



IHI MU completes 6,492TEU post Panamax container carrier



IHI Marine United Inc. completed construction of the *NYK Apollo* (HN: 3155), a 6,492TEU Post Panamax Container Carrier for delivery to Great River Line S.A. of Panama, at the Kure Shipyard on November 29, 2002. The *NYK Apollo* is the first of a series of seven 6,492TEU Post Panamax Carriers to be chartered by NYK Line for transport services in routes centered on the Europe and Far East.

The carrier with a beam of over 40.0m can load containers of nine tiers in 14 rows in cargo holds and six tiers in 16 rows on the upper deck, totaling 6,492TEUs.

She has the fixed cell guide system in holds and lashing bridges to enable the containers be stacked up as high as six tiers on deck. For reefer containers, 83 plugs in holds

and 450 plugs on deck are provided.

Principal Particulars of *NYK Apollo*

Length, o.a.:	299.90m
Length, b.p.:	283.80m
Breadth, mld.:	40.00m
Depth, mld.:	23.90m
Scantling draft:	14.00m
Gross tonnage:	75,484t
Deadweight:	81,171MT
Speed, service:	25.0kt
Main engine:	DU-Sulzer 12RTA96C diesel x 1 unit
Output MCR:	61,350kW x 97.7rpm
NOR:	52,150kW x 92.5rpm
Classification:	NK



For further information please contact:

JAPAN SHIP EXPORTERS' ASSOCIATION

15-16, Toranomon 1-chome, Minato-ku, Tokyo 105-0001 Tel: (03) 3508-9661 Fax: (03) 3508-2058 E-Mail: postmaster@jsea.or.jp

5,576TEU container carrier *Genoa Bridge* built by Imabari

The Imabari group led by Imabari Shipbuilding Co., Ltd. had the largest market share in Japan, or fourth in the world, in terms of gross tonnage for newbuildings in fiscal 2001. The group has introduced newly-developed facilities and constructed a large dock to cope with the requirements of VLCCs and VLOCs, etc., and started development of LNG carrier construction technology to enter the market for LNG carriers. The group now continues to cope with demand for a variety of ships from small to large. For example, the group built the following container carrier last year.

The *Genoa Bridge*, a container carrier, was completed at Koyo Dockyard Co., Ltd. of the Imabari group on Sept. 9, 2002. The carrier is the last of a series of six container carriers that were constructed continuously. Performance of the carriers has fully met

the requirements of the owner and operator.

The carrier is the over Panamax type measuring 270.94m in overall length, 40.00m in beam and can carry 5,576TEUs of containers. Hull construction has obtained the SHR notation from the American Bureau of Shipping. The hull strength is shared by the hatch side coamings, not by box-type longitudinal girders in the conventional concept. This design can achieve good container loading efficiency into the holds, that is, 9 tiers in 14 rows across the beam can be loaded at midships, and on the upper deck, lashing bridges are also adopted to enable loading containers in 5 or 6



tiers on the hatch covers, permitting a variety of container loading such as high cubic size and 45' size containers. About 9% of the total container carrying capacity can be allotted for reefer containers, 430 plugs are provided on the hatchways and 70 plugs in the cargo holds.

The engine room consists of reliable machinery and has obtained the +ACCU notation from ABS. The main engine is a super long-stroke, 2-cycle diesel engine, Mitsui MAN B&W 10K98MC (VI). The bore is the world's largest of 980mm, and the output is 7,780ps per cylinder. Navigation speed is 25.0 knots. A water-tube type auxiliary boiler (380cSt/50°C) is used for reliable operation in both navigation and cargo handling operation. An exhaust economizer with a capacity of 3,200kg/h x 0.6MPa is installed. Four generators produce 2,750kVa (2,200kW x 720rpm), and an emergency generator of 150KVA (120kW x 800rpm) is provided.

Principal particulars

Hull No.: 2152

Ship Type: 5,576TEU Container Carrier

L (o.a.) x L (b.p.) x B x D x d: 278.94m x 262.00m x 40.00m x 24.00m x 12.50m

DWT/GT: 67,197M.T./66,292

Main engine: Mitsui-Man B&W 10K98MC(VI) x 1 unit

MCR: 57,200kW x 94.0rpm

NOR: 48,620kW x 89.0rpm

Speed, service: 25.00kt

Classification: ABS

Endurance: abt. 20,000nm

Toyohashi completes container carrier *Kota Gembira*

Toyohashi Shipbuilding Co., Ltd. (formerly Kanasashi Co., Ltd., renamed Jan. 1, 2003) has completed the 2,607TEU container carrier, *Kota Gembira* (HN: 3556), for Kota Gembira Limited. The carrier is the largest container carrier ever built by Toyohashi and is the third of a series of four ships.

The carrier can load containers of 956TEUs in the cargo hold and 1,651TEUs six tiers on the upper deck. It can also carry reefer containers (278FEUs plus 22TEUs) on the upper deck and dangerous cargo containers on the upper deck and in the holds (Nos. 1, 2, 3,

and 4).

The main engine uses a low-speed, long-stroke diesel engine to reduce the fuel cost, and AIS (automatic identification system) is installed.

Principal particulars

L (o.a.) x B x D x d: 226.54m x 32.20m x 16.80m x 11.50m

DWT/GT: 37,114t/28,676t

Main engine: Mitsui-MAN B&W 7S70MC-C diesel x 1 units

MCR: 21,735kW x 91rpm

Speed, service: 22.0kt

Classification: NK

Completion: Nov. 19, 2002



Shin Kurushima completes multipurpose cargoship

Shin Kurushima Dockyard Co., Ltd. has completed the 17,500GT multipurpose cargoship, *Coral Islander* (HN: 5205), which can carry containers, automobiles, rolling stock, heavy cargo and sundry goods simultaneously. Nippon Yusen Kaisha (NYK) is now chartering this next-generation multipurpose cargoship through one of the NYK "friendly owners" during a period of 15-18 years.

The cargo ship uses unique ship design to navigate among islands in the Pacific Ocean. On the planned navigation routes, seaborne cargoes are comparatively small lots per item, and cargo handling must be conducted frequently as the ship will visit several ports in a short period.

To cope with these requirements, the *Coral Islander* has combined container and vehicle carrying functions together with other cargoes such as heavy loads, steel materials, and general cargoes. Vehicle handling is achieved by the roll-on and -off method.

The ship can load containers of 912 TEUs, for which 100 reefer plugs are included, 615 passenger cars and navigate at 18 knots.

Special features of the ship include the following:

60% of the hull section toward the bow is designed as the hull of the containership, and the remaining 40% toward the stern is the same construction as a car carrier. The container holds have cell guides to permit efficient container handling. For the car decks, a shore ramp is installed at the starboard stern for roll-on and -off of vehicles.

Two 40t container cranes installed on the upper deck allow container handling at a small port without shore material handling equipment.

The combined operation of the two cranes also allows handling of a heavy cargo weighing up to 65 tons. The combined use is applicable to loading and unloading vehicles and construction



Coral Islander

machinery that cannot run on the shore ramp as well as heavy and massive cargoes.

Cargo holds are strengthened to load heavy steel materials like steel coils. Eye plates to fasten cargoes are provided at bulkheads of the fore and aft sides and both ship sides. This permits cargo loading in three to six tiers, effectively coping with various types and quantities of cargoes.

Cargo holds Nos. 2, 3, and 4 have container stoppers and container beams to provide a clearance below the bottom containers for loading other cargoes (vehicles or heavy and large cargoes). In a conventional ship, cargoes with a great weight cannot be loaded on tank tops even if there is a vacancy at the top in a cargo hold. However, these devices enable effective use in cargo holds when loading fewer containers.

Cargo holds Nos. 3 and 4 are provided with a movable second deck like a pontoon. The combined use of the second deck, stoppers and beams can provide one more car deck. This permits coping with changes in the load between cars and containers. When not used, the second decks are accommodated on the exposed deck in the front of the accommodation quarters.

The second deck has a maximum loading capacity of 0.5t/m². Consequently, lighter general cargoes can be placed on the second deck within the limit. Cars or heavy cargoes are loaded on the cargo hold bottom.

Cargo holds Nos. 3 and 4 have a total of eight second decks, stoppers, and beams at the fore and aft sections and both ship sides. Setting positions of these devices can be decided optionally and independently according to the requirements of loading sections, allowing effective mixed loading.

Principal particulars

Ship Type: Multipurpose cargoship
L (o.a.) x L (b.p.) x B x D x d: 160.70m
x 151.20m x 25.00m x 1.80m x
9.20m

DWT/GT: 17,500t/17,000t

Main engine: 7UEC 50LS II diesel x
1 unit

Output: 13,087ps x 124rpm

Speed, service: 18.0kt

Classification: NK

Carrying capacity

Vehicles: 607 units (4.50m x 1.70m
passenger car basis)

Containers: 914TEUs

Proportional loading: 470 cars plus
914TEUs, or 607 cars plus
828TEUs

Namura completes 105,500-dwt product and crude oil carrier

The 105,500-dwt double-hull, double-bottom product and crude oil carrier, *Song Lin Wan* (HN: 238), was built by Namura Shipbuilding Co., Ltd. After delivery in Japan on 27th November, 2002, the vessel sailed off to China where coating of the cargo oil tanks was carried out.



This is the second vessel of Namura's newly developed Aframax tanker series that have achieved superior propulsive performance due to a newly developed hull form based on Namura's latest technology and long experience. The large diameter propeller is driven by a long-stroke, low-revolution and fuel-efficient main engine for better propulsive efficiency. Special consideration is given to safety against environmental pollution, labor saving and operational

economy.

Principal particulars

Length (o.a.):	241.03m
Breadth (mld.):	42.00m
Depth (mld.):	21.20m
Draft (mld.):	14.90m
Gross tonnage:	57,000t
Deadweight:	105,500t
Main engine: Hitachi B&W 6S60MC diesel x 1 unit	
MCR:	16,003ps x 101rpm
NOR:	14,398ps x 97.5rpm
Speed (max. trial):	15.77 knots
(service):	abt. 14.50 knots.
Complement:	32
Classification:	BV
Cargo pump: 2,500 m ³ /h x 135 m T.H. x 3 units	
Loading capacity (tank):	122,116.5 m ³

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) has developed a new electronically-controlled lubricating system, the Alpha Lubricating System, to reduce consumption of diesel engine cylinder lubricating oil, and recently achieved remarkable savings in cylinder oil on a large container ship of 4,900TEUs, which is equipped with a Mitsui MAN-B&W 10K90MC engine of 59,600 BHP. The saving rate on the ship as of today is 20% plus,



Pump station

MES develops new lubricating system for diesel engines

but is expected to reach more than 50% in the near future.

The Alpha Lubricating System, by application of the electronic control device, can rapidly inject the oil at optimum timing and can eventually save consumption of cylinder oil by about 30% compared with a conventional mechanical lubricating system. This high-performance lubricating system can easily be installed on existing engines. When the system is installed on the 10K90MC engine, the initial investment cost will be repaid in

about 2 years, thus reducing the operational cost of the ship.

MES has obtained orders for about 40 units, of which seven are already installed on ships. MES has a worldwide service network for Alpha Lubricating System in close cooperation with MAN B&W to offer quick service all over the world.



Alpha lubricating system (main unit)

Sanoyas completes Panamax bulk carrier *Orange Tiara*

Sanoyas Hishino Meisho Corp. has completed the Panamax bulk carrier, *Orange Tiara* (HN: 1202), which was ordered by Handbell Shipping S. A. and delivered to Esmeralda Lines, S.A., at the Mizushima Works and shipyard.

The carrier is the 12th Sanoyas 75,000DWT type Panamax bulker with the maximum beam permitted to pass through the Panama Canal. The cargo space is divided into seven cargo holds with topside tanks and hopper bottoms. Hydraulic, motor-driven, side-rolling hatch covers are used, and hatch openings are maximized to facilitate cargo handling.

The main engine is a low-speed, super long-stroke, two cycle diesel engine, which is combined with a large diameter propeller to achieve efficient operation with low fuel consumption. The *Orange Tiara* is a highly economical Panamax bulker with the largest deadweight available and excellent propulsion performance.

Principal particulars

L (o.a.) x B x D x d: 225.00m x 32.26m x 19.30m x 13.994m
DWT/GT: 75,846mt/38,871t



Main engine: MAN-B&W 7S50MC-C
diesel x 1 unit
MCR: 12,200ps
Cargo capacity (grain): 89,250m³

Speed, service: 14.5kt
Classification: NK
Complement: 25

New automatization component for container cranes developed

—Target Scanning System (TSS)—

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) has developed a Target Scanning System that is a component technology to automate onshore operation of container cranes. It has been proved that the system is effective to detect targets and facilitate crane operation, reducing the load on the operator¹.

TSS can scan objects three-dimensionally by sensors with laser beams. Position and attitude of objects (chassis, containers, AGVs, etc.) are detected to permit automatic operation of the crane. This system can be used for semiautomatic manned operation as a guidance system to position the crane spreader right over a chassis.

Main features:

The scanning sensor consists of a laser range finders, two-axis mov-

able mirrors, and control units. Scanning is achieved by revolving laser beams that target containers, chassis, and AGVs. Three-dimensional appearance of the object is obtained, and based on this information, distance and posture of the target are computed as output data.

The system is not affected by rain due to the ingenious data processing procedure. When using TSS, crane operation on the shore can be automatically achieved, leaving the operator cabin suspended over the ship. This reduces fatigue of the operator, facilitating container handling. When TSS is used as the guidance system to set the position of the crane spreader over chassis in semi-automatic operation on the shore, the time required for positioning is shortened.



To our readers

- Please notify us of any change in address by letter or telefax together with the old mailing label to ensure you continue to receive SEA-Japan.
- We welcome your comments about SEA-Japan. Please address all correspondence to the Japan Ship Exporters' Association (JSEA), or the Japan Ship Centre in London.
- Address (Tokyo): 15-16, Toranomon 1-chome, Minato-ku, Tokyo 105-0001 / Tel: (03) 3508-9661 Fax: (03) 3508-2058 E-mail: postmaster@jsea.or.jp
- Address (London): Ground Floor, 9 Marshalsea Road, London SE1 1EP, UK / Tel: + 44 (0) 20 7403 1666 / Fax: + 44 (0) 20 7403 1777 E-mail: info@jsc.org.uk URL: <http://www.jsc.org.uk>

Koho I

Owner: Nestor Lines S.A.
Builder: IHI Marine United Inc.
Hull No.: 3160
Ship Type: Oil Tanker
L(o.a.) x B x D x d: 333m x 60.00m x 29.50m x 21.428m (ext.)
DWT/GT: 301,045mt/154,260t
Main Engine: DU-Sulzer 7RTA84T
Speed, service: 16.15kt
Classification: NK
Completion: November 21, 2002

**Althea Gas**

Owner: I. S. Carriers S. A.
Builder: Kawasaki Shipbuilding Corporation
Hull No.: 1515
Ship Type: LPG carrier
L(o.a.) x L (b.p.) x B x D x d: 227.00m x 216.62m x 36.00m x 21.90m x 11.60m
DWT/GT: 53,677t/46,393t
Cargo hold capacity: 82,488m³
Main Engine: Kawasaki MAN B&W 5S70MC MkVI diesel x 1 unit
Speed, service: 17.0kt
Classification: ABS
Completion: Jan. 27, 2003

**GALLINA**

Owner: Shell Bermuda (Overseas) Limited
Builder: Mitsubishi Heavy Industries, Ltd.
Hull No.: 2173
Ship Type: LNG Carrier
L(o.a.) x L (b.p.) x B x D x d: 290.00m x 46.00m x 25.50m x 11.00m
DWT/GT: 68,696t / 111,459t
Main Engine: Mitsubishi MS32-2
Speed, service: 19.0kt
Classification: LRS
Completion: Dec. 27, 2002

Peneda

Owner: Peneda Shipping Company Sociedade Portuguesa de Navios Tangues, S. A.
Builder: Sumitomo Heavy Industries, Ltd.
Hull No.: 1289
Ship Type: Aframax tanker
L(o.a.) x L (b.p.) x B x D x d: 239.00m x 229.00m x 42.00m x 21.30m x 12.19m
DWT/GT: 105,538t/56,255t
Main Engine: DU-Sulzer 6RTA58T diesel x 1 unit
Speed, service: abt. 14.95kt
Classification: DNV
Completion: Oct. 31, 2002

Front Page

Owner: Front Saga Inc.
Builder: Universal Shipbuilding Corp.
Hull No.: 4980
Ship Type: Double-hull VLCC
L(o.a.) x B x D x d: 329.99m x 60.00m x 29.70m x 21.50m
DWT/GT: 299,164t/156,916t
Main Engine: Hitachi Zosen MAN B&W 7S80MC diesel x 1 unit
Speed, service: 16.2kt
Classification: ABS
Completion: Sept. 30, 2002

**Balder**

Owner: Klaveness Shipping AS
Builder: Oshima Shipbuilding Co., Ltd.
Hull No.: 10302
Ship Type: Self-unloading, double-hull bulk carrier
L(o.a.) x B x D x d: 189.99m x 32.26m x 16.67m x 11.724m
DWT/GT: 30,739t/48,184t
Main Engine: Kawasaki MAN B&W 6S50MC-C diesel x 1 unit
Speed, service: 14.5kt
Classification: DNV
Completion: May 13, 2002

