Marine Exhaust Gas Cleaning System "SaveBlue" (SOx Scrubber)

① Time 13:15

Fuji Electric's SOx scrubber for ships is the very first in the world to use cyclone technology.

Within the scrubber, a highly diffused spray of wash water increases contact between exhaust gases and liquid droplets, removing SOx by absorption.

The cyclone method makes a mixing plate (which needs regular maintenance) unnecessary. So it also makes for lower maintenance costs. In addition, our SOx scrubber keeps pressure loss to less than 1kPa and has achieved significant downsizing.

Our scrubber is 50% more compact than other SOx scrubbers on the market: it is lightweight, facilitating installation in

Our SOx scrubber can remove over 98% of Sulphur in exhaust gases. Its operation can be optimized based on engine load, minimizing fuel consumption and impact on operating costs.

Unlike other scrubber suppliers, Fuji Electric designs, develops, manufactures and services all necessary equipment like control cabinet, gas analyzer as well as scrubber tower. Therefore, we take care of all customers with our own global service network which is skillful and reliable on each equipment and total system.



Fuji Electric

13:15-15:15

1st Session

② TIME















Company introduction

Fuji Electric's energy and environment business with innovative technology, Fuji Electric develops its business through four business segments. The Company combines IoT and control technologies with components using key devices to contribute to the creation of responsible and sustainable societies in the fields of maritime industries.

The environmental technologies established through long experience on the ground have been transferred into marine industry. The company was established in 1923 and the number of employees as of today is 27,416. The next sales last year was 914.9 billion Japanese Yen equivalent to 8.5 billion US dollars. Over 120 sales and service offices around the world provide high quality services to global customers.

Itsuro Mita / Marine Project Manager, FA / System Engineering Department III





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7) Time 13:30



Kawasaki Heavy Industries, Ltd.



Taiyo Electric Co., Ltd.

7) Time 13:45

Kawasaki Propulsion Machinery and Green Gas engine

Kawasaki began the manufacture of controllable pitch propellers in 1956 through a licensing agreement with Escher Wyss & Co.

(Switzerland). Since then, these controllable pitch propellers have been widely adopted for many kinds of vessels.

Today, Kawasaki is one of the world's leading manufacturers with sophisticated technology and rich experience in this field.

Since 1965, when Kawasaki started manufacturing side thrusters, they have been adopted as a motive force and well received for use in just about every kind of vessel, from cargo carriers and ferries to offshore ships. Kawasaki side thrusters, developed by applying extensive world-class performance, contribute to the global shipping and marine industry.

Since 1983 Kawasaki has been a leading supplier of azimuth thrusters, providing its Rexpeller for a wide array of vessels, from tugboats to cable layers, and other workboats as well as offshore vessels like drillships, supply boats and more.

Kawasaki developed marine pure gas engine, Kawasaki Green Gas Engine, model L30KG series by original standout technology. It can effectively reduce the amount of NOx to comply with IMO (International Maritime Organization) TierIII regulation to go into effect in 2016, and minimizes CO2 by lean-burn technology.



Company introduction

Together with about 100 group companies in Japan and overseas, Kawasaki Heavy Industries oversees the formation of a "technology corporate group." Our technological capabilities, polished over a history that exceeds a century, send diverse products forth into wide-ranging fields that go beyond land, sea, and air, extending from the ocean depths to space.

Our aerospace division is active in products ranging from aircraft to satellites. The products that our rolling stock division delivers to the world include Shinkansen and New York subway cars, while our ship and offshore structure division's products range from gas carriers and large tankers to submarines, and our energy solutions division covers the spectrum from development and manufacture of energy equipment to management systems.

We are also active in wide-ranging businesses driven by diverse and high-level engineering technologies, including environmental and recycling plants, industrial plants, precision machinery, industrial robots, and infrastructure equipment. Finally, we operate our leisure and power products business that features the motorcycles known as the Kawasaki brand.

Atsuhi Ogura (Mr.) Marine Machinery Sales Department





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Total supplier of marine apprication

We would like to introduce following 4 topics on our presentation.

- 1. Company Profile
- 2. Our Product
- •The feature of our special marine application.
- Energy saving system product including Shaft Generating System & Electric Propulsion System.
- 3. Generator Maintenance & Trouble Shooting Guide 4. Service Network



Company introduction

Since our establishment as a manufacturer of electric equipment and machinery for marine use in 1917, we have built up a wealth of experience over almost 100 years

we manufacture and sell electric equipment and machinery, including generators, various electric motors, ventilation fans, switchboards, starters and engine control consoles as well as system products such as thyristor-type shaft generating systems and inverter control systems

Taking advantage of our wealth of experience and expertise as a total supplier, we provide equipment and systems tailored to each vessel environment, thus earning the trust of the marine transport and shipbuilding industries in Japan and around the world.

Shinichiro Ito / Marine Overseas Business Dept.





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7) Time 14:00





① Time 14:15

Naniwa Pump Mfg Co., Ltd.

Advanced Course Control for Ecology and Smart Date Storage

I. ACE (Advanced Control for Ecology), a new Course Control function that automatically creates a route on the heading between the ship's current position and destination, calculates outside disturbances (tides), and implements the best rudder control making it possible for the vessel to sail the most efficient route.

II. Digital Course Recorder, eliminating the need for conventional recording paper, allowing hand written input, recording of detailed voyage information, easy information management and storage, easy to retrofit.



Company introduction

TOKYO KEIKI was funded in 1896 in Tokyo, Japan and has developed a total navigation equipment package which includes Gyrocompass, Autopilot, ECDIS and Marine Radar by providing a cutting edge technology to ships' safety and efficient navigational concept.

TOKYO KEIKI can offer a seamless connection to and beyond each equipment. TOKYO KEIKI is proud of our one-stop service which supports equipment from consultation, selection, and all throughout it's after servicing life.

Mr. Rob Mohr, Overseas Sales Section





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Title

General Introduction ~Naniwa's Three Strengths~

- Naniwa supplies pumps to the marine industry for 66
- Naniwa has supplied over 350.000 individually configured pumps
- Naniwa aims at infinity in its relations with customers

New development of FRP pumps

- greatly reduced weight
- undiminished efficiency
- long life time
- · high corrosion resistance

Naniwa believes that these advantages promise reduced maintenance requirements and therefore reduced operating cost. The "Total Cost of Ownership" (TCO) improves, it's a clear customer benefit.



Company introduction

Naniwa Pump Mfg. Co., Ltd. contributes to the happiness of every involved person, promoting peace and prosperity of society through the development, design, production, technical support, sales and services of pumps and related equipment with more than 60 years of know-how and vast experiences to meet and satisfied customers worldwide.

Marine Pumps made of Fiber-Reinforced Plastics (FRP)











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7) Time

14:30



10



11

① Time 14:45

Title

Product promotion

Company introduction

Company introduction

SMART SOUNDING SCALE "HONESTY" For MGO (Marine Gas Oil) Support

SEMCO

Smart sounding scale "Honesty" was developed with NYK and MTI to realize portable sounding with an ultrasonic sensor.

As of January 1st. 2020, the IMO will put into effect new regulations on sulfur oxide in maritime exhaust gas, in which the limit on sulfur oxide content in fuel oil that is mainly for maritime use will be changed from 3.5% to 0.5%. In complying with the new regulations, there will be an increasing number of cases in which high transparency and low viscosity compatible fuels such as MGO are supplemented.

So ship crews will not be able to measure the tank level easily. "Honesty" can solve this problem.

Ship crews can measure the tank level about 4 times faster than existing sounding scale.

It can also measure accurately under the cappuccino effects.

Company introduction

SEMCO LTD. is a tank level gauge engineering and consulting company.

We create Tank Level Gauge and Monitoring System with our customers. We have been manufacturing Tank Level Gauge since 1985.

SEMCO Tank level gauge is adopted for almost all Japanese shipyards. Especially our float type level gauge has been standard for Engine room tanks in Japan. Today, we propose a wide range of level gauges and monitoring systems to meet customer's needs for not only engine room tanks but also ballast tanks etc..



SEMCO's mission is to work with customers to solve problems and create new ones.

SEMCO will continue to propose suitable tank level gauges and monitoring systems for various tank applications in the field of new shipbuilding and existing vessels from now on.

The information desk





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SEMCO LTD. / Sales Department





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SEMCO, Ltd.

① Time 15:00



Fuji Trading Co., Ltd.

Value-More to / from the World

"Supply Service"

Fuji Trading has been engaged in Supply Service at ports and harbors in Japan for over 65 years It is the mission of Fuji Trading's supply services to ensure that those ships are properly supplied with foodstuffs and marine stores to continue on their way in safety and comfort. We provide professional supply service in major ports worldwide by using our own global network, in combination with affiliated suppliers.

"Spare parts supply service" For safety and reliable operation of ships and offshore unit, we supply genuine machinery spare parts. For supporting low-cost operation for customers, we continue to strengthen ourselves to provide outsourcing services. With more than 45 years of history, and long-term



collaborative relationships with quality manufacturers, we can offer competitive price and faster delivery. As well as Japanese spare parts, European, Korean and Chinese spare parts are available by using our global network.

"Machinery & Equipment Supply Services"

Tying up with Japanese marine equipment makers, this Dept. sells and supplies machinery and equipment to be installed aboard ships and offshore unit to overseas shippards, engineering companies and shipping companies. We provide not only equipment itself but also after service with corporate with Manufacture and our Engineering Dept.

"Engineering Service"

Working together with Machinery Service Dept. and Machinery & Equipment Sales Dept, provide Technical Services essential for smooth, reliable and safety operation of ship & offshore unit. Our service can be provided in worldwide by using our Global network and with close ties to Manufactures.

Company introduction

With over 65years' experience in the marine industry, Fuji Trading provides comprehensive, high-quality services, from general stores supply, genuine spare parts supply, catering services, repairing services and machinery sales. Fuji Has its own worldwide network at the major ports; Kobe, Yokohama, Tokyo, Rotterdam, London, Athens, Singapore, Baltimore, Houston, Dubai, Doha, Muscat, Shanghai, Busan, Hong Kong, Manila, and Rio de Janeiro. By utilizing the Fuji Global, Network and our many years of experience, we can meet customers' requirements quickly and efficiently. We are ready to provide our excellent services anywhere, at anytime!

② TIME 15:30-17:30 2nd Session

















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