optimized hull form such as the newly developed vertical shaped bow and two energy saving devices, the Namura flow Control Fin (NCF) and the Rudder Fin attached to the stern which improves propulsion performance and fuel

saving efficiency.

Semi-box shaped cargo holds with larger cargo hatch covers are adopted for serviceable and safer operations in cargo handling work. The double hull construction is adopted for security against unexpected occurrences such as collision damage and cargo leakage. Four deck cranes on the upper deck in the centre line and the collapsible type stanchion on upper deck for log loading are equipped.

An SO_x scrubber equipped on the engine casing with large funnel construction reduces SO_x in the exhaust gas while using high sulphur fuel oil to comply with the new regulations.

Principal particulars

L (o.a.) x B (mld.) x d (mld.) :	182.94m x 31.60m x 9.97m
DWT/GT:	37,928t/24,649
Complement:	24
Classification:	ClassNK
Registry:	Panama



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JMU completes J-Series 82,400DWT bulk carrier, BTG APO

Japan Marine United Corporation has delivered the BTG APO, a J-Series 82,400DWT bulk carrier at the Maizuru Shipyard on January 15, 2021. This is the fourth vessel of the Panamax bulk carrier J-Series, called J82BC, which has proved successful for its economical and environmental friendly design. This J-Series satisfies the MARPOL ANNEX VI NO_x Tier III and SO_x emission regulations, in addition to the CSR BC&OT (Common Structural Rules for Bulk Car-

riers and Oil Tankers). These regulations/rules ensure the ship is environmentally friendly with more secure hull structures, but have negative economical impacts in terms of decreased cargo hold capacity, deadweight and higher fuel oil consumption. However, using the latest JMU technology has overcome these negative impacts on the design and achieved more cargo capacity, deadweight, and lower fuel consumption, compared with the previous G81BC

series. J82BC is sufficiently improved to be categorized as Phase 2 of the Energy Efficiency Design Index (EEDI).

The J82BC series has larger deadweight, and cargo hold capa-

city suitable for carrying grain, bulk coal and iron ore in its 7 cargo holds, and has been developed with the expertise and vast experience of JMU. The SSD[®] (Super Stream Duct[®]) and SURF-BULB[®] equipped fore and aft of the propeller, respectively, much improve the propulsion performance. In addition, the ALV-Fin[®] (Advanced Low Viscous Resistance Fin) equipped fore of its propeller controls the stern flow to achieve better propulsive efficiency. Furthermore, the well-refined shape of the superstructure can attain low wind resistance.

Principal particulars

L(o.a.) x B (mld.) x D (mld.) x d (mld.):	229.0m x 32.26m x 20.20m x 14.55m
DWT/GT:	82,442t/44,249
Main engine:	MAN B&W 6S60ME-C8.5-EGRBP diesel x 1 unit
Speed:	14.5kt
Complement:	25
Classification:	DNVGL



Kawasaki completes 84,000m³ LPG carrier, GAS PLANET

Kawasaki Heavy Industries, Ltd. delivered the 84,000m³ class LPG carrier, GAS PLANET (HN: 1743), to its owner, Lepta Shipping Co., Ltd. on October 16, 2020. The carrier has higher cargo-loading capacity without remodeling the hull form of the 82,200m³ type, which permits entry to LPG terminals as in the past. This ship is the first of the newly developed LPG carrier series compliant with the revised IGC code requiring more strict safety precautions for the ship.

The GAS PLANET is compliant with the IMO NO_x Tier III regulations. The main engine is an Exhaust Gas Recirculation (EGR) type and the electric generator engine adopts Selective Catalytic Reduction (SCR) as countermeasures for reduction of NO_x emissions. Consequently, the carrier is permitted to navigate Emission Control Areas (ECAs).

This vessel adopts Kawasaki's uniquely developed bow shape called SEA-Arrow, which significantly im-

proves propulsion performance by minimizing bow wave resistance. The main engine is an energy-efficient, electronically-controlled, ultra-long-stroke, two-stroke low-speed diesel engine. In addition, the Kawasaki Rudder Bulb System with Fins (RBSF) and the Semi-Duct System with contra Fins (SDS-F) contribute to reducing fuel consumption. The main engine and electric generator engine are equipped with a SO_x scrubber at the gas exhaust port, to satisfy the SO_x emission restrictions started in January 2020. Accordingly, low SO_x fuel oil can be used under the control of restrictions, and fuel oil costs can be reduced due to continuous use of conventional

fuel.

Principal particulars

L(o.a.) x B (mld.) x D (mld.) x d: 229.90m x 37.20m x 21.90m x 11.54m	
DWT/GT:	55,432t/49,231
Cargo tank capacity:	84,178m ³
Main engine:	Kawasaki-MAN B&W 7S60ME-C10.5 diesel x 1 unit
Complement:	35
Classification:	ClassNK
Registry:	Panama
Delivery:	October 16, 2020



MSB participats in “ROBOSHIP Joint Value Creation Project: PoC in Tokyo 2020”

Mitsubishi Shipbuilding Co., Ltd. (MSB), a part of Mitsubishi Heavy Industries (MHI) Group, is participating in an inter-business project to explore the potential of the “ROBOSHIP” as the marine vessel of the future. A proof of concept (PoC) test using two actual surface vessels was jointly conducted on November 11, 2020. This PoC test, to be held in the sea off Toyosu in Tokyo using a passenger vessel owned by Tokyo Cruise Ship Co., Ltd., is intended to demonstrate the cutting-edge technologies and ideas of the participating companies, with the aim of supporting the development and widespread adoption of a navigational support system for coastal vessels.

The PoC testing is part of the “ROBOSHIP Joint Value Creation Project” led by e5 Lab Inc., a firm jointly established in 2019 by four companies representing shipping companies and a trading company to develop EV (electric vehicle) ships and digitization technologies. The project is a collaborative effort between e5 Lab, 22 companies and a ship classification society, including firms outside the shipbuilding and marine trans-



port fields, as a cooperative platform to create value and turn challenges into opportunities by addressing issues facing the ocean shipping industry. Specifically, a two-day event to be held on November 11-12, entitled “ROBOSHIP Joint Value Creation Project PoC in Tokyo 2020” is being conducted on the theme of “Ideas for future ships envisioned by e5 Lab, 22 partner companies, and a ship classification society.”

Mitsubishi Shipbuilding, with assistance from related sections within MHI Group, has provided maritime-related engineering services, support for marine vessel remote control/autonomous navigation, and system integration for the vessel propulsion units. As part of the test, a navigation

support system called SUPER-BRIDGE-X, with functions including route planning, course control, vessel speed control, and collision avoidance, has been installed in the “Urban Launch,” a passenger vessel operated by Tokyo Cruise Ship Co., Ltd. to conduct cruises in Tokyo Bay and other areas. In addition, a remotely operated unmanned surface vessel developed by MHI has also been made available, and the two vessels were used to demonstrate collision avoidance.

In its “MARINE FUTURE STREAM” growth strategy, Mitsubishi Shipbuilding has set goals for the decarbonization of the maritime economy through renewable energy and the carbon recycle, and effective utilization of the marine space with digitalization and electrification, aiming to generate new ideas through marine-related innovation, and making them a reality. e5 Lab is a solution provider working to solve issues in the maritime industry through development of EV ships and digitization, in order to promote safe navigation for vessels, a better work environment for crews, and conservation of the global environment. While sharing concepts for activities in a full-fledged effort to find solutions to the social challenges facing the marine transport and maritime industry, Mitsubishi Shipbuilding will pursue cooperation through the joint value creation project.

Going forward, Mitsubishi Shipbuilding will leverage the marine-related technologies accumulated by the wide range of technologies of MHI Group, and by providing shipbuilding engineering services as well as system integration for EV ship powertrains and digitalization to improve the work environment, will find solutions to the various challenges facing customers and society. In cooperation with e5 Lab, Mitsubishi Shipbuilding aims to become a solution provider working to resolve issues in the maritime industry.

Joint venture Nihon Shipyard Co., Ltd. established by Imabari and JMU

Imabari Shipbuilding Co., Ltd. and Japan Marine United Corporation established a new joint venture called Nihon Shipyard Co., Ltd. in January 2021.

The worldwide competitive environment is becoming increasingly difficult as shipbuilding companies consolidate and reorganize all over the world, so both companies have entered into a capital and business alliance with the purpose of strengthening the international competitiveness of their merchant marine businesses. In order to maximize the efficiency of the partnership between Imabari Shipbuilding Co., Ltd. and Japan Ma-

rine United Corporation by leveraging their respective strengths, the joint venture will create a system that enables them to offer proposals that will exceed conventional frameworks with a greater sense of speed, aiming to survive in the international market.

The goal is to contribute to the development of society and industry by constantly offering the customers the best products and services and attaining sustainable growth. For those reasons, the company hopes that shipowners and ship operators worldwide will continue to provide even greater support in the future.

MES-S completes 2nd ship of Eco-Ship “neo87BC,” OCEAN JADE

Mitsui E&S Shipbuilding Co., Ltd. (MES-S) completed and delivered an 87,000DWT type bulk carrier, OCEAN JADE (HN: 1989), at its Chiba Shipyard on January 18, 2021 to Ocean Jade Pte. Ltd., Singapore. This is the second ship of the MES-S neo87BC series, the seventh Eco-Ship in its lineup of neo series.

The vessel is intended for the grain trade, especially in shallow-water ports in the North and South American continental rivers, but can handle bulk trade of coal, iron ore, and bauxite. Thus, the vessel provides excellent flexibility in ship allocation.

The electronically controlled main engine complies with MARPOL NO_x restrictions (Tier-III). Considering the strengthened restrictions for SO_x, the vessel has multiple fuel oil tanks for switching of fuel oil.

The newly developed hull form and energy-saving device can achieve high transport efficiency. This is the first neo series to apply the Harmonized Common Structural Rules (H-CSR). Compliance with the SOLAS Noise Code contributes to improve crew working and living environments.

Principal particular

L x B (mld.) x D (mld.): 228.99m x 36.94m x 19.95m
DWT/GT: 87,670t/48,245
Main engine: Mitsui-MAN B&W 6S60ME-C10.5-HPSCR diesel x 1



unit	
Speed, service:	about 14.5kt
Complement:	25
Classification:	ClassNK
Registry:	Singapore
Delivery:	January 18, 2021

Oshima ready to comply with EEDI Phase 3 for new buildings of 13 types

Oshima Shipbuilding Co., Ltd. is prepared to comply with the requirements of the EEDI (Energy Efficiency Design Index) Phase 3 for its new buildings of 13 standard types of bulk carriers from handy size to post Panamax. The company has already developed new ship designs that can meet the conditions with the conventional oil-fueled engine, and this ship concept will be applied to all standard types of bulk carriers to be built by Oshima.

As a matter of fact, Phase 3 requirement, namely 30% reduction in CO₂ emissions, has already been achieved

for over 30 bulk carriers which Oshima has recently delivered, all of which are being operated without decreasing ship speed. Those 30 bulk carriers recently delivered include Ultramax-type, 55,000 DWT open hatch-type, 100,000DWT-type, and woodchip carriers.

Based on such track record of delivering over 30 bulk carriers already achieving Phase 3 requirement, Oshima has further improved ship performance to adopt for all 13 standard ship types to be built which will keep up with the EEDI Phase 3 requirements. 13 standard ship types include five types of Handysize, three

of CO₂ emission from the reference value, and the EEXI requirements that will be applied to ships in service after 2023 can also be satisfied by compliance with the EEDI Phase 2 requirements.

Therefore, Oshima has announced its new conventional oil-fueled ship design in the newbuilding market to take advantage of the EEDI Phase 3 regulations for CO₂ emission reduction.

Fuel conversion has been considered to be one of the main measures to comply with the Phase 3 requirements. Oshima, however, has been developing optimal hull forms, energy saving devices, and propellers together with the best selection of main engines. Oshima's new conventional oil-fueled ship design requires no additional measures for future environmental standards and also without reducing the service speed from today's standard. In addition, if the Phase 3 requirements could be achieved using conventional fuel oil, the achievement of CO₂ emission reduction means improved fuel oil consumption, and this leads to providing high competitiveness for the customers throughout the lifetime of the vessel.



The DIRTRICH OLDENDORF, a newly developed 100,000DWT bulker by Oshima, can be compliant with EEDI Phase 3 requirements based on the conventional oil-fueled ship design.

types of Handymax, one type of Panamax, and four types of Post Panamax.

In today's shipbuilding market, bulk carriers should be compliant with the EEDI Phase 2 requirements, which require a 20% reduction

Shin Kurushima Dockyard completes coastal coal carrier, MIRAI

Shin Kurushima Dockyard Co., Ltd. (SKDY) completed building the 15,000 DWT coal carrier, MIRAI, at its Onishi Shipyard on January 15, 2021 and delivered the coal carrier to the owner, NS United Naiko Kaiun Kaisha, Ltd.

The MIRAI is Japan's largest coastal coal carrier provided with an automatic coal unloader. The main engine is a fuel-efficient electronically controlled type for reducing CO₂ emissions, and the Vec-Twin Rudder is used for turning in confined ports as

well as bringing the ship alongside the quay and leaving the shore easily. Every cabin is equipped with a toilet and shower compartment to improve the working environment and for male and female crew convenience.

The MIRAI will begin coastal coal transport from the port of Onahama to Hirono where a thermal power plant using the Integrated coal Gasification Combined Cycle (IGCC) System will be opened by Hirono IGCC Power GK (headquarters in Futaba-Gun Hirono-Cho, Fukushima Prefecture) in September 2021. The IGCC is expected to power the next generation of coal-fired thermal power plant with improved operational efficiency

compared with the conventional thermal power plant.

NS United Naiko K.K. has concluded a contract with JERA, one of major power supply organizations in Japan, for 25-year coastal coal transport. In the above project, the MIRAI will transport 1.5 million tons of coal to Hirono IGCC Power Plant.

Principal particulars

Owner:	NS United Naiko Kaiun Kaisha, Ltd.
Builder:	Shin Kurushima Dockyard Co., Ltd.
Hull No.:	S-6066
Ship type:	Coal carrier
L (o.a.) x B x D x d (ext.):	149.91m x 27.20m x 14.20m x 6.493m
DWT/GT:	15,000t/18,419
Main engine:	Akasaka 7UEC35LSE-Eco-B2 diesel x 1 unit
Speed, service:	13kt
Classification:	ClassNK
Registry:	Tokyo
Completion:	January 15, 2021



Kawasaki completes first LPG-powered dual-fuel ME-LGIP engine

Kawasaki Heavy Industries, Ltd. announced completion of a Kawasaki-MAN B&W 7S60ME-C10.5-LGIP engine, an LPG-powered marine diesel engine to be used in a large LPG carrier being built at Sakaide Works for delivery to Kumiai Navigation (Pte) Ltd. This engine is the first MAN B&W S60 type LPG-powered engine to be produced in the world.

This dual-fuel engine design can use both LPG fuel and marine diesel oil, and includes the Kawasaki-ECO System (K-ECOS Lite), which simultaneously reduces fuel consumption and enables the engine to meet NO_x Tier 3 regulations. The Kawasaki-ECO System (K-ECOS Lite) is an environmentally friendly low-emission system consisting of an exhaust gas recirculation (EGR) system, a turbocharger cut-out system, and a waste water treatment system, which complies with IMO NO_x Tier 3 regulations and achieves low fuel consumption and low running costs. When using LPG fuel, the ME-LGIP engine cuts

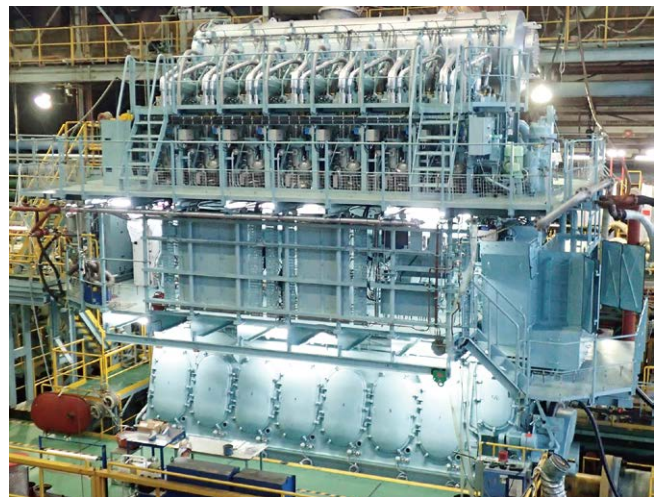
sulfur oxide (SO_x) emissions by more than 90% compared with conventional two-stroke diesel engines that operate on heavy oil, and also greatly reducing carbon dioxide (CO₂) and nitrogen oxide (NO_x) emissions.

The International Maritime Organization (IMO) has been establishing stricter emission regulations for SO_x, NO_x, CO₂ and other emissions in marine shipping throughout Europe, the United States and other parts of the world. LPG, which provides a clean-fuel alternative much like liquefied natural gas (LNG), has been the subject of increasing attention amid these changes. In response, Kawasaki is actively pursuing the sale and manufacture of

Kawasaki-MAN B&W ME-LGIP engines as one of the next-generation of main engines intended to help operators meet updated emission regulations.

Kawasaki-MAN B&W 7S60ME-C10.5-LGIP engine

Rated output:	12,850kW
Rated speed:	84rpm
Cylinder bore:	60cm
No. of cylinders:	7



CENTURY HIGHWAY GREEN

Builder: Tadotsu Shipyard Co., Ltd./
Imabari Shipbuilding Co., Ltd.
Ship type: Dual-fueled vehicle carrier
L (o.a.) x B x D: 199.98m x 37.2m x
36.51m
DWT/GT: 16,844t/73,515
Car loading capacity: 7,000 units
Main engine: 8S50ME-C9.6-GI diesel
x 1 unit
Speed, service: 18.0kt
Classification: ClassNK/DNV
Completion: March 8, 2021



BTG ULRIKEN

Builder: Japan Marine United Corporation
Ship type: Bulk carrier
L (o.a.) x B (mld.) x D (mld.) x d (mld.):
229.0m x 32.26m x 20.20m x
14.55m
DWT/GT: 82,456t/44,249
Main engine: MAN B&W 6S60ME-
C8.5-EGRBP diesel x 1 unit
Speed: 14.5kt
Complement: 25
Classification: DNVGL
Registry: Bahamas



SEARHYTHM

Owner: Searhythm Tanker Limited
Builder: Sumitomo Heavy Industries
Marine & Engineering Co., Ltd.
Hull No.: 1404
Ship type: Crude oil carrier
L x B x D: 228.96m x 44.00 x 21.80m
DWT/GT: abt. 111,900t/abt. 60,200
Main engine: Hitachi MAN B&W
6G60ME-C9.5 diesel x 1 unit
Speed: 15.0kt
Classification: ClassNK
Registry: Marshall
Completion: February 24, 2021



AYOE

Owner: Lepta Shipping Co., Ltd.
Builder: Onomichi Dockyard Co., Ltd.
Hull No.: 762
Ship type: Product/chemical tanker
L (o.a.) x B x D x d (ext.): 175.00m x
32.20m x 19.05m x 13.10m
DWT/GT: 49,861t/29,806
Main engine: Mitsui MAN B&W
6S50ME-B9.5 diesel x 1 unit
Speed, service: 14.9kt
Classification: ClassNK
Registry: Panama
Completion: November 6, 2020



OWUSU MARU

Owner: Fast Shipping S.A.
Builder: Tsuneishi Shipbuilding Co.,
Ltd.
Hull No.: 1603
Ship type: Bulk carrier
L (o.a.) x B x D : 229.00m x 32.26m x
20.15m
DWT/GT: abt.82,286t/abt.44,000
Main engine: MAN B&W 6S60ME-
C10.5 diesel x 1 unit
Speed, service: 14.30kt
Classification: LR
Registry: Panama
Completion: November 27, 2020



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