



Japan Ship Machinery and Equipment Association

Jsmea News

JSMEA to enhance PR activities in Asian markets - Making 1st presence at Sea Asia 2017 -

Japan Ship Machinery and Equipment Association (JSMEA) will enhance its promotion activities in Asian markets. Together with The Cooperative Association of Japan Shipbuilders (CAJS), to this end, it will attend Sea Asia 2017 to be held in Singapore in April this year, and run a Japan pavilion for the first time.

While in Singapore for Sea Asia 2017, JSMEA and CAJS will also be organizing a joint seminar, to allow Japanese shipbuilding companies and ship machinery and equipment manufacturers to unveil vessels of high technologies complying with the latest international rules and regulations. They will also introduce energy-saving and eco-friendly machinery and equipment that are expected to be used for such ships. After the seminar, the partners will hold a networking reception to deepen the friendship between Japanese shipbuilders and ship machinery and equipment makers and parties that are concerned with maritime affairs from Singapore, which is a world-renowned center of the maritime industry.



JSMEA hopes that it will meet not only locals engaged in maritime affairs, but also many others at Sea Asia 2017.

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Japanese Ship Building & Ship Machinery Seminar at Sea Asia 2017
 Organizers: JSMEA and The CAJS
 Time and date: Wednesday, April 26, 2017 (seminar at 13:15 to 17:30 and networking reception at 17:30 to 19:00)
 Venue: Room on the third floor of Marine Bay Sands

Please register online at:
<http://www.jsmea.or.jp/en/seminar/singapore/>

Japan pavilion exhibitors at Sea Asia 2017

From JSMEA

Akasaka Diesels Limited
Daihatsu Diesel Mfg. Co., Ltd.
Kamome Propeller Co., Ltd.
Manabe Zoki Co., Ltd.
MOL Techno-Trade, Ltd.
Nakashima Propeller Co., Ltd.
Naniwa Pump Mfg. Co., Ltd.
Niigata Power Systems Co., Ltd.
Shinko Ind. Ltd.
Sunflame Co., Ltd.
Taiko Kikai Industries Co., Ltd.
Teikoku Machinery Works, Ltd.
Volcano Co., Ltd.
Yanmar Co., Ltd.

JSMEA makes presence at SMM Hamburg 2016

Japan Ship Machinery and Equipment Association (JSMEA) made its presence at SMM Hamburg 2016 on Sept. 6-9 in Hamburg, Germany. With financial support from The Nippon Foundation, JSMEA was joined by 26 member companies at the four-day (Tuesday through Friday) international exhibition.

JSMEA held an opening reception from 19:00 on Monday, Sept. 5, the eve of the start of SMM Hamburg 2016. At the beginning of the "Japan Night" party, a traditional Japanese ceremony (kagamiwari) was performed, at which the lids of wooden sake casks were broken open with wooden mallets. During the ceremony, the JSMEA members prayed for the strengthening of relations between the Japanese ship machinery and equipment industry and maritime related parties in Europe. At the reception, more than 120 attendees, who included representatives from the 26 JSMEA-affiliated enterprises, German ship owners and other parties from neighboring countries, conducted

successful interchanges.

When SMM Hamburg 2016 rang up the curtain on Tuesday, Sept. 6, JSMEA, which occupied an area of 405 square meters in Hall B7, encouraged its 26 companions to unveil for visitors their respective new products, technologies and other features. It promoted other member companies as well by distributing catalogs of energy-saving, eco-friendly and other products they manufacture and other publications.

While SMM Hamburg 2016 was in session, JSMEA strived to build up relations with local parties. For example, JSMEA executives visited the booth of the German Shipbuilding and Ocean Industries Association (VSM). In return, Mr. Takao Anzawa, Japan's consul general in Hamburg, paid a courtesy visit to the booths of the exhibitors from Japan.

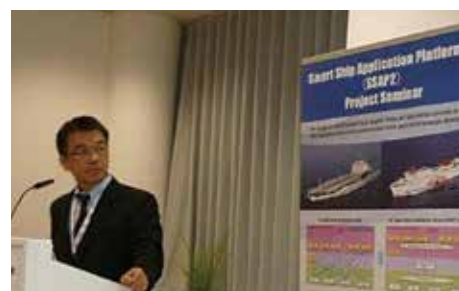
At 10:00 on Thursday, Sept. 8, JSMEA's Smart Ship Application Platform 2 Project (SSAP2) revealed

JSMEA pays visit to Japanese Consulate General in Hamburg



Mr. Masaharu Ono, vice-chairman of JSMEA (far left); Mr. Takao Anzawa, consul general of Japan in Hamburg (second from left); and Mr. Shoichi Kitamura, executive managing director of JSMEA (third from left)

JSMEA holds SSAP2 seminar



Dr. Hideyuki Ando gives a presentation.

Kagamiwari performed at Japan Night reception



From left: Mr. Masaharu Ono, vice-chairman, JSMEA; Ms. Yuri Suzuki, vice-consul, Consulate General of Japan in Hamburg; Mr. Koichi Fujiwara, representative director, chairman and president, Nippon Kaiji Kyokai (ClassNK); Mr. Motoyoshi Nakashima, chairman, JSMEA; Mr. Greg Trauthwein, associated publisher, Maritime Reporter and Engineering News; Mr. Matthias Hubner, head of fleet procurement, Oldendorff Carriers GmbH & Co., KG; Ms. Ulla Lainio, leading advisor, Finpro; and Mr. Shinzo Yamada, vice-chairman, JSMEA



study results at a seminar room in the SMM Hamburg 2016 venue. During the seminar, which was attended by more than 90 people, Dr. Hideyuki Ando, senior general manager of Mohohakobi Technology Institute (MTI) and leader of the project, delivered a presentation on the recent efforts that it has made to obtain a certificate from the International Organization for Standardization (ISO). A question and answer period was held after the presentation.

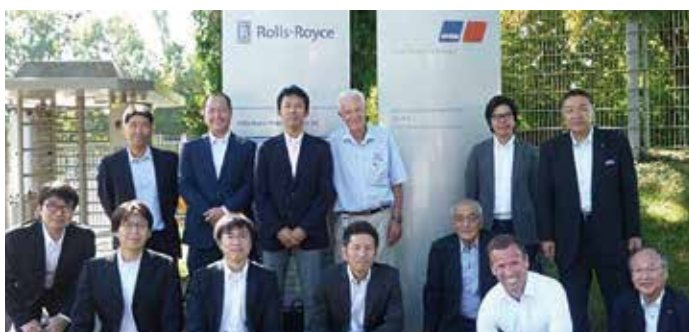
Accompanied by six employees from affiliated firms, JSMEA received a warm welcome at MTU Friedrichshafen, a local engine maker, the following Monday, Sept. 12. The delegation visited manufacturing facilities after hearing a lecture on an outline of the company that included its history. The six delegation members asked MTU staff members many questions during what was deemed a very meaningful opportunity.

At SMM Hamburg 2016, the Japan pavilion boasted more members than at the previous SMM Hamburg exhibition, at which there were 20 companies. JSMEA vowed to continue to work hard to foster more developments in the relations between its member companies and government bodies and organizations in Europe that are engaged in maritime affairs. To this end, it intends to actively promote its members by participating in international maritime trade fairs and other events.

JSMEA makes call at VSM



JSMEA delegation visits MTU Friedrichshafen



Japan pavilion organized during SMM Hamburg 2016



Outline of SMM Hamburg 2016

Dates: Tuesday-Friday, Sept. 6-9, 2016

Venue: Hamburg Messe und Congress

Outline of JSMEA mission

Those with exhibitions (23 members): Akasaka Diesels Ltd.; Azuma Kako Co., Ltd.; Daihatsu Diesel Mfg. Co., Ltd.; Fuji Trading Co., Ltd.; Hisaka Works., Ltd; Hitachi Zosen Corporation; HSK-Kikai Kogyo Co., Ltd.; Ibuki Kogyo Co., Ltd.; JFE Engineering Corporation; Kawasaki Heavy Industries, Ltd.; Mitsubishi Kakoki Kaisha, Ltd.; Musasino Co., Ltd.; Nabtesco Corporation; Naniwa Pump Mfg. Co., Ltd.; NICO Precision Co., Inc.; Nishishiba Electric Co., Ltd.; Riken Corporation; Sunflame Co., Ltd.; Taiyo Electric Co., Ltd.; Tanabe Pneumatic Machinery Co., Ltd.; Uzushio Electric Co., Ltd.; Volcano Co., Ltd.; and Yanmar Co., Ltd.

Those displaying panels (3 members): Nitto Kako Co., Ltd.; Shinko Ind. Ltd.; and Tobu Jukogyo Co., Ltd.

Outline of Japan Night reception

Time and date: 19:00-21:00, Monday, Sept. 5, 2016

Venue: InterCityHotel Hamburg Dammtor-Messe

Number of attendees: 124

Outline of SSAP2 seminar

Title: Ship Application Platform 2 Project Seminar

Presenter: Dr. Hideyuki Ando, MTI

Time and date: 10:00-10:45, Thursday, Sept. 8, 2016

Venue: Room St. Petersburg, 2nd floor, Hall A4, Hamburg Messe und Congress

Number of attendees: 94

JSMEA participates in Rio Oil & Gas 2016, MEF Engineering Technical Seminar

Japan Ship Machinery and Equipment Association (JSMEA) made its first presence at the Rio Oil & Gas 2016 exhibition. With financial support from The Nippon Foundation, JSMEA, which had participated in Marintec South America until 2015, took four member companies to the international exhibition, which was held in Rio de Janeiro, Brazil on Oct. 24-27, 2016.

Rio Oil & Gas had been organized extensively, using a total of four exhibition halls in the last several years. In 2016, however, it was scaled down to three halls, taking into account recent adverse developments in the offshore oil and gas development market.

Although slightly more compact, the Rio Oil & Gas 2016 venue hosted many enterprises from a wide variety of business fields, such as upstream offshore oil and gas developers (e.g., Petróleo Brasileiro S.A., or Petrobras and Royal Dutch Shell plc.), engineering companies (e.g., Technip S.A. and GustoMSC B.V.) and suppliers (e.g., Siemens AG, General Electric Co., or GE and Wärtsilä Oyj Abp). In addition, Argentina, China, France, Germany, Israel, Italy, Japan, Norway and the U.K. ran national pavilions, respectively, helping the event attract many visitors.

The Japan pavilion distributed copies of the catalog of products for offshore development, which had been produced by JSMEA, and other printed material on products and services, which were nearly depleted by visitors.

While in Brazil for the Rio and Oil & Gas 2016 trade fair, JSMEA sent a delegation for sideline activities listed below in the first three date headings. Mr. Masaharu Ono, vice-chairman of JSMEA and chairman of Fuji Trading Co., Ltd., led representatives from three affiliated companies to gather up-to-date local information and exchange views with relevant firms and other parties. Leaving Brazil, the delegation then flew to Dubai, the United Arab Emirates (UAE) for the project detailed below on the date listed in No. 4.

JSMEA holds meeting with Brazilian enterprises engaged in offshore, other maritime affairs



- Members of Brazil team:**
- 1) Mr. Agenor Leite, SOBENA
 - 2) Mr. Flavio de Castro Gambina, executive manager, Transpetro
 - 3) Mr. Daniel Anderson Xavier, Transpetro
 - 4) Mr. Marcelo Macedo, general manager, ANP
 - 5) Mr. Tomazo Galzia Netto, president, Projemar
 - 6) Mr. Marco Aurelio A. Barros, director, Projemar
- Members of JSMEA mission:**
- 1) Mr. Masaharu Ono, vice-chairman, JSMEA
 - 2) Mr. Shigeharu Oda, leader, Offshore Committee, JSMEA
 - 3) Mr. Noboru Ando, managing director, JSMEA
 - 4) Mr. Yoshinobu Sato, adviser, Fuji Trading
 - 5) Mr. Paul Barton, president, Fuji Metalock Brasil
 - 6) Mr. Fabio Ruiz, general manager, Fuji Metalock Brasil
 - 7) Mr. Masaru Saito, president, JRC do Brasil Empreendimentos Eletrônicos Ltda.
 - 8) Mr. Takeshi (Ken) Seo, Itochu Corp.
 - 9) Mr. Ichiro Fuwa, Yanmar
 - 10) Mr. Shingo Tomomatsu, JSMEA
 - 11) Mr. Hiroshi Ishida, JSMEA

1) Monday, Oct. 24: the JSMEA delegation held a meeting with public and private organizations from Brazil that are engaged in offshore and other maritime affairs.

Organizations from Brazil: National Agency of Petroleum, Natural Gas and Biofuels (ANP); Brazilian Society of Naval Architects and Marine Engineers (SOBENA); ship owner Petrobras Transporte S.A. (Transpetro) and engineering company Projemar S.A.

Members of JSMEA delegation: Mr. Masaharu Ono; Mr. Shigeharu Oda, leader of JSMEA's Offshore Committee; Mr. Noboru Ando, managing director of JSMEA; and executives from Fuji Trading, Japan Radio Co., Ltd. (JRC) and Yanmar Co., Ltd.

2) Wednesday, Oct. 26: the JSMEA delegation paid a courtesy visit to the National Association of Naval and Offshore Construction and Repair Industry (SINAVAL).

3) Friday, Oct. 28: the JSMEA delegation inspected manufacturing facilities at the head office of Fuji Metalock Brasil S.A., the Brazilian affiliate of Fuji Trading, and exchanged opinions with staff members of Fuji Metalock Brasil as well as the Brazilian business footholds of SBM Offshore N.V. and MODEC, Inc.

4) Monday, Oct. 31: the JSMEA delegation participated in the MEF Engineering Technical Seminar in Dubai, the UAE, which was organized by Middle East Fuji L.L.C., the Omani subsidiary of Fuji Trading.

JSMEA plans to report the information and other achievements from the activities listed above when its Offshore Committee, International Exhibition Working Group and other in-house units convene meetings, hoping that they will be reflected in future projects.

Outline of the JSMEA participation in Rio Oil & Gas 2016

- 1) **Dates:** Monday to Thursday, Oct. 24-27, 2016
- 2) **Venue:** Rio Centro Business Convention Centre
- 3) **Number of attending JSMEA members:** four—JRC and Yanmar had booths to promote their respective products and services, while Fuji Trading and Ushio Reinetsu Co., Ltd. displayed panels.

JSMEA exchanges opinions with SBM Offshore in Santos



Mr. Youichiro Masuda, operation engineer (third from left) and Mr. Kenji Hayashida, technical superintendent, FPSO Cidade de Paraty (fourth from left)

JSMEA exchanges views with MODEC in Santos



Mr. Tomoya Tsuji, project manager (second from left, back row) and Mr. Keigo Kurita, asset management coordinator (third from left, back row)

JSMEA attends International WorkBoat Show 2016

Japan Ship Machinery and Equipment Association (JSMEA) attended the International WorkBoat Show 2016—held in New Orleans Nov. 30-Dec. 2, 2016—along with two member companies.

Ship engine makers, navigational equipment manufacturers and other enterprises from Japan, which include JSMEA members, had attended on their own the international exhibition of workboats deployed in river and offshore oil development as well as for other purposes. In 2015, JSMEA made its first presence at the International WorkBoat Show, and again last year, to stay abreast of the rising interest in the workboat market among member companies.

While at the International WorkBoat Show 2016, JSMEA promoted its members by distributing among visitors catalogs of products for the offshore support vessel (OSV) market and of eco-friendly

products they manufacture as well as other publications. On Dec. 2, Mr. Shinzo Yamada—vice-chairman of JSMEA and president of Taiyo Electric Co., Ltd.—led a delegation of executives from four member manufacturers to visit and share views with Conrad Shipyard LLC., a Louisiana-based shipbuilding company producing tugboats, OSVs and other crafts.

JSMEA will report its findings from attending the exhibition and holding discussions with the shipyard at meetings of its Global Strategic Plan Review Board and other relevant in-house units, and to continue to discuss ways to develop the workboat and other global markets.

Outline of JSMEA exhibition

- 1) **Dates:** Wednesday-Friday Nov. 30 - Dec. 2, 2016
- 2) **Venue:** Ernest N. Morial Convention Center
- 3) **Number of exhibitors:** two (Naniwa Pump Mfg. Co., Ltd. and Takashina Life Preservers Co., Ltd.)

JSMEA runs Japan pavilion



JSMEA delegation visits Conrad Shipyard



Mr. Scott J. Theriot, executive vice-president/COO, Conrad Industries, Inc.
 Mr. Cecil A. Hernandez, executive vice-president/CFO/director, Conrad Industries
 Mr. Lee E. Jerry, project engineer/naval architect, Deepwater South, Conrad Shipyard
 Mr. Glenn Conrad, president, Johnny's Propeller Shop, Inc.



JSMEA organizes ship machinery, equipment seminar in Taiwan

Japan Ship Machinery and Equipment Association (JSMEA) held a seminar on Japanese ship machinery and equipment products in Taipei, Taiwan on Thursday, Nov. 17, 2016.

The Japan Ship Machinery and Equipment Seminar in Taiwan was organized to allow ship machinery and equipment manufacturers from Japan to meet with local ship owners, shipbuilders and other parties concerned with maritime affairs and exchange up-to-date information and views. There were more than 240 attendees—96 from Japan and 146 from Taiwan. On behalf of JSMEA, Mr. Motoyoshi Nakashima, chairman (president of Nakashima Propeller Co., Ltd.), Mr. Shinzo Yamada, vice-chairman (president of Taiyo Electric Co., Ltd.), Mr. Masaaki Matsui, vice-chairman (chairman of Matsui Corp.), Mr. Kazuhiko Kinoshita, vice-chairman (president of Hanshin Diesel Works, Ltd.) and Mr. Reijiro Urabe, leader of the Overseas Market Development Working Group (president of Kanagawa Kiki Kogyo Co., Ltd.) were present at the seminar. These JSMEA executives led a delegation of representatives from 35 member companies, which was the largest mission the association had ever formed to give seminars worldwide.

Chairman Nakashima gave an address at the beginning of the seminar. “In Taiwan, the Japanese ship machinery and equipment industry has

maintained long business relations with local ship owners and shipbuilding companies, both of which are important customers,” he said. “Japanese ship machinery and equipment makers have already developed sound relations with Taiwanese customers.” “In recent years, however, there have been no opportunities for Japanese ship machinery and equipment manufacturers to get together with customers in Taiwan to exchange the latest information and opinions,” the JSMEA chairman continued. “As such, we are holding the first seminar in 23 years.”

Following Mr. Nakashima, remarks were made by Mr. Kenneth Lee, chairman of the 21st Committee of Taiwan Maritime Technician Seminar, the association of local ship owners that had made a notable contribution to the convening of the seminar. “A number of Taiwanese ship owners use a lot of Japanese ship machinery and equipment products, regardless of the age of their ships,” he claimed. “I hope this seminar will allow both sides to have technological interchanges and promote improvements in product quality that lead to lowering accident rates and enhancing ship safety. To this end, I would strongly like to have seminars held in Taiwan more frequently.”

After the words of the chairmen, 25 of the attending JSMEA member companies were

JSMEA Chairman Motoyoshi Nakashima gives an opening address.



Chairman Kenneth Lee of the 21st Committee of Taiwan Maritime Technician Seminar also makes opening remarks.



divided into two groups, and lectures were given at two locations to provide up-to-date and other information. Both lectures were well-attended from beginning to end, showing that parties from Taiwan were highly interested in Japanese ship machinery and equipment products. At the same time, all of the 35 members displayed their respective catalogs of products outside the lecture venues. So many visitors took copies that by the time the lectures came to an end, nearly all of the catalogs were gone.

JSMEA gave a reception after the Ship Machinery and Equipment Seminar in Taiwan, where desks were prepared for each of the 35 participants for business negotiations. They held meetings and had lively talks with local ship owners and other parties.

A local business publication in Taiwan, which had already covered stories about the seminar, outlined it on the first page of its trade paper the day after the opening of the event.

Chairman Nakashima (left) presents a commemorative gift to Chairman Lee (right).



JSMEA member companies give presentations.



JSMEA holds a reception where attendees are allowed to hold business negotiations.



Outline of Japanese Ship Machinery and Equipment Seminar in Taiwan

Time and date: Thursday, Nov. 17, 2016 (seminar: 14:00-17:50 and reception: 18:00-20:00)

Venues: Union Room and International Hall on the second floor of Ambassador Hotel Taipei

25 JSMEA members giving presentations:

Akasaka Diesels, Ltd.; Daihatsu Diesel Mfg. Co., Ltd.; Diesel United, Ltd.; Fuji Electric Co., Ltd.; Hanshin Diesel Works, Ltd.; Hien Electric Industries, Ltd.; Hitachi Zosen Corp. (Hitz); JRCS Mfg. Co., Ltd.; Kanagawa Kiki Kogyo Co., Ltd.; Kawasaki Heavy Industries, Ltd. (KHI); KEMEL Co., a division of Eagle Industry Co., Ltd.; Mitsubishi Heavy Industries Marine Machinery and Engine Co., Ltd.; Mitsubishi Kakoki Kaisha, Ltd.; Nabtesco Corp.; Nakashima Propeller Co., Ltd.; Niigata Power Systems Co., Ltd.; Sasakura Engineering Co., Ltd.; Satake Corp. and MOL Techno-Trade, Ltd.; Taiko Kikai Industries Co., Ltd.; Taiyo Electric Co., Ltd.; Takashina Life Preservers Co., Ltd.; Turbo Systems United Co., Ltd. (TSU); Uzushio Electric Co., Ltd. (BEMAC); Volcano Co., Ltd. and Yanmar Co., Ltd.

10 JSMEA members displaying catalogs of products:

Chugoku Marine Paints, Ltd. (CMP); HSN-Kikai Kogyo Co., Ltd.; Mitsui Zosen Machinery and Service, Inc.; Miura Co., Ltd.; Naniwa Pump Mfg. Co., Ltd.; Nippon Paint Marine Coatings Co., Ltd.; SEMCO Co., Ltd.; Shinko Ind. Ltd.; Teikoku Machinery Works, Ltd. and Yamato Metal Co., Ltd.

Catalogs of products manufactured by JSMEA member companies are displayed.



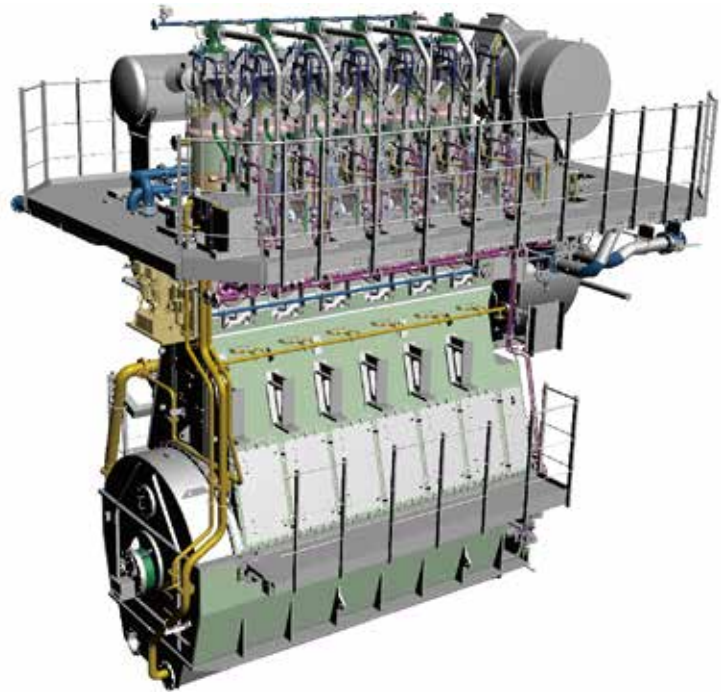
High performance and compact UEC Diesel Engine

UEC33LSE-C2 and UEC35LSE-Eco-B2

Overview

Akasaka Diesels Limited is one of the leading manufactures of main engine for ship propulsion in Japan. Akasaka has been producing own design low speed 4 stroke engine and 2 stroke UEC engine designed by Mitsubishi Heavy Industries Ltd. UEC35LSE was jointly developed by Wartsila Switzerland (now called Winterthur Gas & Diesel) and Mitsubishi incorporating the advantages of both companies. UEC33LSE is super long stroke and wide applicable range engine using the base design of UEC35LSE. Now UEC33LSE-C2 and UEC35LSE-Eco-B2 are the highest performance and compact engines for 13,000 - 20,000DWT class bulk carriers, 12,000 - 15000DWT chemical tankers, LPG, Containers, Cement carriers, Ferry and Ro-Ro.

The following are features of these engines.



UEC33LSE-C2

- Mechanical controlled engine.
- Almost the same SFOC as other electronically controlled engine

UEC35LSE-Eco-B2

- Electronically controlled engine (Eco engine)
- Lowest SFOC in the world

UEC33LSE-C2					UEC35LSE-Eco-B2				
Main data					Main data				
Cylinder bore	330mm				Cylinder bore	350mm			
Piston stroke	1,550mm				Piston stroke	1,550mm			
Stroke/bore	4.70				Stroke/bore	4.43			
Rated Power: Propulsion engines					Rated Power: Propulsion engines				
Speed	167min ⁻¹		121min ⁻¹		Speed	167min ⁻¹		142min ⁻¹	
Piston Speed	8.6m/s		6.3m/s		Piston Speed	8.6m/s		7.3m/s	
Cyl.	P1	P2	P3	P4	Cyl.	P1	P2	P3	P4
	kW					kW			
5	4,150	3,325	3,000	2,400	5	4,350	3,475	3,700	2,950
6	4,980	3,990	3,600	2,880	6	5,220	4,170	4,440	3,540
7	5,810	4,655	4,200	3,360	7	6,090	4,865	5,180	4,130
8	6,640	5,320	4,800	3,840	8	6,960	5,560	5,920	4,720
Specific fuel oil consumption(SFOC)					Specific fuel oil consumption(SFOC)				
	P1	P2	P3	P4		P1	P2	P3	P4
SFOC(g/kWh)	174.0	170.0	173.9	169.9	SFOC(g/kWh)	167.0	161.0	167.0	161.0

AKASAKA DIESEL - MITSUBISHI UE DIESEL ENGINE is licensed products by MITSUBISHI HEAVY INDUSTRIES MARINE MACHINERY & ENGINE CO.,LTD



Energy-Saving & Environmental Technology - Marine Binary Cycle Power Generation System -

Using Binary Cycle Power Generation System to Save Energy from High Loads to Low Loads

Outline

Make electricity energy from (waste) heat of compressed air by turbo charger and wasted hot steam. Power generation system can be operated from high loads to low loads of main engine. Especially during slow steaming, main engine auxiliary blower can be operated with electricity made by this system instead of operation of additional diesel engine generator. Then save engine fuel and reduce heat load of engine cylinders. In addition, it is possible to reduce CO2 emissions, it can contribute for environmental measures.

Features

- High reliable system same system as on shore has a lot of operation experience
- Make electricity from wide range operation include slow steaming
- A few simple maintenance is required because of

reliable and long life system

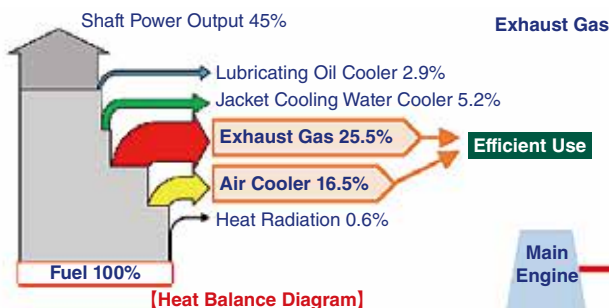
- Safety and reliable system because of almost no impact for existing Vessel system
- Compact system for additional installation on Existing Vessel / Newly-built Vessel and lower cost system with screw turbine

Achievement

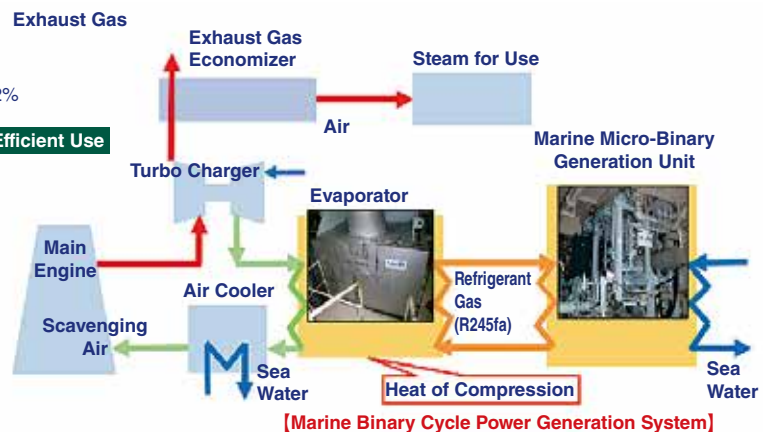
Completed mounting work of the system on the MV ASAHI MARU, which is currently service. Started sea trial on Jun 2016. As a result, confirmed following three points.

- ① Maximum 125kw of generating end output.
- ② Reduces fuel oil consumption about 20~25% per day.
- ③ Reduces 1~2% of CO2 emissions.
- ④ Approved 『ORCWHR-25』 on the environmental guideline of ClassNK.

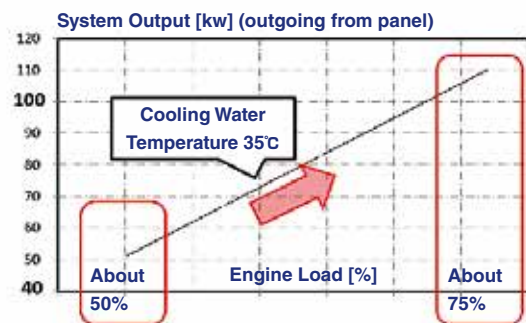
Expecting to raise vessel evaluation and to contribute for the corporate social responsibility.



Panamax Bulk Carrier
"MV ASAHI MARU"
Owned by ASAHI SHIPPING CO., LTD.



[Shop Test - Approved by ClassNK]



[Power Generation Performance Shop Test]

Kobe Steel, Ltd.

ON Building, 9-12, Kita-Shinagawa 5-chome, Shinagawa-ku, Tokyo, 141-8688, Japan
Tel.: +81-3-5739-6010 Fax: +81-3-5739-5971
Email: tsuchida.gary@kobelco.com
<http://www.kobelco.co.jp/english/>

ASAHI SHIPPING CO., LTD.

NO.3 Toyokaiji Building 4th Floor 2-23-1, Nishishinbashi, Minato-ku, Tokyo, 105-0003, Japan
Tel.: +81-3-3436-8536 Fax: +81-3-3436-8526
Email: pro@asahiline.co.jp
<http://www.asahiline.co.jp/eng/index.html>

MIURA CO., LTD.

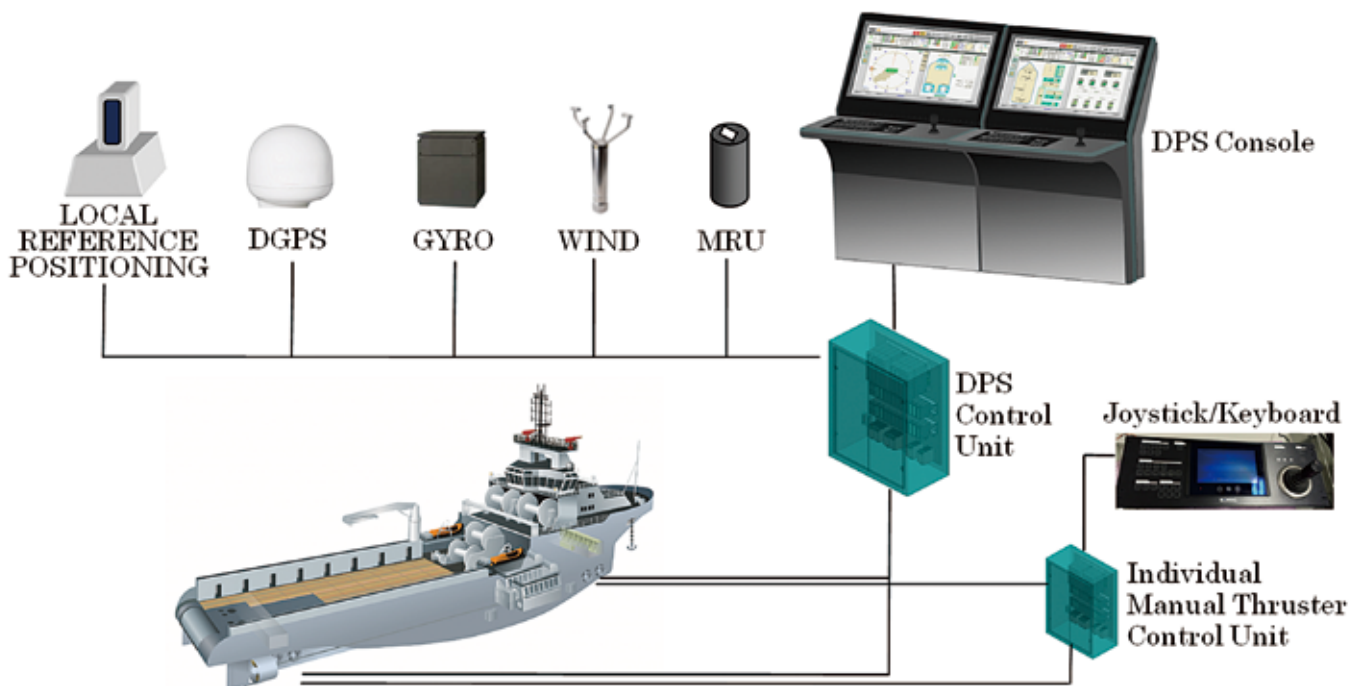
7 Horie, Matsuyama, Ehime, 799-2696, Japan
Tel.: +81-89-979-7019
Fax: +81-89-979-7126
Email: burandokikakushitsu@miuraz.co.jp
<http://www.miuraz.co.jp/en/>

Integrated Dynamic Positioning System

Overview

We have developed an original Dynamic Positioning System which controls a vessel on a required position and heading automatically. We can also supply alarm monitoring system and power management system as a package for the offshore support vessels working at the

ocean energy development and the marine resources site. This system meets the standard ABS's "Guide for Dynamic Positioning System DPS-2 notation." Since the system is equipped redundant CPUs, communication line, power supply, and so on, it carries on control even if something goes wrong with the system.



Type Approval

The DP system has obtained the type approval of the ABS classification.



DPS Control Mode

- Auto position/Auto heading
- Joystick with auto position/ auto heading
- Model control
- Auto tracking
- Independent manual thruster control

Overview of Display

- Position Plot display
- Joystick display
- Thruster display
- Generator and Power line diagram display
- Sensor and position reference system display
- Trend display
- Alarm display



Model Ship Test

We manufactured a 1/40 sized offshore support model ship and we ran a station keeping test in the tank against the wind and wave assumed on the real ocean.

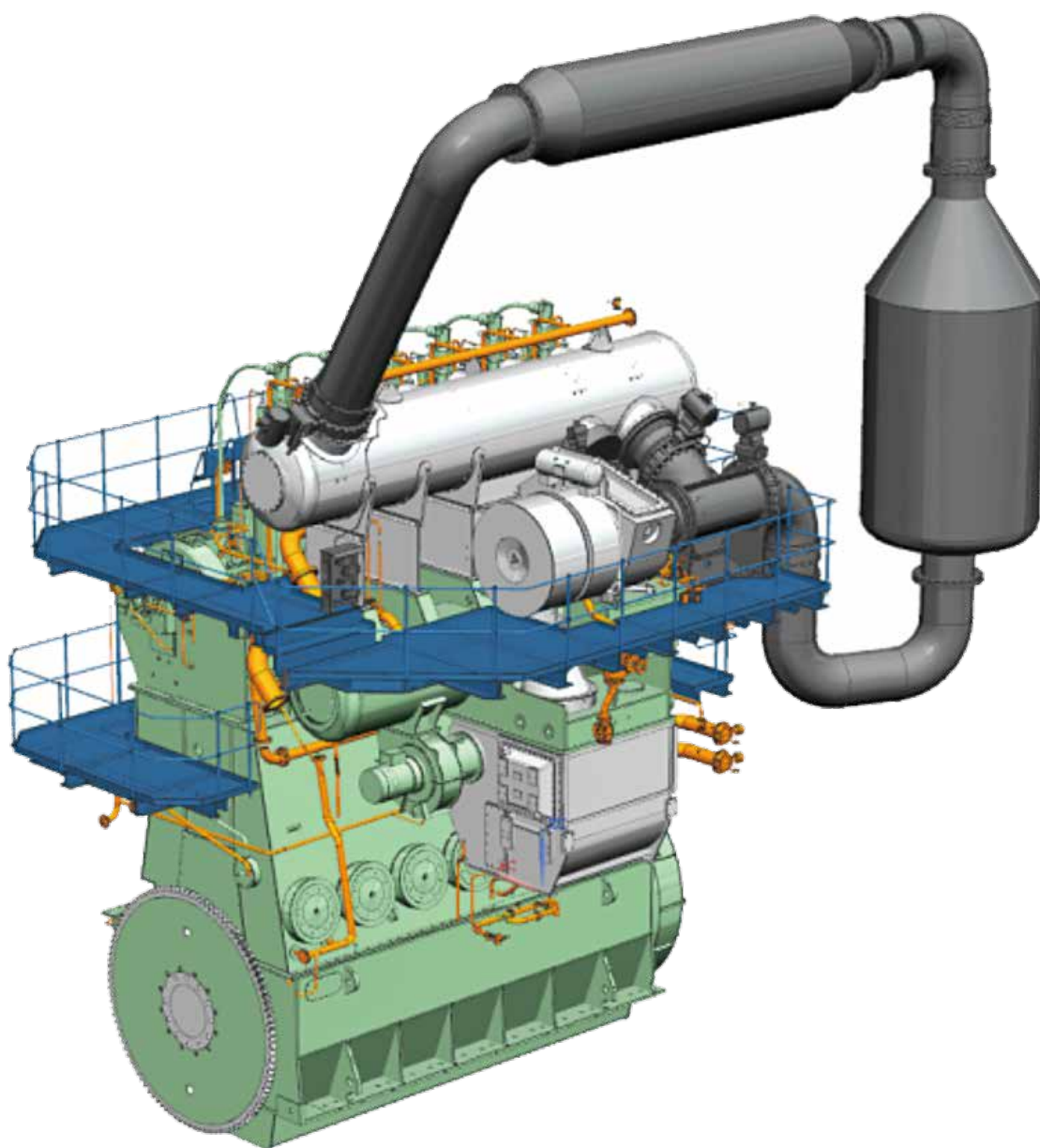


SCR system

Overview

Hitachi Zosen developed an SCR system (jointly developed with MAN Diesel & Turbo) for marine vessels by adopting NOx removal catalysts for industrial plants in order to comply with TIER III NOx emission standards (The TIER III

standards regulate 80% reduction of NOx from 2016 compared with the TIER I standards in 2005). This system is a Marine HP SCR for low speed Main Engine which is compliant with TIER III and enables Engines not to emit extra CO2 and has the feature of compacting, too.



ViabLe Organism Analyzer

Overview

SATAKE CORPORATION (SATAKE) is an innovative leader in precision agriculture technology which located in Hiroshima prefecture, Japan. SATAKE manufactures a wide range of food processing machinery and from this accumulated technology, SATAKE developed machinery for maritime which calls "ViabLe Organism Analyzer".

MOL Techno-Trade, Ltd. (MOL Tech) is a technology trading company that provides expertise and technology to meet a wide range of needs on land and at sea. MOL Tech handles to sell "ViabLe Organism Analyzer" in domestic and foreign market from April, 2016.

International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention) was adopted by consensus at a Diplomatic Conference held at International Maritime Organization (IMO) Headquarters in London in 2004. Due to the accession of Finland, BWM Convention will definitely enter into force on September 8th, 2017.

"ViabLe Organism Analyzer" can detect number of viable organisms in the ballast water with using a stain reagent (FDA) and a detector. It can cover 2 categories of Ballast water discharge standard (D-2) which established by IMO. Other 3 categories are Fungi and these will be needed to check at a laboratory. SATAKE's test method "Pulse counting FDA" is one of analysis method and the target organism admitted by IMO.



"ViabLe Organism Analyzer" only takes 1 minute for measurement. It also needs 10 minutes to stain Large size organisms and 30 minutes to stain Small size organisms by using reagent (FDA) for the preparation. Test data has high correlation with microscope counts. This Analyzer weight 5kg and can use backpack to carry onboard.

According to the guidelines for ballast water sampling in BWM Convention, port state in each country can perform sampling and analyze ballast water discharge to establish whether ship is in compliance or not with the BWM Convention. Since United States Coast Guard (USCG) BWM Convention is equal with IMO D-2 for discharge standard, "ViabLe Organism Analyzer" is effective for analysis in United States.

Ballast water discharge standard (D-2)		
Organism category	Standard	
Minimum dimension> 50 μm (Large size)	<10	viable organisms /mL
Minimum dimension 10 μm x 50 μm (Small size)	<10	viable organisms /mL
Toxicogenic <i>Vibrio cholerae</i> (O-1, O-139)	<1	cfu/100mL
<i>Escherichia coli</i>	<250	(cfu; colony forming unit)
Intestinal Enterococci	<100	

"Pulse counting FDA" makes it possible to estimate the number of both large and small viable organisms, and is recognized in the IMO.

Analysis method and the target organism admitted by IMO

Indicator	General approach
Large size	Visual counts or stereo-microscopy
Large size	Visual inspection
Small size	Variable fluorometry
Large and small size	Photometry, nucleic acid, ATP, bulk fluorescein diacetate(FDA), chlorophyll a
Large and small size	Flow cytometry
Large and small size	Pulse counting FDA
Enterococci	Fluorometric diagnostic kit
<i>Escherichia coli</i>	Fluorometric diagnostic kit
<i>Vibrio cholerae</i> (O1 and O139)	Test kits

From "Guidance on ballast water sampling and analysis for trial use in accordance with the BWM Convention and Guidelines (G2)" (BWM.2/Circ42/Rev.1)

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More than century of experience leads to innovative power

Niigata Power Systems is the only manufacturer in the world which makes both engines and azimuth Z-Pellers under original design, without mergers and acquisitions.

With more than 100 years' history, Niigata is proud of its reliability and reputation among harbour and terminal tug and OSV operators across the world. The Japan-headquartered company manufactures engines producing a total of around 1m horsepower a year and nearly 5,000 units of Z-Pellers have been delivered around the world. As an all-round power system provider, it is also involved in diesel engines, gas engines, and gas turbines co-generation activity.



Recent projects include Japan's first LNG dual fuel tug Sakigake, which has been operating successfully since September 2015, powered by Niigata's 6L28AHX-DF engine driving fixed pitch azimuth ZP-31s. This application for tugboats, where significant and sudden load fluctuation could happen with the resulting need to respond quickly, and where changeover between gas and diesel modes is essential, even at full load, is a world first. Several projects have been identified and are underway for the environmentally friendly Niigata dual-fuel engines.

Niigata has also announced that its medium-speed V-type (12, 16, and 18 cylinders) diesel engines, providing 4,400kW-6,600kW, have been developed to have a significantly lower fuel consumption. These units are suitable for electric power generation and large OSVs capable of 150-220 tonnes bollard pull. Some orders have already been confirmed for these new engines.

MXP

Dedicated turbocharger designed and optimized for marine auxiliary engines

Overview

Turbo Systems United Co., Ltd. (TSU) is a joint venture of ABB K.K. and IHI Corporation (IHI). TSU is committed to provide ABB and IHI turbocharger products to engine builders and end-users in Japan and Taiwan with best quality as well as first class service and expertise.

First dedicated turbocharger from ABB Turbocharging designed in a development cooperation with IHI Corporation. Specifically for small bore medium-speed marine auxiliary diesel engine platforms with up to 2 MW power output.



Customer value

- Dedicated for marine auxiliary diesel engines < 2MW power output
- Improved part load performance supports fuel savings
- Optimized load response behavior
- Robust design for HFO capability
- IMO II compliance, without any additional measures
- Design for easy service and operation
- Easy crew maintenance with standard tools
- Digital support for CBM with issues resolution

Essential to the customer-centric design is the user-friendly maintenance concept of MXP, giving crew the flexibility to independently maintain the turbocharger wherever and whenever necessary, using standard tools while the vessel is operational. Reliability and safe operations were also fundamental in development of this self-service maintenance concept. The turbocharger allows flexible service scheduling with CBM, while performance levels are sustained, and there is no compromise to operation during exchange intervals. In addition, ABB turbocharging will support crew maintenance with an intuitive digital, interactive self-service guide for CBM.

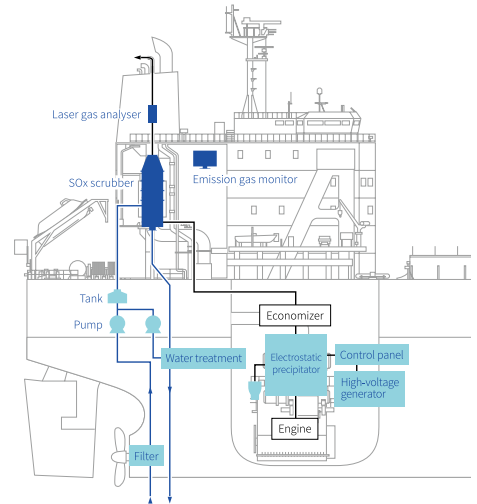


SaveBlue: The World's Smallest EGCS

With electric and thermal energy technology as its core competences, Fuji Electric (FE) has over 90 years of experience in providing innovative energy technology solutions for a sustainable society. Now, taking its core technologies and expertise from land to sea, FE has developed SaveBlue, the world's smallest exhaust gas cleaning system (EGCS).

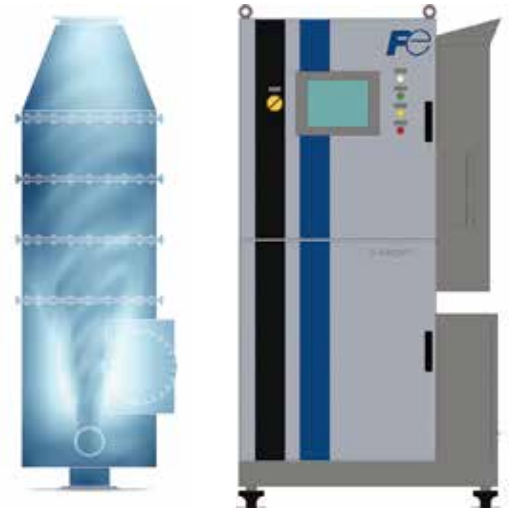
Fuji Electric's Total Solution

SaveBlue is a new value-added solution for ships – an optimal integration of FE's proprietary and other products and technologies. The most cost-effective way to comply with upcoming IMO emissions regulations in 2020, FE's EGCS solution consists of:



The world's smallest SOx scrubber

At just 7m tall and 2m in diameter, FE's scrubber is the first to use energy-efficient cyclone technology to remove over 98% of SOx from a 10MW engine.



The SOx scrubber

S-Keeper 7

S-Keeper 7: a marine emissions monitoring system

S-Keeper 7 (S-K7) is a modular analysis system that is suitable for on-board continuous emissions monitoring. Able to analyse up to seven different gases, this high-end gas analyser is compliant with IMO regulations and has been certified as per RINA Rules, Pt. C, Ch. 3, Sec. 6; Lloyd's Register Test Spec. 1; and DNV Standard for Certification 2.4.

A laser gas analyser (under development)

One-tenth the size of a conventional sampling analyser, FE's laser gas analyser is an alternative to S-Keeper 7. It can continuously monitor and measure both SO₂ and CO₂, as well as provide an analysis in seconds.

An electrostatic precipitator (under development)

It removes dust from exhaust gases while minimizing pressure loss.

With open- and closed-loop operation modes, this EGCS allows continued use of heavy fuel oil (HFO). Its compact size makes it suitable for both retrofitting and new builds, saving space and costs.

In 2015, FE conducted a land-based test to achieve further downsizing and optimized control. This test and resulting developments were made possible with the support of The Nippon Foundation.



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Networking reception to be held at Nor-shipping 2017

While Nor-Shipping 2017 is in session, Japan Ship Machinery and Equipment Association (JSMEA) will be joining the International Marine Purchasing Association (IMPA) to provide an opportunity to mingle while eating delicious sushi for d'oeuvre. We ask those who are interested in the free event to present only their business cards. Applications should be made with Mr. Hiroshi Ishida of JSMEA (e-mail: ishida@jsmea.or.jp).

Outline of Nor-Shipping 2017

Dates: 30th May-2nd June, 2017

Venue: Norges Varemesse

Japan booth: B01-08/B02-08

JSMEA exhibitors:

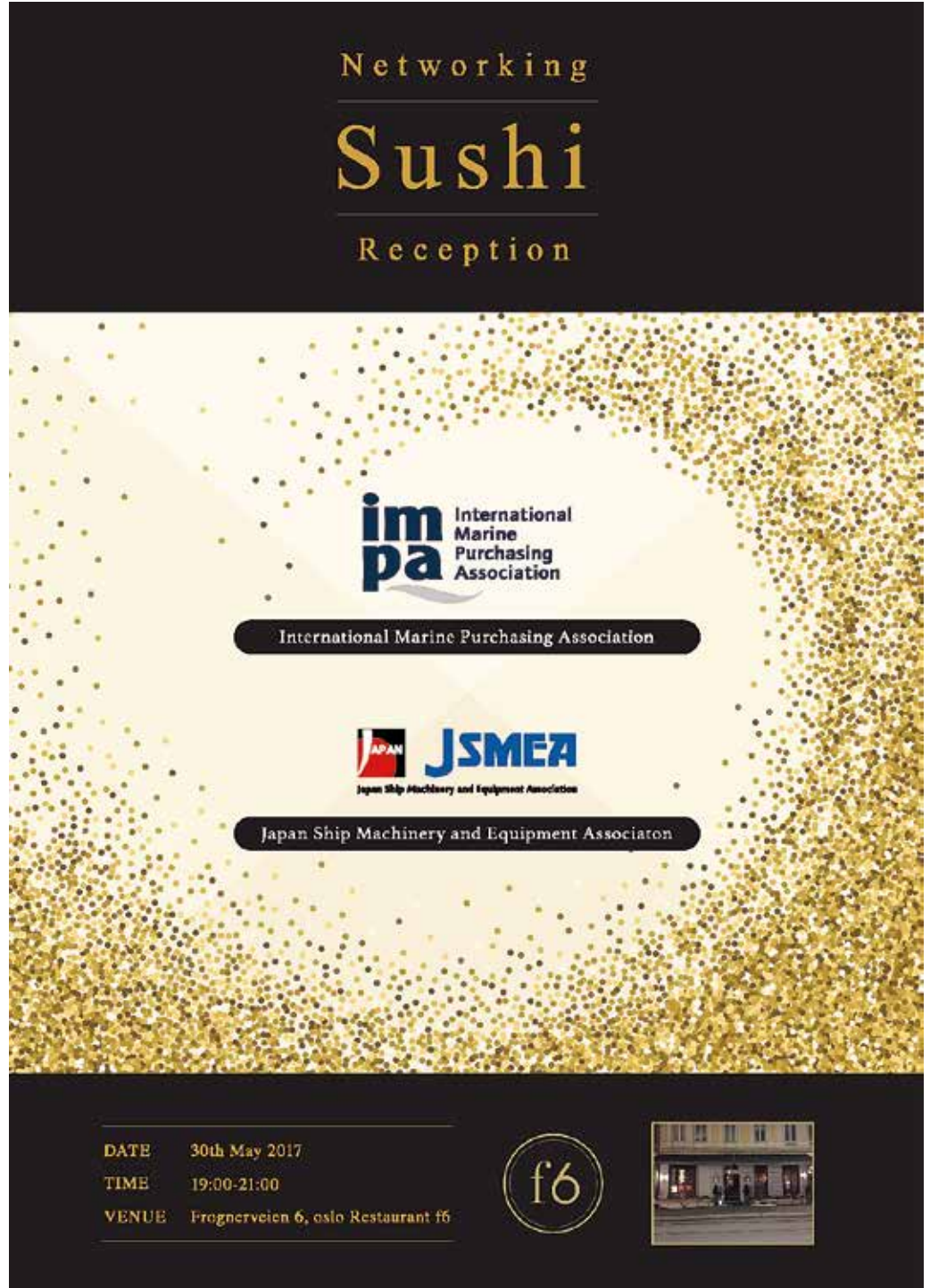
Daihatsu Diesel Mfg. Co., Ltd.
Fuji Electric Co., Ltd.
Fuji Trading Co., Ltd.
Kawasaki Heavy Industries, Ltd.
Nakashima Propeller Co., Ltd.
Nishishiba Electric Co., Ltd.
Shinko Ind. Ltd.
Yanmar Co., Ltd.

Special exhibitor:

International Marine Purchasing Association

Supported by

THE NIPPON
FOUNDATION



The poster features a black top section with the text "Networking Sushi Reception" in gold. Below this is a large area with a gold confetti background. In the center, the IMPA logo is displayed above a black bar containing the text "International Marine Purchasing Association". Below that is the JSMEA logo above another black bar containing the text "Japan Ship Machinery and Equipment Association". At the bottom, a table lists event details, a circular logo with "f6", and a small photo of the restaurant.

DATE	30th May 2017
TIME	19:00-21:00
VENUE	Frognerveien 6, oslo Restaurant f6


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