

Season's Greetings

T. Okano

Toshimichi Okano
President



For further information please contact:

Website: <http://www.jsea.or.jp>

JAPAN SHIP EXPORTERS' ASSOCIATION

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

Hitachi Zosen completes most advanced marine diesel engine

—First MAN B&W ME-C engine in Japan—

Hitachi Zosen Corporation completed on Dec. 18, 2003 the most advanced electronically controlled marine diesel engine, HITACHI MAN B&W 6S50ME-C type, 9,480kW, the first built in Japan, for delivery to Naikai Zosen Corporation. The engine was displayed at Hitachi Zosen Diesel and Engineering Corporation (HZ D&E), an affiliate company of Hitachi

Zosen located in Kumamoto Pref., on the same day.

The MAN B&W ME-C Type is a next generation marine engine: emission and consumption of fuel and lube oil have been improved further, upgrading the total performance of the engine. Both economical engine operation and environmental preservation can be achieved.

the intelligent engine project of the company in 1991.

Features of the new engine

- Fuel injection and exhaust timing are variable. NO_x reduction and less emission of soot and dust are possible.
- Superior operability of engine is available in acceleration, astern and crash stop.
- High injection pressure is available at low load. Thus low load performance is improved.
- Exact timing control system levels thermal load, and permits extension of combustion components overhaul interval.
- Minimum rpm can be decreased to 11% of MCR for stable operation.
- Maintenance is easy since mechanical parts for controlling fuel injection and exhaust valves have replaced the electronic control system.

The new engine will comply with IMO requirements for reduction of NO_x emission to preserve the environment together with energy-saving requirements.



MAN B&W 6S50ME-C on the shop floor

Hitachi Zosen has manufactured MAN B&W diesel engines under license from MAN B&W Diesel A/S. HZ D&E manufactured the new engine with technical guidance from MAN B&W. MAN B&W started development on the electronic control diesel engine in 1987, followed by

MES marine diesel engine for next generation

Low fuel consumption, low exhaust gas emission

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) has received an order for the first electronically-controlled low speed diesel engine from Tsuneishi Corporation. The engine is the Mitsui-MAN B&W 7S50ME-C type to be mounted on a Panamax bulk carrier to be constructed at Tsuneishi.

The MES Tamano Works will build the engine and conduct shop tests in February 2004. Then the engine will be mounted on the bulk carrier in March 2004. The carrier will enter services in June of the same year.

The advantages of ME engine come from the fact that the operational control of fuel injection and exhaust valve activation is optimal at all steady and transient loads, thus giving lower part load fuel oil consumption, lower emissions and particularly smoother and better low load operation.

The conventional low-speed diesel engines have very limited flexibility in this fuel injection and exhaust valve activation.

The new electronic control diesel engine can reduce NO_x emission by 20% or more of the emission control value provided by the Annex VI of the IMO MAROPOL 73/78. The engine will also comply with strict requirements for the environment protection in the future.

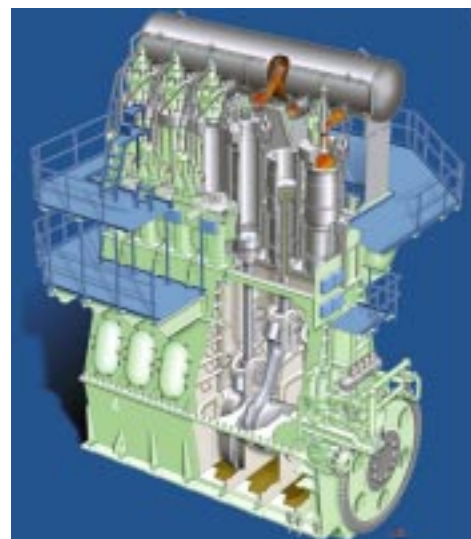
Mitsui-MAN B&W 7S50ME-C:

Output: 11,060kW (15,050ps)

Engine speed: 127rpm

No. of Cylinders: 7

Piston diameter: 500mm



Kawasaki's first three electronically-controlled diesels to be installed on PCCs

Kawasaki Heavy Industries, Ltd. (Kawasaki) has started production of three electronically controlled diesel engines, which have newly been developed by MAN B&W. These engines will be installed on car carriers with a capacity of 5,000 cars that will be built by Kawasaki Shipbuilding Corporation at Nantong COSCO KHI Ship Engineering Co., Ltd. of China and will be delivered to Kawasaki Kisen Kaisha, Ltd.

This new electronically controlled diesel engine has been developed based on the MAN B&W MC model, which is highly reliable and one of the best selling large marine diesel engines. This engine enables operation at lower fuel oil and cylinder lube oil consumption. Engine operation is stable even at a very low speed, and thus ship maneuverability has been improved. As a whole, the engine is environmentally friendly.

The exhaust valve (opening and closing) and fuel injection, which had



previously been regulated by driving mechanisms based on chain and cam shaft rotation, are controlled by high speed magnetic valves via high pressure hydraulic oil. Optimal operation control can be achieved by adjusting the timing of the exhaust valve opening and closing and the fuel injection in order to reduce fuel oil consumption, NO_x emission, etc. The electroni-

cally controlled system is applied also to the cylinder lube oil system and engine starting-up system.

Moreover, the electronically controlled system has been highly evaluated as an effective measure for environmental protection since it is useful to reduce NO_x, dust and soot in the exhaust gas.

Kawasaki has a long relationship with MAN B&W. Kawasaki concluded a license agreement with MAN for the MAN diesel engine in 1929, and renewed the agreement with MAN B&W in 1981 when MAN and B&W merged. Kawasaki has built many MAN B&W diesel engines for marine and land use.

Specifications of electronically controlled diesel engines

Model: Kawasaki-MAN B&W 7S60ME-C

Output: 12,500kW

Engine speed: 99rpm

Cylinder diameter: 600mm

MES completes bulk carrier, *Maroudio*

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) has completed the 56,000DWT bulk carrier, *Maroudio* (HN: 1573), for Appleton Shipping Ltd. of Liberia at the Tamano Works.

The vessel is the third of the 56,000DWT type bulk carrier series developed by MES as the successor to the 50,000DWT type series. The design has a larger capacity compared with the conventional Handymax bulk carrier. The cargo capacity is about 70,800m³.

Five cargo holds and four deck cranes are provided, and the hatch covers are larger for efficient cargo handling. The main engine is the light-weight/compact/high output type, Mitsui-MAN B&W 6S50MCC diesel.

Principal particulars

Length (o.a.):	189.99m
Length (b.p.):	182.00m
Breadth (mld.):	32.26m

Depth (mld.):	17.90m	MCR:	9,480KW x 127.0rpm
Draft (mld.):	12.55m	Speed, service:	14.5kt
GT:	31,269t	Complement:	24
DWT:	56,020mt	Classification:	LR
Main engine:	Mitsui-MAN B&W 6S50MCC diesel x 1 unit	Completion:	Oct. 23, 2003



MHI completes 137,006m³ Moss type LNG carrier *Pacific Notus*

Mitsubishi Heavy Industries, Ltd. (MHI) completed construction of the *Pacific Notus* (HN: 2176), a Moss type LNG carrier with a tank capacity of 137,006m³ and delivered the vessel to Pacific LNG Shipping Limited at the Nagasaki Shipyard & Machinery Works on Sept. 30, 2003.

The ship is designed to be compatible with Japanese, Korea and Taiwan unloading terminals as well as Australian, South East and Middle East loading terminals.

Main features are as follows.

- A stern tunnel fin is adopted in order to improve propulsive performance, and high propulsive performance and good maneuverability with less vibration are achieved by the refined hull form and optimum design of the propeller.
- No peak ballast tanks and only aft fuel oil tanks are arranged for less maintenance, and also double side fuel oil tanks are adopted for the purpose of environmental protection.

- Design fatigue life of 40 years based on North Atlantic wave data is applied for essential areas of hull structure and cargo tanks.

- Distributed control system is provided to carry out the monitoring and control of the principal machinery and equipment of the engine and cargo handling from the centralized control room. Automatic ballast exchange system is applied for efficient and less operation work for periodical ballast exchange at sea.
- Helicopter deck is adopted above the aft mooring deck for pilot boarding in Australian terminals.

Principal particulars of the *Pacific Notus*

Length (o.a.): 293.55m (including he-



	licopter deck)
Length (b.p.):	276.0m
Breadth:	46.0m
Depth:	25.5m
Design draft:	11.0m
Gross tonnage:	111,553
Cargo tank capacity:	137,006m ³
Main engine:	Mitsubishi Marine Steam Turbine MS32-2
Output:	21,320kW x 81rpm
Service speed:	19.2kt
Classification:	NK

MES completes 1st new type Aframax tanker, *Mare Salernum*

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) delivered the 110,000DWT double hull tanker, *Mare Salernum* (HN: 1567), to Fratelli d'Amico Armatori S.p.A. of Italy at its Tamano Works on Oct. 15, 2003. The vessel is the first Aframax tanker using a newly developed design with 42m beam, and has a total cargo hold capacity of 128,000m³ and deadweight of 110,500 tons.



The latest bulbous bow and stern shape are employed for greatly improved propulsion performance as an Aframax tanker.

The vessel can load three types of oils simultaneously. Three cargo oil pumps with an automatic loading system are provided for efficient cargo handling. Two ballast pumps efficiently achieve ballast water handling. For ship safety, the vessel has obtained the RINA's *Notation* COVENT, ensuring ventilation in the ballast tanks in case of accidental oil leakage.

Adoption of two global positioning systems (GPS) ensures safe ship operation based on the satellite navi-

gation method. The electronic chart display and information system (ECDIS), automatic ship identification system (AIS), and voyage data recorder (VDR) for navigation are also installed for safe navigation.

Principal particulars

Length (o.a.):	245.50m
Length (b.p.):	234.00m
Breadth (mld.):	42.00m
Depth (mld.):	21.50m
Draft (mld.):	14.95m
GT:	59,700t
DWT:	110,500t
Cargo tank capacity:	128,000m ³ (100%)
Main engine:	Mitsui-MAN B&W 7S60MC diesel x 1 unit
MCR:	14,280kW x 105rpm
Speed, service:	14.9kt
Complement:	30
Classification:	RINA/LR

SHI-ME delivers 105,000MTDW D/H product tanker to Unique Shipping

Sumitomo Heavy Industries Marine & Engineering Co., Ltd. (SHI-ME) delivered a 105,000MTDW double-hull Aframax clean product carrier, *Unique Privilege*, to Unique Shipping (H. K.) Limited, at the SHI-ME Yokosuka Shipyard on Nov. 4, 2003.

The vessel is designed to carry clean petroleum products such as naphtha, jet fuel, gasoline, diesel oil, fuel oil and gas oil.

The hull form is optimized to achieve high propulsive efficiency and is designed with highly reliable structures. The Sumitomo Stern System (SILD, NBS propeller and HLES Rudder) saves fuel consumption and improves maneuverability.

Cargo oil tanks and piping systems are arranged in triple-segregation groups for flexible cargo handling, and

the cargo oil tank painting system and materials are designed for carrying clean product oil and crude oil. Water ballast tanks are also coated with modified epoxy coating with backup anodes for easy maintenance and inspection.

The vapor emission control system (VECS) is installed, complying with the US Coast Guard requirements to prevent air pollution during cargo handling. For ship safety, a fixed flammable gas detection system is provided in water ballast tanks adjacent to cargo oil tanks.

Principal particulars
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: 105,400t/56,285t
Loading capacity: 122,330m³
Main engine: DU-Sulzer 6RTA58T diesel x 1 unit
Speed, service: 15.2kt at 12.19 draft
Complement: 33
Classification: NK
Completion: Nov. 4, 2003



Sanoyas completes 3rd Aframax tanker *Fucsia*

Sanoyas Hishino Meisho Corp. has completed the Aframax crude oil carrier (115,000DWT), *Fucsia* (HN: 1209), for San Mark Shipping Corp. at the Mizushima Works and Shipyard.

The beam of the carrier is 44m, 2m wider than the predecessor, and the shallow draught is employed. Moreover, the deadweight tonnage and cargo tank capacity are maximized and improved propulsion efficiency achieves less fuel consumption.

Six pairs of cargo oil tanks and two slop tanks are arranged along the centerline. The living quarters and engine room are located in the aft sec-

tion. Double hull structure is adopted for the ship sides and bottom at the cargo tank section, and ballast tanks are provided between the inner and outer shells. Mild steel is positively adopted for the hull structure to increase reliability against corrosion damage.

The cargo oil handling system consists of three cargo oil pumps and three independent cargo oil pipes, permitting handling of three types of cargo oils simultaneously.

Smooth and easy cargo oil handling opera-

tion is remotely controlled at the cargo control room. Precision electric liquid level meters are installed for cargo oil tanks.

Principal particulars
L (o.a.) x L (b.p.) x B x D x d: 249.00m x 238.00m x 44.00m x 21.20m x 14.825m
DWT/GT: 115,482mt/61,991t
Cargo tank capacity: 131,617m³
Main engine: MAN B&W 6S60MC-C diesel x 1 unit
MCR: 18,420ps
Speed, service: about 14.7kt
Classification: ABS
Complement: 28



JSEA opens website

Japan Ship Exporters' Association (JSEA) welcomes readers to our website that has just opened.

Website: <http://www.jsea.or.jp/>

Japan Ship Exporters' Association (JSEA)
The Japan Ship Exporters' Association (JSEA) is an organization to promote the export of ships and ship equipment.

JSEA

Head Office
Kajima Building, 18-20, Takasawa, Lichino, Minami-ku, Tokyo 220-0022, Japan
Tel: +81 3 3502 2294
Fax: +81 3 3502 2295

Deputies of Hon.
Japan Ship Centre (JSC)
Ground Floor, 2 Marshfield Row, London SE1 1FF, UK
Tel: +44 20 7473 2181

Rokkosan

Owner: Carol Shipping Navigation S.A.

Builder: Universal Shipbuilding Corporation

Hull No.: 230

Ship type: VLCC

L (o.a.) x B x D x d: 333.00m x 60.00m x 29.60m x 20.865m

DWT/GT: 300,257t/160,066t

Main engine: DU Sulzer 7RTA 84T-B x 1 unit

Speed, service: 16.1kt

Classification: NK

Completion: Oct. 28, 2003



(Mark VI) diesel x 1 unit

Speed: 16.85kt

Classification: ABS

Completion: Nov. 19, 2003

Martorell

Owner: New Auto Carrier S. A.

Builder: Toyohashi Shipbuilding Co., Ltd.

Hull No.: 3561

Ship type: Car carrier

L (o.a.) x B x D x d: 199.54m x 32.26m x 33.81m x 9.725m (ext.)

DWT/GT: 19,531t/57,789t

Carrying Capacity: 5,342 cars & trucks

Main engine: Kobe Diesel Mitsub-

Classification: NK

Completion: Oct. 10, 2003

MOL Endurance

Owner: Lunar River Line S.A.

Builder: IHI Marine United Inc.

Hull No.: 3165

Ship Type: Container ship



L(o.a.) x B x D x d: 294.13m x 32.26m x 19.03m x 13.54m

DWT/GT: 61,441t/53,096t

Main Engine: DU SULZER 9RTA96C diesel x 1 unit

Container carrying capacity: 4,500TEUs

Speed, service: 24.5kt

Classification: NK

Completion: Sept. 23, 2003

Kinko Maru

Owner: Daiichi Chuo Kisen Kaisha

Builder: Namura Shipbuilding Co., Ltd.

Hull No.: 240

Ship type: Tanker

L (o.a.) x B x D x d: 241.03m x 42.00m x 21.20m x 14.923m

DWT/GT: abt. 105,433t/56,659t

Main engine: B&W 6S60MC diesel x 1 unit

Classification: NK

Completion: Oct. 28, 2003



ishi 8UEC60LS x 1 unit

Speed (max. trial): 21.95kt

Classification: NK

Completion: Sept. 24, 2003

Global Galaxy

Owner: Global Bulkship S. A.

Builder: Oshima Shipbuilding Co., Ltd.

Hull No.: 10351

Ship type: Bulk carrier

L (o.a.) x B x D x d: 189.00m x 32.26m x 17.15m x 12.14m

DWT/GT: 53,020t/29,353t

Main engine: Mitsubishi 6UEC50LS II x 1 unit

Speed, trial max.: 14.5kt



Aquaglorry

Owner: Delfini Naviera S. A.

Builder: Sasebo Heavy Industries Co., Ltd.

Hull No.: 490

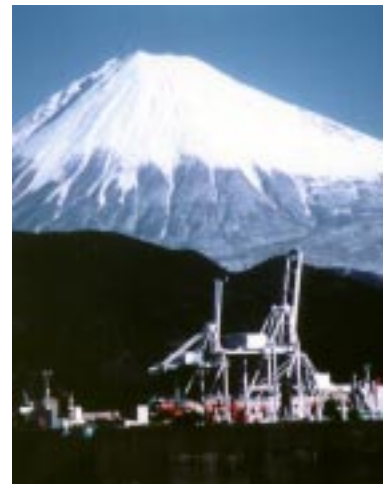
Ship type: Bulk Carrier

L x B x D x d: 289m x 44.98m x 24.40m x 17.95m

DWT/GT: 171,015t/87,597t

Main engine: Mitsui B&W 6S70MC

Cover photo: Port of Shimizu



The Port of Shimizu was designated an open port in 1899 although the port dates to the 7th century A.D. The first shipment of 200 boxes of mandarin oranges to America was conducted in 1904. In 1999, the port celebrated the great milestone of 100 years since its opening. Today the port is busy with visits of small or medium size container ships.

(photo by courtesy of Shimizu Port Administration Bureau, Shizuoka Prefectural Government)