

IHIMU to build CRP electric propulsion for coastal ships

IHI Marine United Inc. (IHIMU) has developed a electric motor driven propulsion system applying its proprietary technology CRP (Contra Rotating Propeller, see attached illustration), which will be installed on coastal ships for Japanese shipowners.

IHIMU has entered into a shipbuilding contract with Nijima Bussan Co., Ltd and Japan Railway Construction, Transport and Technology Agency (JRJT) as co-owner of a 499GT general cargo and oil tanker equipped with the CRP electric motor driven system and has also

entered into a shipbuilding contract with Kokuho Kisen Co., Ltd. and JRJT as co-owner for a 499GT chemical tanker equipped with the same system. The chemical tanker will be chartered by Uyeno Transtech Ltd.

The operation costs of a ship with the conventional electric motor driven system are less economical compared to the diesel driven system due to the nature of indirect propulsion, therefore, a conventional electric motor driven system has been applied only for special-purpose ships.

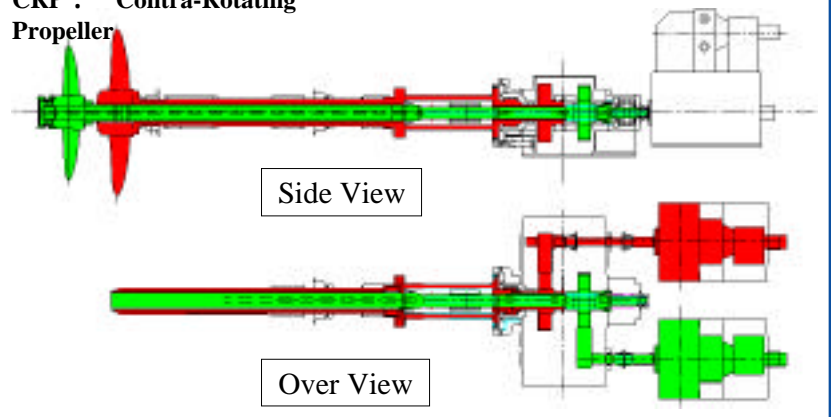
Now, IHI Marine United Inc. has, with its superior technology gained through its long-term experience of shipbuilding, developed the most efficient electric motor driven system applying CRP with the efficient hull form, which allows a competitive level of fuel oil consumption and also contributes to environmental protection by reducing NO_x and CO₂ emissions.

The CRP system has the following advantages:

1 Reliable and flexible operation

- The CRP is driven with two independent motors as shown in the illustration. In case of the damage or accident on one propulsion system/motor, ship's operation can be continued by the other propulsion system.
- The CRP electric motor system is free from the diesel engine's barred range, which facilitates entry/exit of ports.
- Depending on the electric demand for ship's operation (normal running, loading/off-loading and drifting etc.), the crew can select the number of the running D/G,

CRP : Contra-Rotating Propeller



which will contribute to more economical fuel consumption.

2 Easy and low cost maintenance

- The CRP electric motor system is powered by the same type of three D/Gs, different from the conventional diesel system of one main engine plus several D/Gs, which will facilitate maintenance for and reduce the running cost with common spare parts for the same types of generator/engines.
- Less vibration and noise than the conventional diesel system will make crew life on the sea safer and more comfortable.

Principal Particulars:

1 General cargo and oil tanker:

Main contractor: IHI Marine United Inc.

Shipbuilder (sub contractor): Sanuki Shipbuilding & Iron Works Co., Ltd.

Hull No.: 3241

L (o. a.) x L (b. p.) x B x D x d: Approx. 59.20m x 55.00m x 9.80m x 3.50m x 3.40m

DWT/GT: Approx. 663mt/480t

2 Chemical tanker:

Main contractor: IHI Marine United Inc.

Shipbuilder (sub contractor): Koa Sangyo Co., Ltd.

Hull No.: 3245

L (o. a.) x L (b. p.) x B x D x d: Approx. 64.99m x 61.80m x 10.00m x 4.50m x 4.00m

DWT/GT: Approx. 1,199mt/499t



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IHIMU completes 8,466TEU container ship, MAERSK SEVILLE

IHI Marine United Inc. has delivered the 8,466TEU container ship, MAERSK SEVILLE (HN: 3200), for Maersk Line through Reederei Blue Star GmbH at its Kure Shipyard. The MAERSK SEVILLE is the fifth of the eight ship series and is deployed in the Europe/Asia service.

The MAERSK SEVILLE is a new generation of postPanamax size container ships with the following features: larger capacity and good stability; installation of common rail, electronically-controlled DU-Sulzer 12RT-flex 96C high power engine; superior hull form for efficient speed and good fuel consumption; about 700 reefer container receptacles; lashing bridges for simple and secured lashing of on-deck containers; and integrated bridge

system with one-man operation design.

To realize good propulsion performance, economical operation and good maneuverability of the ship, IHIMU designed the ship with its technical

and engineering know-how, CFD analysis, 3D-FEM ship model analysis, walk-through simulation and apparatus installation simulation, using the CIM system, Ajisai, which IHIMU developed.

Principal particulars

L (o. a.) x B x D x d: 335.0m x 42.8m x 24.4m x 14.0m



DWT/GT: abt. 97,000t/93,500t

Container carrying capacity: 8,466TEUs

Main engine: DU-Sulzer 12RT-flex 96C diesel x 1 unit

MCR: 61,900kW x 94.0rpm

Speed, service: 24.5kt

Classification: Germanischer Lloyd

Completion: Mar. 30, 2006

Imabari completes 53,000DWT Handymax bulk carrier

Imabari Shipbuilding Co., Ltd. has delivered the 53,452DWT Handymax bulk carrier, MAPLE HILL (HN: 625), to the owner Ambitious Line S. A. at the Imabari Shipyard. The MAPLE HILL is one of a series of thirteen 53,000DWT Handymax bulk carriers, which were designed and developed by Imabari to meet the latest requirements of worldwide marine transportation.

The vessel is designed to satisfy recent bulk carrier safety requirements as an oceangoing bulk carrier suitable for carrying various bulk cargoes including coal, ore cargoes, hot steel coils and long-size cargoes. According to the rule requirements, the water ingress

alarm system is installed in each hold and forward space of the cargo compartment. The alarm panel is provided in the wheelhouse.

The vessel has five cargo holds made of a single hull structure, which are arranged with top side tanks and double bottom with side hopper tanks. To increase loading capability, the No. 3 cargo hold is used as water ballast tank. Heavy cargo loading is designed and accommodated by the slack cargo holds of the Nos. 1, 3 and 5 under the alternated condition. The carrier can load and unload at two different ports under the condition of homogeneous cargoes.

For efficient and easy cargo han-

dling, four deck cranes have a 30t hoisting capacity, which are provided with a grab bucket for coal and ore cargoes. The Nos. 1 through 5 cargo holds have a long and wide hatch opening of the same size. The hatch covers are the folding type divided into two foldable sections and driven by electro-hydraulic systems. For the hatch cover operation, any two foldable hatch cover sections of ten sections in all can be operated simultaneously within six minutes except cleating time.

A spiral type hold ladder is attached to the corrugated bulkhead in each cargo hold in accordance with the requirements of the Waterside Worker's Federation of Australia.

Principal particulars

L (o. a.) x L (b. p.) x B x D x d: 189.94m x 182.00m x 32.26m x 17.30m x 12.282m

DWT/GT: 53,452t/30,002t

Hold capacity: 68,927.4m³

Main engine: HITACHI B&W 6S50MC-C diesel x 1 unit

MCR: 9,480kW x 127rpm

Speed, service: 15.0kt

Complement: 25

Classification: NK



MHI completes new 83,000m³ LPG carrier, BRITISH CONFIDENCE

Mitsubishi Heavy Industries, Ltd. (MHI) completed construction of the BRITISH CONFIDENCE (HN: 2202), an LPG carrier with a tank capacity of 83,270m³, and delivered the vessel to Abbie Ltd. as the first vessel of 4 sister vessels for BP Shipping Ltd. at the Nagasaki Shipyard & Machinery Works on March 31, 2006. This vessel is MHI's first 83,000m³ type LPGC and was developed based on the MHI 78,000m³ type LPGC

series of 33 vessels.

Main features are as follows:

- The vessel is designed as a straight LPG carrier to carry propane and butane.
- The sophisticated hull form, optimum design of propeller and Mitsubishi-Reaction fin, achieves high propulsion performance with less vibration.
- Fuel oil tanks are protected by

double hull construction and fuel oil storage/settling/service tanks for low sulfur fuel are provided independently.

- Considering compatibility with many terminals, the vessel is equipped with booster cargo pumps and cargo heater/vaporizer for unloading to shore pressure tanks. A folding type radar mast is equipped to keep air draft low.
- Latest radar type cargo level gauge is equipped.

Principal Particulars

Length (o.a.): 230.0m

Length (b.p.): 219.0m

Breadth: 36.6m

Depth: 21.65m

Summer draft: 11.628m

Gross tonnage: 48,772

Cargo tank capacity: 83,270m³

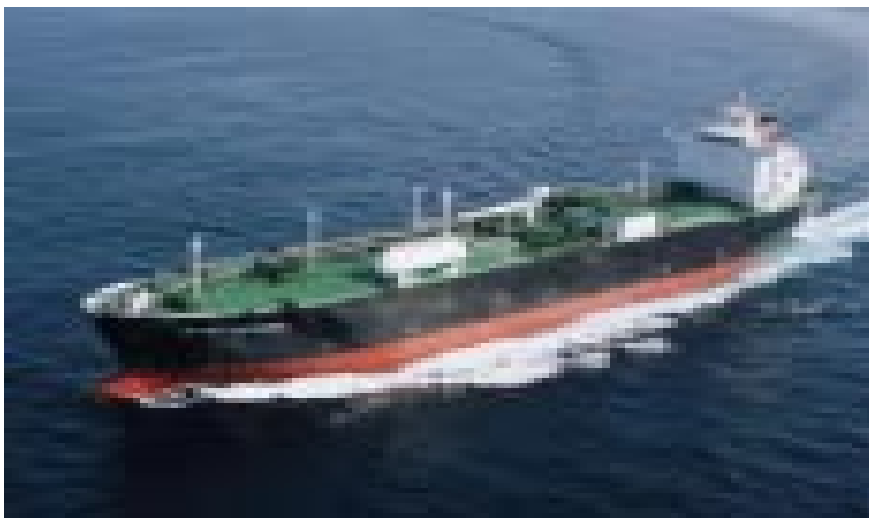
Main engine: MAN B&W 7S60MC

(Mark VI) diesel x 1 unit

Output: 13,700kW x 104rpm

Service speed: 17.0kt

Classification: LR



Namura completes Capesize bulker, SHIGA

Namura Shipbuilding Co., Ltd. completed construction of the 176,990DWT bulk carrier, SHIGA (HN: 256), at the Imari Shipyard and Works and delivered the vessel to the owner, Handbell Shipping S. A., on Feb. 14, 2006.

The vessel is a Dunkerquemax type Cape size bulk carrier with large cargo hold capacity. The cargo holds consist of nine cargo holds with a side rolling type hatch cover, and the duct keels in the double bottom space are used for pipe passage.

The long-stroke, low-revolution and fuel-efficient main engine drives a large diameter propeller for better propulsive efficiency. The Namura flow Control Fine (NCF) system is equipped for improved propulsion performance and fuel oil saving.

The vessel meets the new SOLAS and IACS bulk carrier safety requirements, and special considerations are given to safety, safeguards against environmen-

tal pollution, labor saving and operational economy. NK M0 notation is applied to automation of machinery in the engine room.

Principal Particulars

L (o.a.) x L (b.p.) x B x D x d:

288.97m x 279.00m x 45.00m x

24.40m x 17.955m

DWT/GT: 176,990t/89,653t

Main engine: B&W 6570MC (Mk VI) diesel x 1 unit

Speed, trial max. at NCO: 16.71 knots

Output, max.: 16,860kW x 91.0rpm

NCO: 14,510kW x 86.6rpm

Classification: NK

Completion: Feb. 14, 2006



Naikai delivers 2,450TEU container carrier to H+H Schepers GmbH

Naikai Zosen Corporation has delivered the CONSTANTIN S (HN: 699), a container carrier with a container carrying capacity of 2,450TEUs, to H+H Schepers GmbH & Co. KG, which was completed at the Setoda Works.

The carrier can carry 400 units of reefer containers. Container holds di-

vided into six compartments (Nos. 1 through 6), and 10 hatches are provided. Full cell guides are installed inside the holds.

The main engine is a super long-stroke diesel engine, Hitachi MAN B&W 7S70MOC type. Adoption of the engine and the energy-saving hull form achieves the decrease in fuel con-

sumption, increasing propulsion efficiency.

The carrier has the following ship operation equipment: a bow thruster to facilitate berthing and unberthing, an autoheel controlling unit to secure safe cargo handling, and collision prevention assisting equipment for safe navigation

Principal particulars

L (o.a.) x B x D x d: 199.93m x 32.20m x 16.60m x 9.80m

DWT/GT: 33,355t/27,094t

Container carrying capacity: 2,450TEUs

Main engine: Hitachi MAN B&W 7S70MC-C diesel x 1 unit

MCR: 21,735kW x 91min⁻¹

NCR: 19,560kW x 88min⁻¹

Speed, service: 22.2kt

Complement: 23

Classification: NK

Completion: Mar. 24, 2006



Ship-shore integrated type fleet management LAN support system Experimental start with Mitsui OSK Lines and MO Ship Management

Mitsui Engineering & Shipbuilding Co., Ltd. recently started a joint experiment of a Ship-Shore Integrated type LAN system using actual ships to continue to the end of November 2005 with Mitsui OSK Lines and MO Ship Management Co., Ltd.

Nowadays, in shipping circles, new regulations and/or revisions of ISPS codes* and SOLAS Convention Rules* are seriously studied to cope with the "Threat of Terrorism and Pirates" and "Environmental Pollution by Accidents at Sea". In order to observe such rules and to secure the safety of ship at high efficiency, classification, circulation and storage of huge amounts of information have become inevitable. The communication system to support such handling of information has been greatly innovated from the conventional slow-speed one to the high-speed full-time access system ("broadband at sea") to achieve ubiquitous communications on board ship.

Under these circumstances, MES introduced a Ship-Shore integrated LAN system on board MV MOL EXPRESS (container carrier) managed by MO Management to evaluate the effectiveness of information sharing by ship and shore. The portal site to deal with the storage and delivery of such information is established in the network center of MES. Since 1987, MES has delivered tens of on-board LAN system mainly to government-owned ships. By this introduction of Ship/Shore integrated LAN system to commercial container carriers, such integrated LAN system will be rapidly applied to commercial ships.

This system is composed of the WEB type on-board LAN system and on-shore portal site system, and the data of operation, maintenance and management are available on the screen framework to meet intended purposes via Ship-Shore communication circuit. Furthermore, by deliver-

ing the information stored in the portal site through the internet to the staff involved, information sharing by Ship and Shore has become realistic. MES will enhance its contents service by utilizing the results of this experiment and the series of platforms, and will increase the number of portal site users.

* ISPS codes:

International Ship and Portfacility Security Codes was enacted on July 1, 2004 to protect shipping activities from the threats of terrorism, pirates and/or smuggling.

* SOLAS Convention Rules:

Rules of Convention for Safety of Life at Sea have been revised many times and the present rules are the ones adopted in 1974 with some revision afterwards.

JSEA participates in Posidonia 2006

The Japan Ship Exporters' Association (JSEA) participated in the 20th International Shipping Exhibition Posidonia 2006 held at the Hellenikon Exhibition Centre in Helleniko, Greece, for five days from June 5 to 9. Posidonia 2006 attracted 1,600 companies and organizations from 78 countries, and was visited by over 16,225 people including the public.

At the opening ceremony held on June 5, Mr. Manolis Kefaloyiannis, the Minister of Mercantile Marine of Greece gave the opening address. After the ceremony, Mr. Manolis Kefaloyiannis and honorable guests from the related circles such as the Union of Greek Shipowners visited exhibition booths. Mr. Toshio Mochizuki, Japanese Ambassador to Greece and Mr. Mototsugu Ito, JSEA president met the Minister at the Japanese stand.

On June 7, Ambassador and Mrs. Mochizuki, and JSEA president Mr. and Mrs. Ito co-sponsored a cocktail party at the Athenaeum Inter-Continental Hotel with 900 guests including government officials and others concerned with the shipping and shipbuilding industries.

The participation of JSEA consisting of 12 Japanese shipbuilders was carried out with the financial support of The Nippon Foundation and in cooperation with The Shipbuilders' Association of Japan. JSEA, the Japanese Marine Equipment Association (JSMEA), and the Nippon Kaiji Kyokai (Class NK) formed the national exhibition stand where Japanese shipbuilding technology was presented. Particularly visitors were attracted by newly-developed designs and technologies that were introduced with

the plasma vision system and other displays.

Shipbuilders:

IHI Marine United Inc.
Imabari Shipbuilding Co., Ltd.
Kawasaki Shipbuilding Corporation
Mitsubishi Heavy Industries, Ltd.
Mitsui Engineering & Shipbuilding Co., Ltd.
Namura Shipbuilding Co., Ltd.
Oshima Shipbuilding Co., Ltd.
Sanoyas Hishino Meisho Corporation
Sasebo Heavy Industries Co., Ltd.
Shin Kurushima Dockyard Co., Ltd.
Sumitomo Heavy Industries Marine & Engineering Co., Ltd.
Universal Shipbuilding Corporation



At opening ceremony, Ambassador Mochizuki (center left); JSEA president Ito (center right); Class NK Chairman Ogawa (left); and JSMEA Chairman Tsuji (right)

Sasebo completes 76,000DWT Panamax bulker, DIAMOND STREAM

Sasebo Heavy Industries Co., Ltd. (SSK) has completed a 76,000DWT Panamax bulk carrier DIAMOND STREAM (HN: 729) for delivery to Wealth Line Inc. The carrier is one of the 76,000DWT Panamax series being built in succession by SSK. The vessel, as the Panamax bulk carrier, has the largest class deadweight tonnage and cargo hold capacity of

90,900m³.

The Panamax series has a partition wall in the No. 5 top side tank, the aft side of which is provided as a slop tank compartment. The specifications of the mooring arrangement meet the severe wind conditions of the Port of Noshiro, Akita Pref., Japan. The bow fittings meet the requirements of the IACS URS26/27 rule

before the rule's enforcement.

The main engine is the highly reliable and fuel-saving type diesel engine. Both main engine and diesel generators operate on a low grade fuel (380cSt at 50°C) and comply with

the requirements of MARPOL VI. In-board electric demand is supplied by one generator during navigation. When entering and exiting a port, two electric generators will be operated.

This bulk carrier series employs the forecastle, water ingress alarm system, and remote water-discharging device that conform to the IACS Bulk Carrier Safety regulations. This increases seaworthiness of the vessel. The engine room specifications are M0 class.

Principal particulars

L (o. a.) x L (b. p.) x B x D x d: 225.00m x 218.00m x 32.20m x 19.80m x 12.20m

DWT/GT: 76,741t/40,042t

Main engine: MAN B&W 7S50MC-C diesel x 1 unit

Output: 9,230kW x 106.0rpm

Classification: NK



POS JADE

Owner: White Crocus Shipping S. A.
Builder: The Hakodate Dock Co., Ltd.
Hull No.: 805
Ship type: Bulk carrier
L (b. p.) x B x D x d: 167.00m x 29.40m x 13.70m x 9.56m
DWT/GT: 31,886t/19,796t
Main engine: Mitsubishi-6UEC52LA diesel x 1 unit
Speed: 14.4kt
Classification: NK
Completion: Mar. 17, 2006

**SYMPHONIC**

Owner: Skyview Shipping Co. S. A.
Builder: Universal Shipbuilding Corporation
Hull No.: 029
Ship type: VLCC
L (o. a.) x B x D x d: 329.99m x 60.00m x 29.70m x 21.523m (extreme)
DWT/GT: 298,522t/156,933t
Main engine: MAN B&W 7S80MC (MK VI) diesel x 1 unit
Speed, service: 16.0kt
Classification: ABS
Completion: Mar. 24, 2006

**KIRANA QUARTTA**

Owner: Kirana Tanker Pte. Ltd.
Builder: Naikai Zosen Corporation
Hull No.: 701
Ship type: Tanker (Product carrier)
L (o. a.) x L (b. p.) x B x D x d: 160.00m x 152.00m x 27.90m x 11.20m x 7.11m
DWT/GT: 19,000t/13,202t
Cargo tank capacity: 24,400m³
Main engine: Hitachi MAN B&W 7S35MC (Mk VI) diesel x 1 unit
Speed, service: 13.5kt
Classification: NK
Completion: Mar. 31, 2006

**YASA UNITY**

Owner: Tiffany Navigation S. A.
Builder: Sanoyas Hishino Meisho Corp.
Hull No.: 1234
Ship type: Bulk carrier
L (o. a.) x L (b. p.) x B x D x d: 225.00m x 217.00m x 32.26m x 19.30m x 13.995m
DWT/GT: 75,580mt/38,895t
Cargo hold capacity: 89,201m³ (grain)
Main engine: MAN B&W 7S50MC-C diesel x 1 unit
Speed, service: 14.5kt
MCR: 12,200ps
Classification: NK
Completion: Apr. 6, 2006

**DUNCAN BAY**

Owner: Kowa Shipping S. A.
Builder: Imabari Shipbuilding Co., Ltd./Shimanami Shipyard Co., Ltd.
Hull No.: 508
Ship type: Bulk carrier
L (o. a.) x L (b. p.) x B x D x d: 169.26m x 160.40m x 27.20m x 13.60m x 9.761m
DWT/GT: 28,414t/16,951t
Main engine: Makita-Mitsui-MAN B&W 6S42MC (Mark VI) diesel x 1 unit
MCR: 5,850kW x 129rpm
Speed, service: 15.9kt
Classification: NK
Completion: Feb. 14, 2006

**DREAM ANGEL**

Owner: Dynamic Driving Marine S. A.
Builder: Shin Kurushima Dockyard Co., Ltd.
Hull No.: 5327
Ship type: PCC
L (o. a.) x B x D x d: 186.03m x 28.20m x 29.43/12.45m x 8.524m
DWT/GT: 15,089t/41,662t
Main engine: B&W 8S50MC (Mark VI) diesel x 1 unit
Speed, service: 19.2kt
Classification: KR
Completion: Feb. 21, 2006

