JAPAN JSMEA
Japan Ship Machinery and Equipment Association

Supported by 日本財団 THE NIPPON FOUNDATION

JAPANESE MARINE ECO PRODUCTS







Heat pump, Air conditioner, Water chilling unit, Energy saving

Air Conditioners

http://www.nissin-ref.co.jp/english/

NISSIN REFRIGERATION & ENGINEERING LTD.

Heat pump type Ultra compact size Water Chilling Unit

Ultra compact size Water Chilling and Heat pump Unit

Our heat pump chiller unit has various capabilities by combining each 10 HP (or 5 HP) compressor unit.
Only suitable number of compressor running, also heat pump mode contributes ecological operation.
Every compressor units are independent; hence, even if one unit fails, the operation can be continued with the remaining units.
It's hermetic type compressor benefits maintenance free.
Being lightweight, compact, and reliable, this chiller unit has been widely equipped on government and municipal ships.

INQUIRIES

1-12-30, Mikuni Hommachi, Yodogawa-ku, Osaka, 532-0005, Japan
Tel : +81-6-6394-1171 Fax : +81-6-6394-1251
E-mail : nre-webmaster@nissin-ref.co.jp

Energy Saving, CO_2 Reduction,Power Reduction, Environmental Loading Reduction

Air Conditioners

http://www.ushioreinetsu.co.jp/english/

USHIO REINETSU CO., LTD.

Inverter control of FAN and COMPRESSOR

Realize the reduction of CO_2 emissions, will contribute greatly to the global environment.

■ Inverter control of FAN

- Can obtain a greater energy savings by setting the rotation speed of the wind amount corresponding to each operation mode "cooling", "heating" and "blast", and improves the comfort of the accommodation space.
- Compared with the damper controlled, there are about 57% reduction of the ratio in the energy equivalent. And there is a reduction of 53.1ton CO_2 / year.

■ Inverter control of COMPRESSOR

- Control by an inverter the rotation speed of the COMPRESSOR. It is effective to keep the operation stable and to reduce power consumption by controlling the finely optimal cooling capacity.

INQUIRIES

5-3, Creative-Hills, Imabari, Ehime, 794-0069, Japan
Tel : +81-898-34-1203 Fax : +81-898-34-1204
E-mail : ushio@ushioreinetsu.co.jp

Environmental Friendly, Refrigerant

Air conditioning and refrigeration equipment for R407H

http://www.daikin.co.jp/group/dmre/english/

DAIKIN MR ENGINEERING CO., LTD.

Deck unit

Packaged air conditioner

Packaged air conditioner for galley

Small size condensing unit

Water chilling unit

Our new lineup of R407H equipment

Adoption of environmentally friendly refrigerants is urgently needed to address global warming and prevent ozone layer depletion. Increasingly tight regulations are also making it more difficult to procure existing refrigerants such as R22 and R404A that have a high environmental impact.

We believe that R407H is the best new refrigerant option because it can contribute to both reducing environmental impact and meeting specific maritime needs while satisfying the following 5 refrigerant requirements. As such, we are offering air conditioning and refrigeration equipment that uses R407H.

Safety
(nonflammable, equivalent to existing refrigerants R404A and R407C)
Environmental friendliness
(GWP of 1,495, less than 40% of R404A and compatible with environmental ship classification options)
High efficiency
(Demonstrated performance equivalent to R404A and R407C in air conditioning and refrigeration applications)
Availability
(Leading global refrigerant manufacturers supply R407H)
Stability
(R407H is an HFC refrigerant like R404A and R407C, and there is little negative effect on equipment from refrigerant decomposition)

Retrofitting existing systems for R407H

We have retrofitted R22 equipment for R404A, and can also retrofit R22, R404A, and R407C equipment to work with R407H.
The retrofit method used depends on the type of equipment. Please contact us for more information.

INQUIRIES

Shin-osaka Central-tower 11F, 5-5-15 Nishinakajima, Yodogawa-ku, Osaka, 532-0011, Japan
Tel : +81-6-4805-7293 Fax : +81-6-4805-7321
E-mail : marine.aircon@daikin.co.jp

Reduces Energy Consumption, Maintenance, and Overall Environmental Impact (Chemical Free)

Antifouling Device

http://www.portenterprise.com

Port Enterprise Co., Ltd.

Hasytec Dynamic Biofilm Protection

Hasytec Dynamic Biofilm Protection protects any surface coming in contact with water from marine fouling with its own chemical-free ultrasound technology at really low cost without any maintenance.

Product Specification

Control Box

Diecast aluminum alloy, EN AC-44300 DIN EN 1706
Surface: powder coated
Dimensions: 330 x 300 x 120 mm
Protection class: IP66 EN 60529
Mounting screws: M5x8
Mounting spacing: 312 x 244 mm
Certification: DNVGL, CSA, GOST

Input voltage: 85 – 264 VAC
Input frequency: 47 – 63 Hz
Input protection: TA4 / 250 V
Rated input current: max 16A
Recommended Fuse rating: 16A (characteristic B)
Certification: Bureau Veritas, CSA/UL, CB, SIQ, RoHS, Reach

Brass nickel-plated
Protection class: IP68 EN50262/EN60529
Certification: DNVGL, UL, RoHS

LCD: operating hours, power supply voltage, temperature
LED: output signal control

Transducer

Stainless steel case
Dimensions: Ø 70 mm, H = 94 mm, Weight: 1400 g
Dimensions: Ø 54 mm, H = 94 mm, Weight: 1000 g
Sealed in PU casting compound
Power consumption: 20 Watt

Number of cores and cross section: 2 x 2 x 0,75 mm²
Conductor: bare copper wires
Insulation: cross linked polyethylene (XLPE)
Screen: plain copper wire braid
Halogen free
Outer sheath: polyolefin compound, type SHF-1
Outer D Ø: 8,7 mm
Bending radius: 6 x D (min) – 53 mm
Weight: 103 g / m
Temperature: from – 35° C to 90 ° C
Certificates/Standards: DNVGL, IEC 60092-376, IEC 60092-360 class 2

The product is well proven, completely safe, consumes very little energy, needs no maintenance, and comes with 5-year warranty.

INQUIRIES

No. 2-1-28, Chikko, Minato, Osaka, 552-0021, Japan
Tel : +81-6-6573-5391 Fax : +81-6-6575-3036
E-mail : penterj@penterj.co.jp

Fuel Saving, Safety, Accuracy, Reliability of Information

Autopilot

https://www.tokyokeiki.jp/e/

TOKYO KEIKI INC.

PR-9000

The model PR-9000 is the latest autopilot system from TOKYO KEIKI. The PR-9000 is designed using the latest technology from a wealth of engineering and manufacturing experience of navigational instruments. Safety, accuracy, and reliability of information have been enhanced in our model lineup thereby significantly improving situational awareness and navigational safety.
An indispensable autopilot system providing effective and safe bridge resource management and energy efficient navigation.

Repeater Unit with color LCD

Color LCDs are incorporated into each system which enhances reliability of information and improves situational awareness.

Maintaining Safe Navigation via Guidance Screen

Steering-related monitoring information can be displayed on the monitor screen. If a warning alert is generated, the navigator can simply view the proper guidance procedures on the screen in order to carry out evasive measures.

(Avoidance operating procedures Guidance Screen)

Route Control function (ACE)

Route Control is performed only with Autopilot

Due to reduced route deviation / shorter sailing distance / reduction of wasted rudder,it ultimately contributes to safety and energy efficient navigation.

(ACE Screen)

INQUIRIES

Marine Systems Company
2-16-46, Minami-Kamata, Ohta-ku, Tokyo, 144-8551, Japan
Tel : +81-3-3737-8611 Fax : +81-3-3737-8663
Inquiry https://www.tokyo-keiki.co.jp/form/webform_marinee.html

Fuel Saving

Autopilot

http://www.yokogawa.com/ydk

YOKOGAWA DENSHIKIKI CO., LTD.

Next Generation Autopilot PT900

PT900 is the next generation autopilot, modern controlled fuel saving function (BNAAC/E-COurse Pilot) is installed.
By introducing 7 inches LCD, navigation information and autopilot parameters are confirmed and changed very easily.

INQUIRIES

Marine Equipment Business Division
Minami Shinjuku Hoshino Bldg,5-23-13, Sendagaya, Shibuya-ku, Tokyo, 151-0051, Japan
Tel : +81-3-3225-5383 Fax : +81-3-3225-5316
E-mail : navigation_info@ydk.yokogawa.co.jp

Ballast Water Inspection Equipment

http://www.motech.co.jp/e_index.html

MOL Techno-Trade, Ltd.

Creating the Future SATAKE

Viable Organism Analyzer

SATAKE CORPORATION, developed machinery for maritime calls “Viable Organism Analyzer” and MOL Techno-Trade, Ltd. handles to sell it in domestic and foreign market. Viable Organism Analyzer can detect the number of viable organisms in the ballast water and it can be used simply and easily on board. The analyzer can estimate the number of both viable organisms of Large size (Minimum diameter $\geqq$ 50 μm) and Small size (Minimum diameter 10 μm $\leqq$ x < 50 μm) in one unit. It has high correlation for detecting one individual organism at 100ml, and only analyzer which is possible to analyze both zooplankton and phytoplankton in a short time. Analysis can be completed in a simple way by operating touch-screen on the analyzer that means total duration for analysis is approx. 15minutes, including stain time.

INQUIRIES

MOL Techno-Trade, Ltd. / Ship’s Supplies & Machinery Dept.
Tel : +81-3-6367-5370
E-mail : s-voa@motech.co.jp

Ballast Water, BWMS(/BWTS), Low Power Consumption,

Ballast Water Management System

https://jfe-ballast-ace.com/

JFE Engineering Corporation

JFE BallastAce

Filtration + Formulated Chemical Injection

JFE BallastAce is a BWMS using a combination of filtration followed by formulated chemical injection on ballast water intake, and controlled neutralization step before ballast discharge.
The system has already delivered to more than 500 vessels, including over 100 retrofits.

■ **Feature of JFE BallastAce**

- Efficient sterilization in a wide range of water quality (turbidity / salinity / water temperature)
- Extremely low power consumption, low impact on the generators
- Flexible layout by each component in limited space

INQUIRIES

Ballast Water Management System Division
2-1, Suehiro-cho, Tsurumi-ku, Yokohama, 230-8611, Japan
Tel : +81-45-505-6538
E-mail : jfe-bwms@jfe-eng.co.jp

Ballast Water Management System

Ballast Water Management System

http://www.miuraz.co.jp/en/bwts/

MIURA CO., LTD.

【Introduction】
MIURA work towards our mission of "Helping customers all over the world in energy conservation and environmental preservation."
With fifty years of proven result of ship machinery department, utilizing our technology and trust in MIURA, we put all effort to achieve our goal.

【Miura BWMS HK-type】
We introduce “Miura Ballast water management system” that contribute to marine environment conservation all over the world.

Miura BWMS HK-type adopts filter and UV irradiation method which is environmentally friendly that does not affect natural ecosystem of sea area where water is discharged.
With its uniquely developed filter, system can surely capture organisms larger than 50μm, and multi-stage cleaning function can maintain filter clean.
In addition, operation of UV reactor is controlled to be energy saving. Control panel is operated using touch panel, which has high visibility and operability.

【Retrofit】
MIURA supervisors support retrofit engineering work from 3D scanning to installation work, and promote the installation work in accordance with the plan.

INQUIRIES

7 Horie-cho, Matsuyama, Ehime, 799-2696, Japan
Tel : +81-89-979-7060　Fax : +81-89-979-7082
E-mail : hakuyo_eka@miuraz.co.jp

Energy Saving

Batteries

http://www.bemac-uzushio.com/en/

BEMAC UZUSHIO ELECTRIC CO., LTD.

Optimizing Electric Power System by Applying Lithium-ion Batteries

Fig.1 Applications of Li-ion Batteries on Ships

Fig.2 Li-ion Battery system

BEMAC has been introducing application of Lithium-ion batteries on ship's electrical system for electrical power efficient usage.
Ship's electrical energy volumes are consumed according to running mode which also the usages of Lithium-ion batteries' applications depends on (Fig.1). For example, its application to bow thruster during entering / existing the port may be used, and during the voyage, it may be applicable for charging the batteries by surplus electric power. Depending on its running mode, system will control charging and discharging of the Lithium-ion batteries by time shifting the ship's electrical power consumption; thus, to cut down the cost of generators' fuel.
BEMAC could supply Lithium-ion Battery Charging and Discharging equipments, Monitoring system and all necessary equipments (Fig.2).

INQUIRIES

Head Office / MIRAI Factory
105 Noma, Imabari-city, Ehime Pref., 794-8582, Japan
Tel : +81-898-25-8282 Fax : +81-898-25-3777
E-mail : sales@bemac-uzushio.com

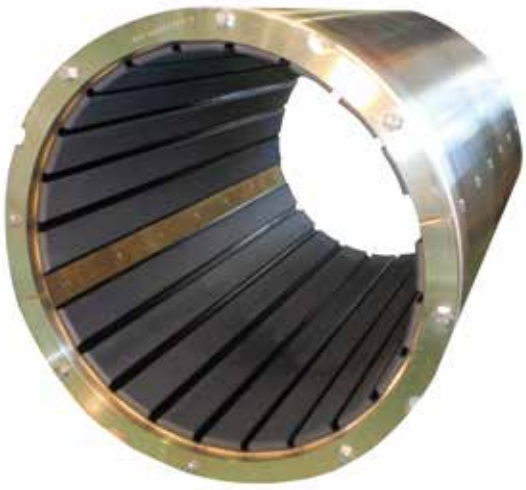
Energy Saving, Environment Friendly, Water Lubricated Bearing

Bearings, Sterntubes

http://www.mikasa-industry.com/en/

MIKASA CORPORATION

Water Lubricated Bearing
F.F.Bearing (Friction-Free-Bearing)



As a result of pursuing superior low friction property and heavy duty property, we developed combined bearings made of P.T.F.E. and synthetic rubber and metal shell for Water-lubricated stern tube bearing.

F.F. Bearing dramatically minimizes both shaft sleeve and bearing wear.
This is the result of using PTFE of high self-lubricating as the slide member, distributing rubber to the back as the cushion to obtain the self-alignmentability, and decreasing the load by the deflected contact.

It is available water lubricating system as an alternative system of oil lubricating system..

By changing into F.F. Bearing were resulting in:
- Reduced Fuel Consumption
- Lower Vibration
- Lower Noise Levels
- Less Maintenance Cost
- No Possibility of Sea Contamination

INQUIRIES

Mr. Noriaki Hirata
General Manager International Sales Dept., Industrial Products Div.
MIKASA CORPORATION
1, Kuchi, Asa-cho, Asakita-ku, Hiroshima, 731-3362, Japan
Tel : +81-82-810-3930 Fax : +81-82-837-3947
E-mail : hirata@mikasasports.co.jp

Bilge Water Waste oil Treatment System

http://www.volcano.co.jp/english/index.html

VOLCANO CO., LTD.

WASTE OIL/
BILGE CONCENTRATOR "BILCON-X"

Waste oil / Bilge Concentrator "BILCON-X" concentrates the Waste Oil mixed with water or the Bilge Water. This system can save cost and a labor. It can also help reducing the vessel's impact on the environment. Features are as followings.,

- "BILCON-X" can condense ship bilge to one-tenth in 24 hours.
- Fully automatic operation does not require labor.
- Energy saving design allows use of low temperature heat source.
  (Ex. Residual steam, Engine coolant water)
- The lineup of the processing capacity of "BILCON"-X is from 1㎥ / day to 3㎥ / day.
- "Completely closed system" does not discharge any processed bilge water from the vessel.

BILCON-X is installed in Ferries and the other types of vessels because of easy waste-oil-handling.

INQUIRIES

Sales Department, Combustion Engineering Division
1-3-38 Nonaka-kita, Yodogawa-ku, Osaka, 532-0034, Japan
Tel : +81-6-6392-5541 Fax : +81-6-6396-7609
E-mail : info-m@volcano.co.jp

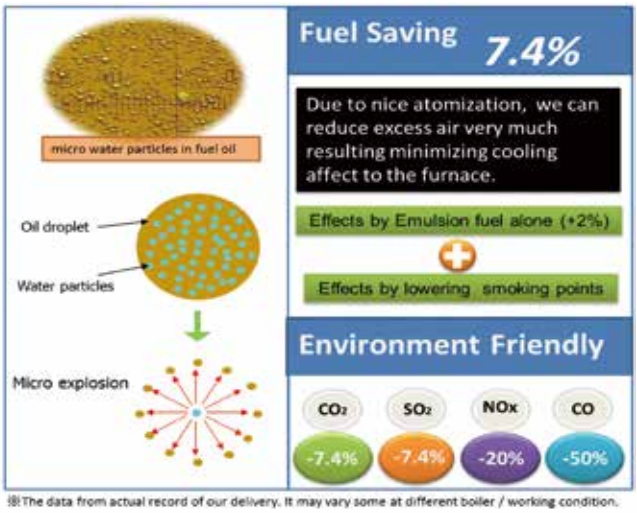
Fuel saving, Environmental friendly

Boiler Burners

http://www.sunflame.net/english/

SUNFLAME CO., LTD.

Water Emulsion Combustion System



A new combustion theory from Sunflame which emulsifies fuel and water for better fuel efficiency.

INQUIRIES

1-30, Nishinohata, Okubo-cho, Uji, Kyoto, 611-0033, Japan
Tel : +81-774-41-3310 Fax : +81-774-41-3311
E-mail : info@sunflame.net

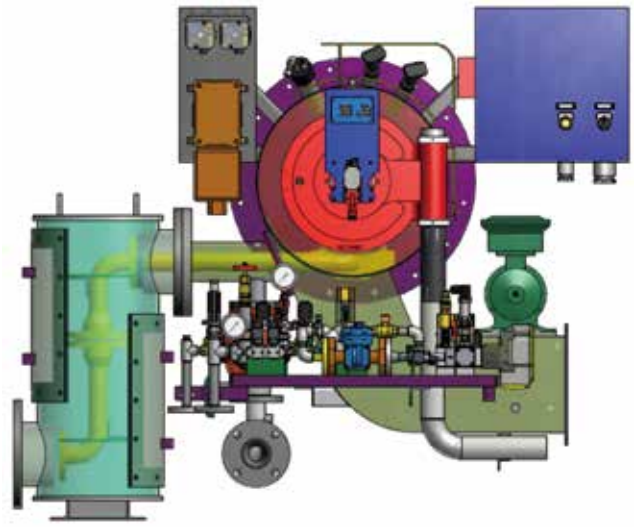
LNG, Environmental friendly

Boiler Burners

http://www.sunflame.net/english/

SUNFLAME CO., LTD.

Dual Fuel Burner, LNG & HFO / MGO

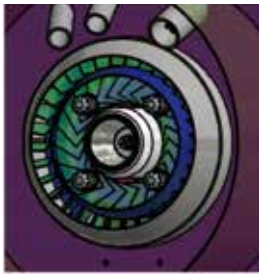


A dual fuel burner for HFO / MGO and LNG combustion originally designed by Sunflame.

Features of the Duel Fuel Burner

- **Low NOx and O_2**
- **HFO 700cSt, MGO 1.5cSt & LNG**
- **Good mixture of LNG & air**
- **Adjustable flame shape**
- **Designed for boilers up to 9t.**
- **Turn down 10:1**
- **Mixed fuel combustion of gas & oil**

Get ready for
*Stricter regulation of SOx / NOx emission
*Extension of ECA applications
*Implementation of Shale Gas supply



Gas Nozzle with Rotary Cup Burner

INQUIRIES

1-30, Nishinohata, Okubo-cho, Uji, Kyoto, 611-0033, Japan
Tel : +81-774-41-3310 Fax : +81-774-41-3311
E-mail : info@sunflame.net

Energy saving

Boiler Burners

http://www.volcano.co.jp/english/index.html

VOLCANO CO., LTD.

Proportional control type oil burner "MJⅡ-M"

Design and development of "MJⅡ-M" fully automated pressure jet proportional control burner allows energy saving operation with composite boiler. Features are as followings.

- Proportional control (turn down ratio / 3:1) allows for reducing the burner ON / OFF switching and improving the boiler efficiency.
- Combustion of both HFO and MGO fuels without changing atomizers.
- Easy and quick replaceable coupler attached on fuel line allows for less maintenance time.
- "MJII-M" is applied for 1～3t/h boiler.

INQUIRIES

Sales Department, Combustion Engineering Division
1-3-38 Nonaka-kita, Yodogawa-ku, Osaka, 532-0034, Japan
Tel : +81-6-6392-5541　Fax : +81-6-6396-7609
E-mail : info-m@volcano.co.jp

Energy saving / Environment

Boiler Burners

http://www.volcano.co.jp/english/index.html

VOLCANO CO., LTD.

OIL / GAS COMBINATION BURNER "Vignis"

VOLCANO has 90years History.
We have more than 37years experiences of LNG Fuel for marine use.
We have delivery records for more than 180 vessels and have a reputation as safe and secure.

This DF burner "Vignis" is suitable for LNG Fueled vessels which are expected to increase. Features are as followings.

- "Vignis", featuring the turndown ratio of 10:1 allows for energy-saving operation.
- Equipped with the Gas/Oil Simultaneous Mixed Combustion mode as well as the Gas/Oil Mono-fuel combustion modes, "Vignis" will allow for energy-saving operation.
- With the Gas/Oil Simultaneous Mixed Combustion mode, the Gas/Oil ratio can be freely set to allow for economical operation in accordance with each vessel's circumstances.
- "Vignis" is applied for 4～10t/h boiler.

On LNG Fueled vessels, BOG would be generated. CH_4, which is main component of BOG, is 25 times more potent than CO_2 for global warming. Gas/Oil Simultaneous Mixed Combustion makes it possible to process CH_4 without emitting into the atmosphere.

INQUIRIES

Sales Department, Combustion Engineering Division
1-3-38 Nonaka-kita, Yodogawa-ku, Osaka, 532-0034, Japan
Tel : +81-6-6392-5541　Fax : +81-6-6396-7609
E-mail : info-m@volcano.co.jp

Energy saving / Environment

Boiler Burners

http://www.volcano.co.jp/english/index.html

VOLCANO CO., LTD.

OIL / GAS COMBINATION BURNER "Vignis-mini"

This DF burner "Vignis-mini" is suitable for LNG Fueled vessels which are expected to increase. Features are as followings.

- "Vignis-mini", featuring the turndown ratio of 10:1 allows for energy-saving operation.
- Equipped with the Gas/Oil Simultaneous Mixed Combustion mode as well as the Gas/Oil Mono-fuel combustion modes, "Vignis-mini" will allow for energy-saving operation.
- With the Gas/Oil Simultaneous Mixed Combustion mode, the Gas/Oil ratio can be freely set to allow for economical operation in accordance with each vessel's circumstances.
- "Vignis-mini" is applied for 1～3t/h boiler.

On LNG Fueled vessels, BOG would be generated. CH_4, which is main component of BOG, is 25 times more potent than CO_2 for global warming. Gas/Oil Simultaneous Mixed Combustion makes it possible to process CH_4 without emitting into the atmosphere.

VOLCANO has 90years History.
We have more than 37years experiences of LNG Fuel for marine use.
We have delivery records for more than 180 vessels and have a reputation as safe and secure.

INQUIRIES

Sales Department, Combustion Engineering Division
1-3-38 Nonaka-kita, Yodogawa-ku, Osaka, 532-0034, Japan
Tel : +81-6-6392-5541 Fax : +81-6-6396-7609
E-mail : info-m@volcano.co.jp

Energy saving / Environment

Boiler Burners

http://www.volcano.co.jp/english/index.html

VOLCANO CO., LTD.

SFFG Ⅱ

This DF burner "SFFGⅡ" was designed and developed for the main boiler on LNG carriers and is currently being used by many LNG carriers, FPSO, FSRU. "SFFGⅡ" is also suitable for LNG Fueled Vessels.
Features are as followings.

- "SFFGⅡ", featuring the turndown ratio of 15:1(Oil) and 7:1(Gas) allows for energy-saving operation.
- Equipped with the Gas/Oil Simultaneous Mixed Combustion mode as well as the Gas/Oil Mono-fuel combustion modes, "SFFGⅡ" will allow for energy-saving operation.
- With the Gas/Oil Simultaneous Mixed Combustion mode, the Gas/Oil ratio can be freely set to allow for economical operation in accordance with each vessel's circumstances.
- "SFFGⅡ" is applied for 6～70t/h boiler.

On LNG Fueled vessels, BOG would be generated. CH_4, which is main component of BOG, is 25 times more potent than CO_2 for global warming. Gas/Oil Simultaneous Mixed Combustion makes it possible to process CH_4 without emitting into the atmosphere.

VOLCANO has 90years History.
We have more than 37years experiences of LNG Fuel for marine use.
We have delivery records for more than 180 vessels and have a reputation as safe and secure.

INQUIRIES

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Tel : +81-6-6392-5541 Fax : +81-6-6396-7609
E-mail : info-m@volcano.co.jp

Halogen – free

Cables & Wires, Electrical

http://www.hien.co.jp/e/e_index

HIEN ELECTRIC INDUSTRIES, LTD.

Halogen-free Flame-retardant cables

ClassNK
ISO 9001
ISO 14001

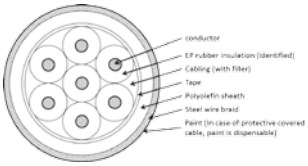
In compliance with the ISO9001 quality management system and the ISO14001 environmental management system

high degree of toughness

(1) Protection against external impact
(2) Steel wire braid against sparks during welding
(3) Plastic coating protected against steel wire corrosion

for Control & Instrumental Multicore cable

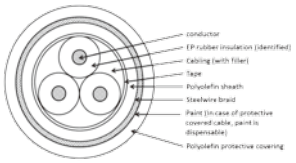
150/250V FA-MPOC-7×1.0
(Multi core, EP rubber insulated, Polyolefin sheathed and steel wire braided cable)



Our products are made in Kyoto, JAPAN

for Power & Lighting cable

0.6/1kV FA-TPOCO-70
(Three core, EP rubber insulated, Polyolefin sheathed and steel wire braided cable with Polyolefin protective covering)



You can add characteristic and service to the cable

- We have many custom variation, such as Cold proof, Oil resistant, Corrugated tube, and so on.
- We save your waste of cables by the HIEN cut shipping service.

Shipping view

INQUIRIES

505, Shinshibakawa Bldg., 3-4-11, Dosho-machi, Chuo-ku, Osaka, 541-0045, Japan
Tel : +81-6-6226-1501 Fax : +81-6-6226-1507
E-mail : hien-sales@hien.co.jp

Hybrid propulsion

Clutch

http://www.hitachi-nico.jp/en/index.html

HITACHI NICO TRANSMISSION CO., LTD.

Large Size Hydraulic Clutch

Large Size Hydraulic Clutch Prototype model

3D model

【Outline】
Large size hydraulic clutch has been developed as the technological development aid project in 2011, 2012 by The Nippon Foundation.

- Selectable for 2kinds of clutch plate of ϕ1100mm and ϕ1500mm.
- 6 times of transmitting capacity compared with experienced clutch plate,ϕ810mm max.

【Feature】

- Appropriate for 20000kw class of large vessel such as Capesize, Handymax.
- Remote control connected with electric valve enable easy operation for Clutch On-Off.
- Can be used for various layout like Two engine-one shaft vessel, Two engine-two shaft vessel, Hybrid propulsion vessel.

INQUIRIES

405-3 Yoshinocho 1-chome, Kita-ku, Saitama, 331-0811, Japan
Tel : +81-48-652-6708 Fax : +81-48-652-8719
https://www8.hitachi.co.jp/inquiry/hitachi-nico/en/form.jsp

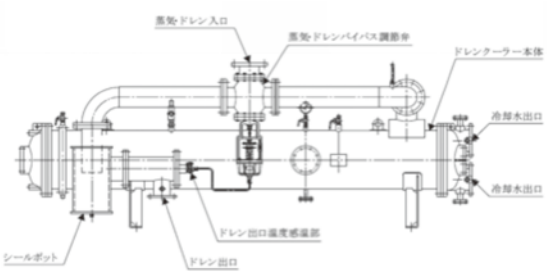
Energy-saving & safety

Condensers

http://yasec.co.jp/english/

YAMASHINA SEIKI CO., LTD.

e-DRAIN



The boiler efficiency is improved by controlling temperatures of drain at the drain cooler exit at a constant level, instead of wasting heat of steam and drain into seawater.

INQUIRIES

525, Higashizaka, Ritto-City, Shiga, 520-3031, Japan
Tel : +81-77-558-2311 Fax : +81-77-558-2319
E-mail : info@yasec.co.jp

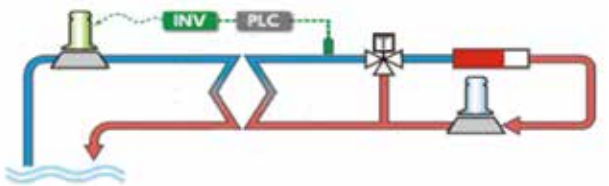
Inverter Energy Saving Retro-fit

Control Systems & Equipment

http://www.nishishiba.co.jp/nsdk/index.htm

NISHISHIBA ELECTRIC CO., LTD.

C.S.W. Pump Motor Inverter Driven System



As the C.S.W. pump usually operates at rated constant speed, it consumes unnecessary electric power by overcooling.
Therefore we propose cost-effective system which could be controlled by inverter and PLC.
It can also apply this system to the ship in service (retro-fit)

INQUIRIES

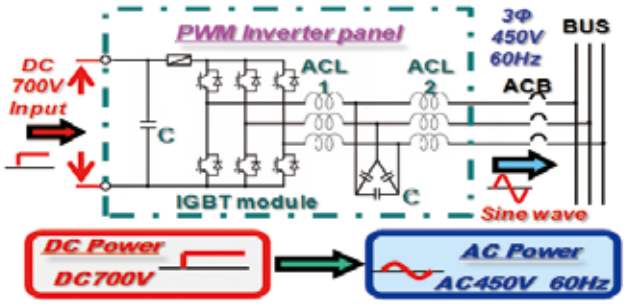
Osaka Branch
29th Fl., Umeda Sky Building West Tower, 1-30 Oyodonaka 1-chome, Kita-ku, Osaka, 531-6129, Japan
Tel : +81-6-4797-2451 Fax : +81-6-4797-2453

Control Systems & Equipment

http://www.taiyo-electric.co.jp/english/index.html

TAIYO ELECTRIC CO., LTD.

Power Saupply System



1. Thyristor Inverter Type Shaft Generating System
   SG mode (Generator) /SM mode (M/E boosting) /PM mode (Electric propulsion)
2. PWM Shaft Gen System
3. TC Generating System by PWM Inverter
4. DC Power System by PWM Inverter

This system supplies the stable AC power to the vessel which obtained from the various source.
This system contributes to users energy saving and maintenance cost saving.
Also, the output of this system has same electric characteristic as that of Diesel Generators (DG).
Therefore, it can be operated not only single running but also parallel running with DG.

INQUIRIES

Marine Business Division, Overseas Business Dept.
1-16-8 Uchikanda, Chiyoda-ku, Tokyo, 101-0047, Japan
Tel : +81-3-3293-3067 Fax : +81-3-3292-7012
E-mail : e-mail@taiyo-electric.co.jp

Energy Saving

Control Systems & Equipment

http://www.taiyo-electric.co.jp/english/index.html

TAIYO ELECTRIC CO., LTD.

Speed Control System by Inverter

1. Electric Propulsion System
2. Cargo Oil Pump
3. Electric Deck Machinery
4. Air Lub. Blower
5. Cool SW Pump
6. Refrigerator Compressor
7. E/R Ventilation Fan

The speed of Induction motor shall be variably controlled by inverter.
Energy saving can be achieved by saving consumed power which is done by controlling motor speed properly.
This system also contributes ship's operation by easy maintenance.

INQUIRIES

Marine Business Division, Overseas Business Dept.
1-16-8 Uchikanda, Chiyoda-ku, Tokyo, 101-0047, Japan
Tel : +81-3-3293-3067 Fax : +81-3-3292-7012
E-mail : e-mail@taiyo-electric.co.jp

Coolers, Oil

http://www.ushioreinetsu.co.jp/english/

USHIO USHIO REINETSU CO., LTD.

MGO cooling system

The low viscosity of the sulphur fuels may cause engine troubles. This MGO Cooling System is the best solution to achieve both “low sulphur” and “low viscosity”.

- SOx emission control from ships
- EU Directive / Less than 0.1% sulphur content from 1st January, 2010
- CARB(California Air Resource Board) /Less than0.1% sulphur content from 1st January, 2012
- SECA(Sulfur Emission Control Area)/Less than0.1% sulphur content from 1st January, 2015

INQUIRIES

5-3, Creative-Hills, Imabari, Ehime, 794-0069, Japan
Tel : +81-898-34-1203 Fax : +81-898-34-1204
E-mail : ushio@ushioreinetsu.co.jp

Diesel engine, Economical, Dual fuel engine

Diesel Engines, Auxiliary

http://www.dhtd.co.jp/en/index.html

DAIHATSU DIESEL MFG. CO., LTD.

8DEL-23

A long-stroke version of the eco-friendly DE-23 debuts, saving space with greater power and low fuel consumption.
With the installation of environmental devices and the increase in electronic equipment, onboard power consumption has been rising in recent years.
In response to this trend, we have incorporated a long-stroke design in our DE-23 diesel engine for marine use, an engine which has already received wide acclaim since the first deliveries in 2011.
The superb environmental performance remains the same, while achieving space-saving and greatly increased output.

INQUIRIES

2-10, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo, 103-0023, Japan
Tel : +81-3-3279-0821 Fax : +81-3-3245-0395
E-mail : shinsuke.okajima@dhtd.co.jp

Low Running Cost & Environmentally Friendly Diesl Engine

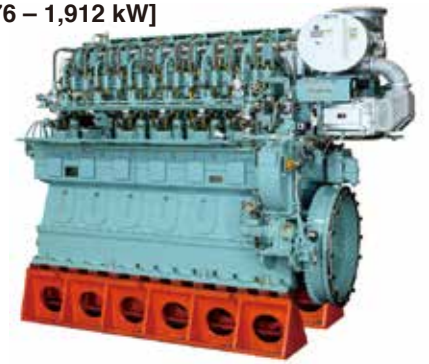
Diesel Engine, Propulsion

http://www.akasaka-diesel.jp/en/

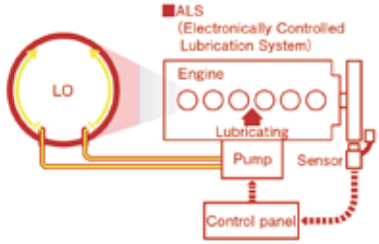
AKASAKA DIESELS LIMITED

Low running cost & Environmentally friendly diesel engine AKASAKA AX series

AX series [1,176 – 1,912 kW]



ALS (Electronically controlled lubrication system)



Akasaka Diesels Limited is one of the leading manufactures of main engine for ship propulsion in Japan. AX series is our latest model 4 stroke engine and has been developed in order to meet the environmental requirements.

- **Saving fuel oil cost**

AX series obtains the lowest specific fuel consumption in the same class engine. A low speed and a big torque with a large-diameter screw enhance propulsive efficiency, and realize low specific fuel consumption.

- **Low lubricating oil consumption [ALS + AP ring]**

ALS (Electronically controlled lubrication system) can lubricate necessary amount as it is needed, which realizes 0.5 g/kWh in cylinder lubrication rate. With AP ring which restrains carbon from adhering the piston and prevents the sliding surface of liners from polishing, it keeps the replenishment of system oil almost naught.

INQUIRIES

Tokyo head office, Oversea Sales Dept.
14th floor, south tower Yurakucho Denki Building, 1-7-1 Yurakucho, Chiyoda-Ku ,Tokyo Japan.
Tel : +81-3-6860-9085
E-mail : kaigaieigyou@akasaka.co.jp

Reduction of fuel oil consumption

Diesel Engines, Propulsion

http://www.hanshin-dw.co.jp/english/product.html

THE HANSHIN DIESEL WORKS, LTD.

Electronically controlled low speed four-stroke diesel engines

We The HANSHIN DIESEL WORKS, LTD. are the general maker of main engines and propulsion systems for ships, and have produced products by our own technology since 1918.
In order to meet the recent environmental requirements, the electronic management of engines is one of the most effective solutions. Electronically controlled two-stroke diesel engines have already been launched in the market. However such kind of Low-Speed four-stroke diesel engine has not been introduced yet.
The HANSHIN DIESEL WORKS, LTD. has newly developed electronically controlled low speed four-stroke diesel engines. One of the most typical features of this type of engine is to save fuel oil consumption by controlling electronically the fuel injection pattern in partial load. This system reduces fuel oil consumption by 3 to 5% in comparison with the conventional mechanically controlled system.
This new system is adopted in the engine series of LH46LE, LH41LE, and LA32E.

INQUIRIES

Overseas Business Section
Tel : +81-78-335-6001
Email : overseas-section@hanshin-dw.co.jp

Environmental Technology, Low Emission

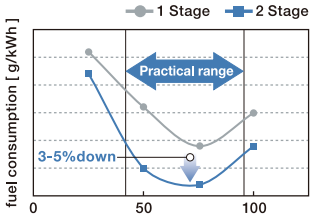
Diesel Engines, Plopulsion

http://www.yanmar.com/global/

YANMAR CO., LTD.

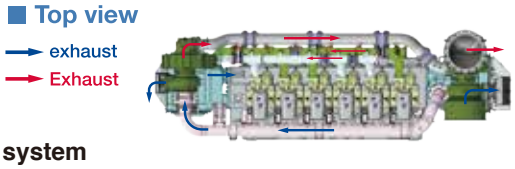
2-Stage Turbocharging System

Yanmar has always pursued low fuel consumptions as its corporate creed " Fuel reward to Nation" since foundation.
This time, we developed "2-stage turbocharging system" compliant with IMO Tier2 regurations, further evolving the engine, achieving far superior to the conventional engine.



Evolution of high pressure Miller Cycle System
We aquired the air by using "2-stage turbocharging system" in spite of advanced closing timing of sustion valve to compare with "1 stage turbocharging system".
It enabled to achieve the low fuel consumption in wide load.

■ Top view



Simple system
It has simple system that 2 turbochargers and 2 air coolers are only connected by sustion air pipes and exhaust pipe.
It enables easy maintainance of the system.

Unchanged moutability and Good acceleration
We arranged turbocharger & air cooler unit on both sides og the engine. By this structure, we could achieve the equivalent mountability as the bese engine by keeping the height of engine.
This engine has good acceleration at low load by adapting dynamic pressure type exhaust manifold.

INQUIRIES

No.1 Sales Group Overseas Sales Division
Marine Products Sales and Marketing Division
Power Solution Business
1-1-1, Nagasu Higashidori, Amagasaki, Hyogo, 660-8585, Japan
Tel : +81-6-6489-8042 Fax : +81-6-6489-1082
E-mail : ichiro_fuwa@yanmar.com

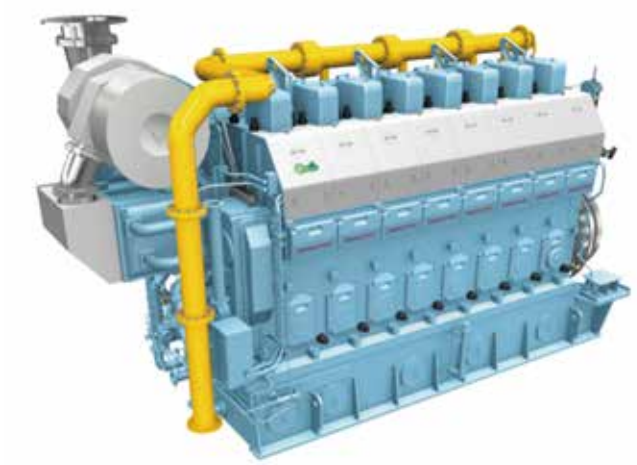
Diesel engine, Economical, Dual fuel engine

Dual Fuel Engines, Auxiliary

http://www.dhtd.co.jp/en/index.html

DAIHATSU DAIHATSU DIESEL MFG. CO., LTD.

Dual fuel engines DE20DF / DE28DF / DE35DF



DE20DF is 205mm bore x 300mm stroke, DE28DF is 280mm bore x 390mm stroke and DE35DF is 350mm bore x 440mm stroke. They cover the output range of 0.9-4.0MWe.
The common rail pilot injection system is applied for stable combustion, and can be use MGO, MDO, HFO and LNG as main fuel. Based on the optimization of A/F-ratio and other many parameters on gas mode operation, these engines are applicable to IMO NOx Tier III regulation without any exhaust gas after-treatment, can also reduce CO_2 of 23%, SOx/PM of over 99%.
The safety concept is in accordance with IGF code. If a gas mode trip happens, the engine switches over from gas mode to diesel mode operation immediately without any fluctuation of the engine output and revolution.

INQUIRIES

2-10, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo, 103-0023, Japan
Tel : +81-3-3279-0821 Fax : +81-3-3245-0395
E-mail : shinsuke.okajima@dhtd.co.jp

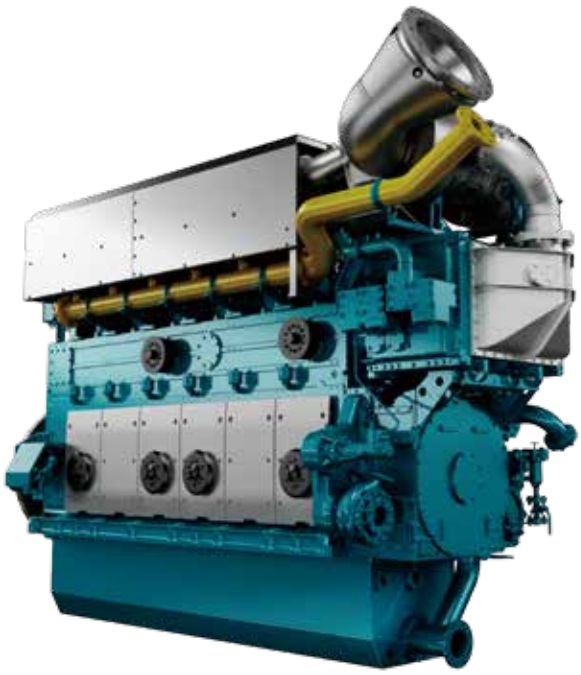
Dual Fuel, Medium Speed, Diesel, Gas, Tier Ⅲ

Dual Fuel Engines, Propulsion

http://www.niigata-power.com/english/index.html

NIIGATA NIIGATA POWER SYSTEMS CO., LTD.

28AHX-DF



- The 28AHX-DF is an environmentally friendly engine, satisfying IMO Tier III NOx regulations. It uses clean gas combustion, making it possible to meet the new regulations without the need for an exhaust gas processing reactor.
- The 28AHX-DF offers both gas and diesel operation modes. It can be instantly switched at full load from gas to diesel operation, ensuring safe ship operation even in emergency situations.
- The 28AHX-DF is the world's first FPP directly couplable gas engine. It offers high dynamic performance equivalent to that of a diesel engine even during gas operation, as well as load pickup times, from idling to rated output, which compare favorably with diesel gas engines.

INQUIRIES

14-5, Sotokanda 2-Chome, Chiyoda-ku, Tokyo, 101-0021, Japan
Tel : +81-3-4366-1226 Fax : +81-3-4366-1310
E-mail : info1_sales1@niigata-power.com

Environmental Technologies

Dual Fuel Engines, Propulsion

http://www.yanmar.com/global/

YANMAR CO., LTD.

6EY26DF

The major feature of this engine is the redundancy capability due to the use of dual fuels. This engine is possible to continue operation by changing over to the diesel mode automatically, even when the gas mode operation fail.
In addition, the micro-pilot with its intense energy, ensures stable ignition capability. And the air-flow quantity control system with the bypass and waste-gate improves the engine transient response.
These techninologies enables adapt the engine as a ship propulsion engine.
Dual fuel engine has the following characteristics.

- Adaption IMO Tier 3 regulation.
- Redundancy by Dual Fuel (LNG and MDO / HFO).
- Stable ignition ability by Micro Pilot.

INQUIRIES

No.1 Sales Group Overseas Sales Division
Marine Products Sales and Marketing Division
Power Solution Business
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Tel : +81-6-6489-8042 Fax : +81-6-6489-1082
E-mail : ichiro_fuwa@yanmar.com

Low pressure, Lean burn, Dual Fuel Engine, Tire Ⅲ compliance

Dual Fuel Engines, propulsion (Low-Speed)

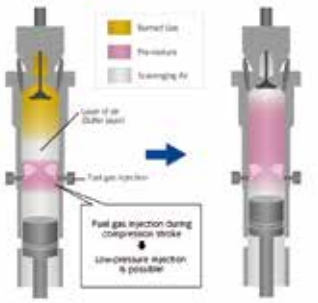
http://www.ihi.co.jp/du/english/home/home.html

DIESEL UNITED, LTD.

IHI GROUP
Realize your dreams

W6X72DF

Low-speed Low-pressure
Dual fuel engine "X-DF"



◆X-DF applies the pre-mixed lean burn technology and can meet IMO Tier Ⅲ requirement without the exhaust gas after-treatment.
◆X-DF has advantages of lower Capex and Opex due to no requirement of a high pressure compressor.
◆For safety concerns, X-DF uses low-pressure LNG. (＜16bar)
◆X-DF can switch from gas mode to diesel mode immediately.
◆X-DF is based on the low-speed two-stroke engine which is much proven in marine use.

DU-WinGD X-DF engine is the best eco-friendly solution!

INQUIRIES

Prime Kanda Bldg., 2-8, Kanda Suda-cho, Chiyoda-ku, Tokyo 101-0041, Japan
Tel : +81-3-3257-8222 Fax : +81-3-3257-8220
E-mail : info@du.ihi.co.jp

Eco-Friendly Product

http://www.motech.co.jp/e_index.html

MOL Techno-Trade, Ltd.

AIR GARBAGE COMPACTOR Type AGC- Ⅱ

MOL Techno-Trade,Ltd. developed air actuate Garbage Compactor AGC-II which is available to compress various waste materials such as plastic film, bottle and beverage cans by using compression air onboard. Simple design with easy operation will much effective for organizing waste materials with reduction of waste disposal cost.

INQUIRIES

MOL Techno-Trade, Ltd. / Ship's Supplies & Machinery Dept.
1-1, 1-Chome, Kyobashi, Chuo-ku, Tokyo, 104-0031, Japan
Tel : +81-3-6367-5370 Fax : +81-3-6367-5515
Email : ship-mach@motech.co.jp

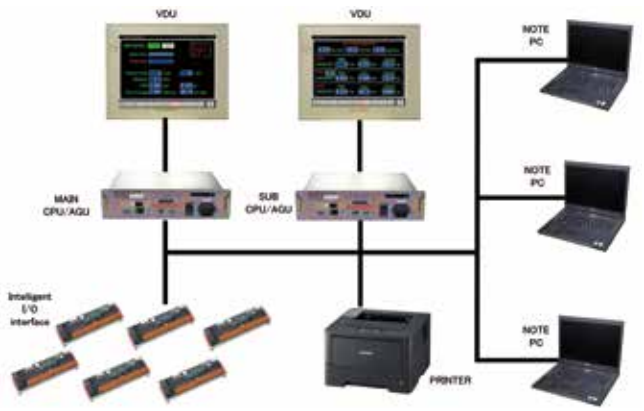
Energy Saving

Engine Telegraphs & Loggers

http://www.kei-system.co.jp/indexe.html

KEIsystem KEI SYSTEM CO., LTD.

Fuel consumption meter



Our data logger system is possible to display the following information by connecting with GPS by serial communication.
Confirm the fuel cost in real time inboard.

- Fuel consumption rate per day. (Tonnage)
- Distance of cruise per a ton of fuel. (Mile)
- Fuel consumption rate per hour.
- Possible to display and to record the fuel consumption rate etc. per a navigation.

INQUIRIES

1-5, 1-Chome, Ikunonishi, Ikuno-Ku, Osaka, 544-0024, Japan
Tel : +81-6-6712-1151 Fax : +81-6-6712-1311
E-mail : info3@kei-system.co.jp

Exhaust Gas Heat Recovery Unit

Exhaust Gas Heat Recovery Unit

http://www.miuraz.co.jp/en/bwts/

MIURA MIURA CO., LTD.

GK-G

The GK-G exhaust gas heat recovery unit works with a composite boiler to recover the waste heat from the G/E for use as a heat source. It can contribute significantly to saving space and reducing fuel costs. Air pollution regulations in the IMO MARPOL Convention have resulted in changes in the conditions for exhaust heat recovery and in future, it is anticipated that the amount of steam produced will be insufficient.
The GK-G makes effective use of the normally unused exhaust heat from auxiliary generators,enabling it to be used as a heat source.

INQUIRIES

7 Horie-cho, Matsuyama, Ehime, 799-2696, Japan
Tel : +81-89-979-7060 Fax : +81-89-979-7082
E-mail : hakuyo_eka@miuraz.co.jp

100% Natural Ingredients, Biodegradable, Non-Corrosive/Toxic, and Effective Against Lithium Battery Fire , EV/HV Fire, and Helicopter Fire

Fire Fighting System

http://www.portenterprise.com

Port Enterprise Co., Ltd.

100% Pure Electric Ferry

European Union Horizon 2020

4.3MW Largest Marine Lithium Battery Energy Storage System

PCC for TESLA Electric Vehicles

MSC 96/25/Add.1 Annex 2, Page 3, Ch. 17 Helicopter Facility

Foam Fire Fighting Appliances for All New Builds from 2020!!!

100% Natural and Biodegradable
Non-Corrosive/Toxic
Expansion Foam Based

FIFI4MARINE

Marine Certified Fire Fighting System

INQUIRIES

No. 2-1-28, Chikko, Minato, Osaka, 552-0021, Japan
Tel : +81-6-6573-5391 Fax : +81-6-6575-3036
E-mail : penterj@penterj.co.jp

Energy saving type distilling plant

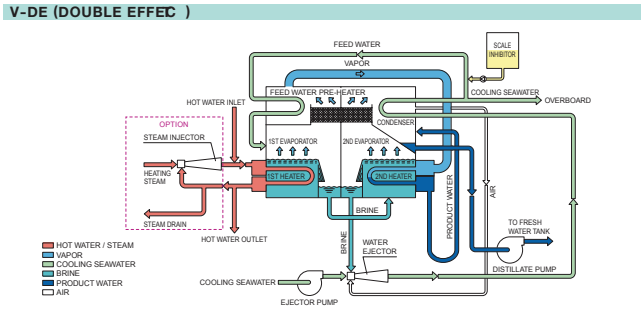
Fresh Water Generating Plant

http://www.sasakura.co.jp/e/index.html

SASAKURA ENGINEERING CO., LTD.

Multi-Effect Submerged Tube Type Fresh Water Generator

The Double-Effect plant is a compact, highly heat efficient seawater distilling plant with two chambers of 1st and 2nd effect in a single shell. The Triple-Effect plant contains three chambers of1st, 2nd and 3rd effect, and is an even more highly efficient plant.
As a heat source, either the waste heat from a diesel engine jacket cooling water or steam can be used. 40~200 tons per day type of capacity can be provided.



INQUIRIES

7-32, 4-chome, Takejima, Nishiyodogawa-ku, Osaka, 555-0011, Japan
Tel : +81-6-6473-2134
E-mail : marine@skm.sasakura.co.jp

Energy saving type distilling plant

Fresh Water Generating Plant

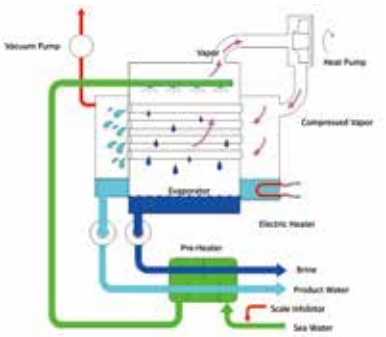
http://www.sasakura.co.jp/e/index.html

SASAKURA ENGINEERING CO., LTD.

Vacuum Vapor Compression Shell & Tube Evaporation Type Fresh water generator

The VVC distiller system has four main components; a horizontal-tube, thin-film evaporator; a rotary blower and a back-up heater. Vacuum in the unit is maintained by a small vacuum pump.
Features:

- Scale-free horizontal tubular evaporator
- Maintenance-free & compact type heat-pump
- Evaporation can be operated by only electricity.



INQUIRIES

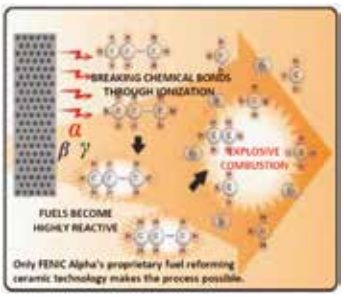
7-32, 4-chome, Takejima, Nishiyodogawa-ku, Osaka, 555-0011, Japan
Tel : +81-6-6473-2134
E-mail : marine@skm.sasakura.co.jp

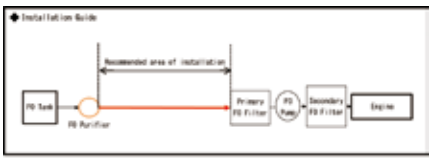
Fuel Reformer

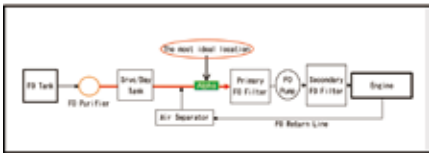
http://www.portenterprise.com

Port Enterprise Co., Ltd.

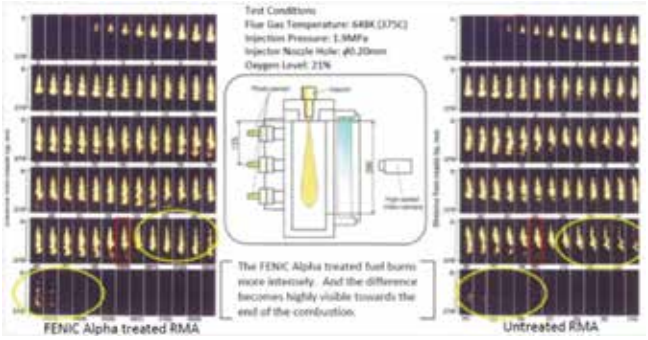
FENIC Alpha Fuel Reformer







FENIC Alpha upgrades a variety of fuels by breaking chemical bonds of complex hydrocarbons through ionization using our own proprietary ceramic technology.



It is well proven, completely safe, extremely easy to install, and requires absolutely no power source.

INQUIRIES

No. 2-1-28, Chikko, Minato, Osaka, 552-0021, Japan
Tel : +81-6-6573-5391 Fax : +81-6-6575-3036
E-mail : penterj@penterj.co.jp

Energy saving / Environment

Gas Combustion Unit

http://www.volcano.co.jp/english/index.html

VOLCANO CO., LTD.

Gas Combustion Unit for LNG Fueled vessel "MECS-GCU"

VOLCANO has 90years History.
We have more than 37years experiences of LNG Fuel for marine use.
We have delivery records for more than 180 vessels and have a reputation as safe and secure.

This system "MECS-GCU" can process Boil Off Gas(BOG) in the range from 250kW to 2400kW for LNG Fueled vessels which are expected to increase.
This system safely incinerates and processes BOG or Gas vaporized when bunkering on LNG Fueled vessels. When docking a LNG Fueled vessel, combustible gas in the fuel tank should be incinerated and replaced to inert gas. This system can incinerate various BOG consisting of CH_4 or inert gas.
On LNG Fueled vessels, BOG would be generated. CH_4, which is main component of BOG, is 25 times more potent than CO_2 for global warming. "MECS-GCU" makes it possible to process CH_4 without emitting into the atmosphere.

INQUIRIES

Sales Department, Combustion Engineering Division
1-3-38 Nonaka-kita, Yodogawa-ku, Osaka, 532-0034, Japan
Tel : +81-6-6392-5541 Fax : +81-6-6396-7609
E-mail : info-m@volcano.co.jp

Natural gas, NOx, GHG

Gas Engine

http://global.kawasaki.com/en/mobility/marine/machinery/mge.html

KAWASAKI HEAVY INDUSTRIES, LTD.

Green Gas Engine (L30KG)

In April 2014, Kawasaki Heavy Industries, Ltd. obtained the type approval certificate from DNV-GL for Green Gas Engine L30KG — the main engine for large vessels fueled solely by gas with an output capacity of over 2 MW.
Green Gas Engine L30KG can reduce emissions far below the level set by IMO NOx Tier III regulations without relying on special equipment such as an SCR (Selective Catalytic Reduction) system. Its superior environmental performance also allows significant reduction of CO_2 and SOx emissions compared to diesel engines, thus helping marine vessels comply with various environmental regulations.

INQUIRIES

Marine Machinery Sales Department
1-14-5, Kaigan, Minato-ku, Tokyo, 105-8315, Japan
Tel : +81-3-3435-2374 Fax : +81-3-3435-2022
E-mail : marine-machinery-sales-e@khi.co.jp

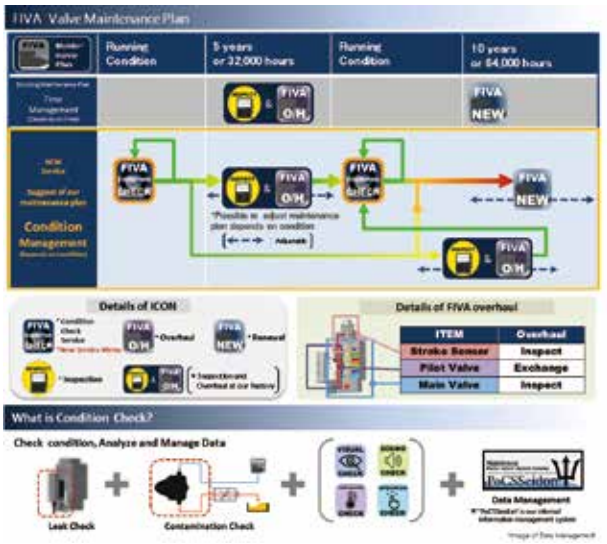
Hydraulic Control Valve

https://www.nabtesco.com/en/

Nabtesco Corporation

FIVA(Fuel Injection and Valve Actuation) Valve

FIVA valve is an electro-hydraulic servo valve which controls fuel oil injection timing, quantity and exhaust valve actuation timing in order to optimize combustion condition at any load.
This is applied to MAN Diesel and Turbo ME (electric controlled) two-stroke engine and installed on each cylinder. This contributes to eco-friendly engine actuation with fuel-efficient and low-emission.
We, Nabtesco, developed our own a high-precision pilot valve and a feedback sensor that bring high-quality and high-reliability. Furthermore, we offer its condition check and overhaul services as part of maintenance through our world-wide service network for your safety voyage.



INQUIRIES

Marketing & Sales Department, Marine Control System Comapany
1617-1, Fukuyoshidai 1-chome, Nishi-ku, Kobe, Hyogo, 651-2413, Japan
Tel : +81-78-967-5361 Fax : +81-78-967-5362
E-mail : newbuilding@nabtesco.com

LNG, Pump, Clean, Environment

LNG Pump

http://www.shinkohir.co.jp/en/

SHINKO IND. LTD.

LNG Pump

In anticipation of the growing need for safe and clean energies, our company began developing low-temperature liquefied gas pumps in the 1970's.
In 1992, we supplied our first marine LNG pumps to a LNG carrier. Since then, our global market share has increased and now reached over 85%. These LNG pumps have become one of our main products that supports our company, much like our cargo oil pumps. Our LNG pump specifications can adapt to the shale gas energy revolution and other new demands, allowing us to receive a high reputation from customers worldwide.

INQUIRIES

Department : Business Dept.1
5-7-21 Ohzu, Minami-ku, Hiroshima, 732-0802, Japan
Tel : +81-82-508-1000
E-mail : master@shinkohir.co.jp

Solar power, renewable energy

Marine Solar Power

http://www.ecomarinepower.com/

ECO MARINE POWER CO., LTD.

Aquarius Marine Solar Power

Aquarius Marine Solar Power is an integrated renewable energy system for ships that includes a computer system, energy storage solution & marine solar power array.

The energy collected via the marine solar panel array or string of photovoltaic (PV) panels can be used to power a DC load, provide back-up power or be connected to an AC load via an inverter. Thus any ship can tap into the clean and renewable energy provided by the sun.

Equipment performance, system management, alarm monitoring and data logging functions are performed by the Aquarius MAS. This reliable marine computer system can also calculate vessel emissions and monitor fuel consumption.

INQUIRIES

Aqua Hakata 5F, 5-3-8, Nakasu, Hakata-ku, Fukuoka, 810-0801, Japan
Tel : +81-92-287-9677 Fax : +81-92-287-9501
E-mail : enquiries@ecomarinepower.com

The ready fighting power of the ECO

Navigation Lights

http://www.nipponsento.co.jp/

NIPPON SENTO CO., LTD.

LED Navigation Lights Type NL series

Type Approval
JG NL series

■Highly reliable design of LED light sources

Conditions of the LED are always monitored. If a problem occurs in the LED, the inner circuit detects it, turns off the LED immediately, and sends an error signal to the control panel.

Both the LED light source and frame are highly-reliable and made in Japan.

■Vibration-proof characteristics

Incandescent lamps burn out when vibrations are applied to them. LED lamps will not burn out.

■Projection-free lamp windows

Lamp windows need no projections, such as Fresnel lenses, owing to superior LED light distribution characteristics of LED light sources.

These characteristics reduce possibility of ice coating and snow accretion and prevent adhesion of dust and stain.

■Power saving and long life

The LED light source reduces power consumption down to 1/6 in comparison with the traditional incandescent lamps and allows remarkable power saving.

The rated life of the LED light source is as long as 50000 hours.

■Replaceable light source unit

The LED light source and power supply are unitized and can be replaced easily. Three types have common units, allowing immediate replacement and recovery from problems with the minimum stocks.

INQUIRIES

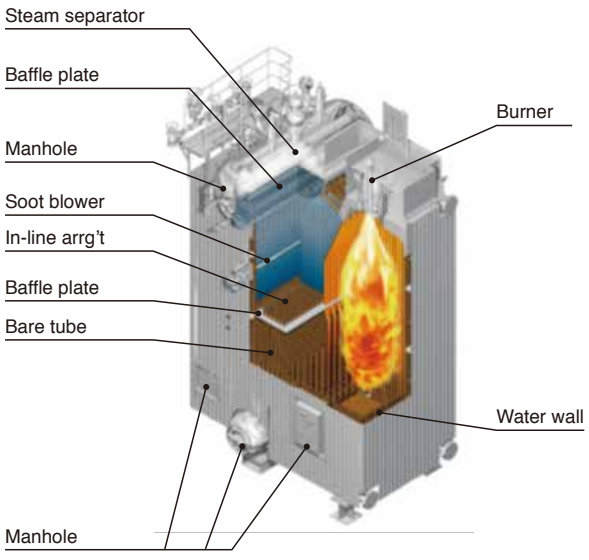
555, Takahisa, Yoshikawa, Saitama, 342-0035, Japan
Tel : +81-48-981-2661 Fax : +81-48-981-2664
E-mail : nissen@nipponsento.co.jp

Energy Saving

New Generation Auxiliary Boiler MAC-HB

https://www.mhi-mme.com/

MITSUBISHI HEAVY INDUSTRIES MARINE MACHINERY & EQUIPMENT



Design features

1. Design on basis of MAC-B boiler well proven by thousands of delivery
2. Two-drum water tube boiler
3. Steam atomizing burner
4. Easy inspection and maintenance with In-line tube arrangement and manholes
5. Easy soot cleaning with bare tube
6. Improving boiler efficiency by increasing heating surface and heat transfer rate.

Design data

Model	: MAC-H35B~H60B
Steam capacity	: 35~60t/h
Working pressure	: 1.6~2.0MPa
Steam temperature	: Saturated
Fuel	: Oil(HFO&MGO)
Boiler efficiency	: 86.5%

INQUIRIES

Tokyo Branch Office
Tel : +81-3-6716-5331 E-mail: info_meet@mhi-mme.com

Fuel saving, Low Friction, Antifouling

Paints

http://www.cmp.co.jp/global.html

CHUGOKU MARINE PAINTS, LTD.

SEAFLO NEO CF Z / SEAFLO NEO CF PREMIUM

PREMIUM ANTIFOULING PERFORMANCE FROM PREMIUM ANTIFOULING TECHNOLOGIES

Premium antifoulings, SEAFLO NEO CF Z and SEAFLO NEO CF PREMIUM have already been applied to hundreds of vessels since its launching into the industry.
CF (Cuprous oxide Free) formulation of these products contributes to environmental protection.
Further, newly introduced biocidal agents (ECONEA® for SEAFLO NEO CF Z, Selektope® for SEAFLO NEO CF PREMIUM) enhance the products' spectacular antifouling performance, together with CMP's cross linking zinc acrylate technology.
These products have been designed as a premium solution for vessels trading at a wide range of speed and activity, where the main focuses are long term hull performance,
reducing hull resistance and fuel saving by maintaining very thin leached layer.

INQUIRIES

Chugoku Marine Paints, Ltd.
Headquarter
Tel : +81-3-3506-3951
Contact URL : https://www.cmp.co.jp/global/contact_global.html

Fuel saving, Low Friction, Foul-Release-Coating (FRC)

Paints

http://www.cmp.co.jp/global.html

CHUGOKU MARINE PAINTS, LTD.

CMP BIOCLEAN PLUS

Foul-release coating (FRC) is one of the environmental choices of antifoulings and has proven application records since 2003.
"CMP BIOCLEAN" is in the CMP's silicone FRC product range. Its ultra-smooth surface which is regulated by the rheology control technology provides foul-release performance and fuel efficiency.

"CMP BIOCLEAN HB" is silicone finish coating. Single coat system of silicone finish is the CMP's unique technique.

"CMP BIOCLEAN PLUS", the latest version in the CMP BIOCLEAN series, has been newly developed based on CMP BIOCLEAN HB. It's added "PLUS Technology" induces resisting and releasing slime.

INQUIRIES

Chugoku Marine Paints, Ltd.
Headquarter
Tel : +81-3-3506-3951
Contact URL : https://www.cmp.co.jp/global/contact_global.html

Energy-saving, Reduction of GHG emissions, Antifouling paint

Paints

http://www.nipponpaint-marine.com

NIPPON PAINT MARINE COATINGS CO., LTD.

A-LF-Sea
– Ultra Low Friction Underwater Coating System -

A-LF-Sea is an advanced version of our low-friction coating “LF-Sea” delivering further propulsion benefits.
A biomimetic ultra-low-friction antifouling that worksusing a patented water trapping function to lower the hydrodynamic footprint of thehull.
Stable and long term antifouling is guaranteed by the use of a low frictioncopper-silyl-acrylate copolymer.
Used in conjunction with Nippon Paint Marine's 'Rheo' anticorrosive systems, fuel-savings can be further enhanced.
A-LF-Sea provides 10% fuel-saving effect in case of new building or full-blasting at M&R and 7~8% fuel-saving effect in case of spot blasting at M&R to be applied A-LF-Sea only without Rheological anti-corrosive coatings. Over 780 ships has already been applied with A-LF-Sea in the world as of December 2016. And the number of track recordincluding LF-Sea (1st generation of A-LF-Sea) has reached 2100.

INQUIRIES

NIPPON PAINT MARINE COATING CO., LTD.
Tel : +81-78-735-5301
Contact URL : http://www.nipponpaint-marine.com/en/inquire/index.php

Long-term corrosion protection, Reduction of VOC emissions, Protective coating

Paints

http://www.nipponpaint-marine.com

NIPPON PAINT MARINE COATINGS CO., LTD.

SI paint NOA – Protective Coating System with SI (Self-Indication) technology

NOA is Nippon’s unique technology providing users for the first time with the ability to judge the correct thickness of the paint. NOA’s unique patented technology reduces the need for complicated thickness checking by thickness gauge. NOA contributes to reduce workload for (1)coating inspection, (2) physical thickness measurement & marking and (3) post painting repair & touch-up. Furthermore, NOA contributes to secure (a) uniform coating, (b) specifiedthickness, (c) minimal excessive thickness and (d) corrosion protection for ship’s life.
Especiallyfor WBT, NOA has been applied over 1100 newbuildings since 1998. And its 10 year corrosionprotection records are recently confirmed on large LNG carriers.

INQUIRIES

NIPPON PAINT MARINE COATING CO., LTD.
Tel : +81-78-735-5301
Contact URL : http://www.nipponpaint-marine.com/en/inquire/index.php

Energy Saving, Fuel Saving, Emission reduction, Under-water noise reduction,Harbor due discount, Advanced technology, ESD

PBCF

http://www.pbcf.jp

MOL Techno-Trade, Ltd.

PBCF (Propeller Boss Cap Fins)

PBCF is an energy saving device installed on a propeller to improve propulsive efficiency by eliminating hub-vortex and by reducing torque loss. In consequence, vessel fuel consumption is reduced up to 5%. PBCF is originally developed by Mitsui O.S.K. Lines in 1987, and advanced PBCF has launched since May 2017. Total number of installation is now over 3,200 vessels in all over the world.

Principal Benefits of PBCF

- Saving fuel up to 5%, corresponding reduction of NOx and CO_2 emissions.
- Reduces propeller-induced underwater-noise and vibrations.
- Reduces propeller-induced underwater-noise and vibrations.
- Simple and quick installation, just the replacement of the existing propeller boss cap.
- Suitable to both new buildings and retrofit applications.
- Pay-back time is less than 1 year, even at low fuel prices.

INQUIRIES

MOL Techno-Trade, Ltd. / PBCF Dept.
1-1, 1-Chome, Kyobashi, Chuo-ku, Tokyo, 104-0031, Japan
Tel : +81-3-6367-5380 Fax : +81-3-6367-5516
E-mail : pbcf@motech.co.jp

Energy Saving, GHG, EEDI, EEOI

Propellers, Controllable

http://www.kamome-propeller.co.jp/en

KAMOME PROPELLER CO., LTD.

CP Propeller

As the torque-rich of main engine caused by the fouling of the hull or the effect of waves and wind can be avoidable by adjusting CPP pitch angle and speed properly through ALC or combination control, when building the vessel, the main engine output can be minimized compared with FPP without considering margin to reduce fuel consumption.
The advantage of CPP for large energy saving is exercised by the shaft generator system driven by main engine with constant speed or the hybrid propulsion system where diesel main engine and electric motor/generator are combined as a propulsion prime mover.

INQUIRIES

Business Operation Division, International Department
690 Kamiyabe-cho, Totsuka-ku, Yokohama, 245-8542, Japan
Tel : +81-45-811-2461 Fax : +81-45-811-9444
E-mail : info@kamome-propeller.co.jp

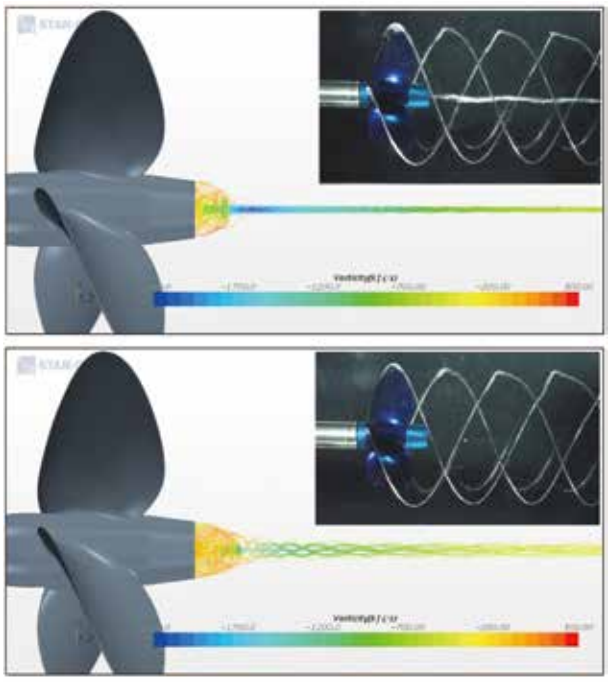
Energy saving, GHG, EEDI, Propulsion efficiency, Hub vortex

Propellers, fixed pitch

http://www.kamome-propeller.co.jp/en

KAMOME PROPELLER CO., LTD.

SG Propeller



The SG propeller applies the reducing technology of the hub vortex strength and the optimization technology of the blade loading distribution and the numerical calculations including the cavitation simulation, the propeller exciting force estimation, etc. are introduced in its design. The reduced hub vortex strength improves the lower pressure region behind the hub which causes the thrust deterioration. The optimized blade loading distribution increases the propeller open water efficiency without deteriorating the cavitation performance.
Accordingly the SG propeller improves the efficiency about 3% than the conventional propeller and has been installed in over 350 vessels.

INQUIRIES

Business Operation Division, International Department
690 Kamiyabe-cho, Totsuka-ku, Yokohama, 245-8542, Japan
Tel : +81-45-811-2461 Fax : +81-45-811-9444
E-mail : info@kamome-propeller.co.jp

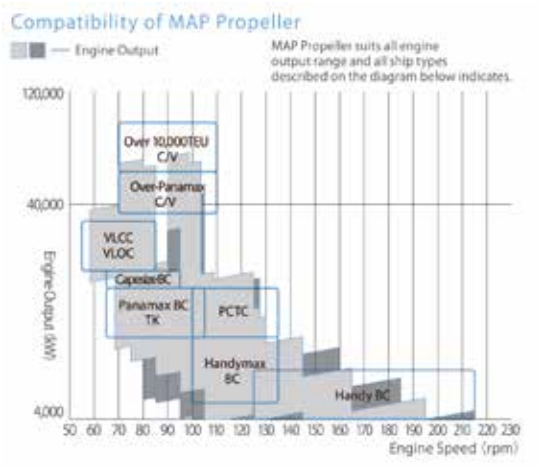
Energy Saving, Less fuel Consumption, GHG (CO_2) Reduction, Slow Steaming

Propellers, fixed pitch

https://www.mhi-mme.com/

MITSUBISHI HEAVY INDUSTRIES MARINE MACHINERY & EQUIPMENT

MAP (Mitsubishi Advanced Propeller) Mark-W Propeller



Improvement of the tip shape enhanced the efficiency of MAP Mark-W propellers while keeping cavitation performance levels virtually unaffected. These propellers can be tailored so suit slow-steaming needs and are also ideal for retrofitting existing propulsion systems.

(Features)
•Economical
- High propulsion efficiency
•Highly reliable
- Maintains excellent propeller strength
•Excellent cavitation performance with streamlined tips and reduced blade area
•Compact design
- Lower propeller mass and inertia moment

INQUIRIES

Business Development Division
Tel : +81-3-6716-5330 E-mail : info_meet@mhi-mme.com

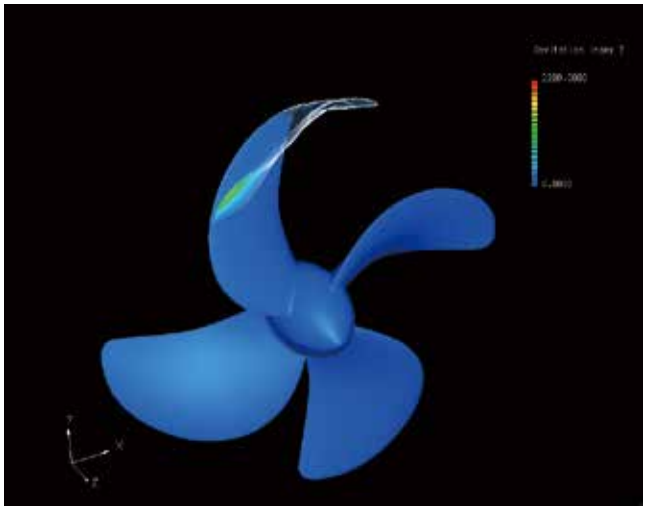
Energy Saving, EEDI, NHV

Propellers, fixed pitch

https://www.nakashima.co.jp/eng/

NAKASHIMA We Go Beyond NAKASHIMA PROPELLER CO., LTD.

GPX PROPELLER



GPX PROPELLER is the latest fixed pitch propeller which integrates several design technologies including Non-Hub Vortex, Small blade area, Coordination of Wake distribution and Tip rake.

- Non-Hub Vortex technology can recover energy loss which is caused by hub vortex.
- Small blade area can reduce friction resistance and use CFD analysis.
- Though Wake distribution is different by each vessel, GPX propeller is coordinated based on each wake pattern.
- Tip rake is also developed throughout many model tests and calculations, and now Tip rake can stabilize cavitation and reduce Pressure amplitude.

GPX propeller is optimized by considering balance of those technologies and can achieve higher efficiency.

INQUIRIES

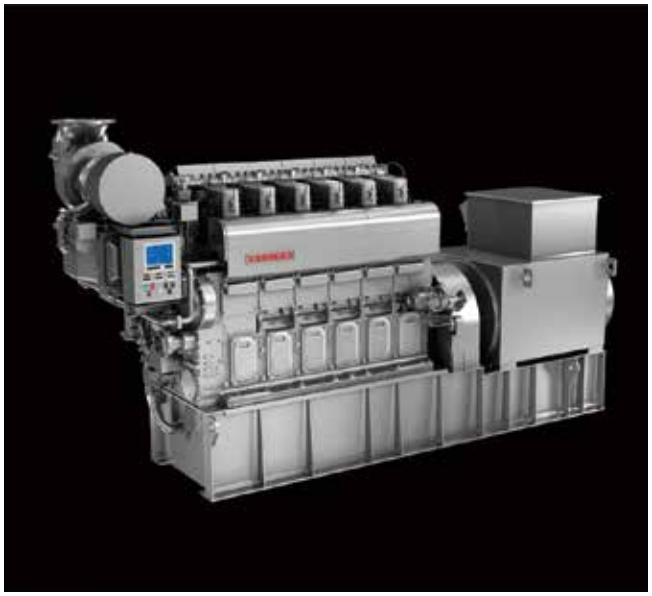
Sales & Marketing Department
688-1, Joto-Kitagata, Higashi-Ku, Okayama, 709-0625, Japan
Tel : +81-86-279-5111 Fax : +81-86-279-3107
E-mail : npcwebmaster@nakashima.co.jp

Propulsion Systems (electric)

http://www.yanmar.com/global/

YANMAR CO., LTD.

6EYG26L



Marine gas engine EYG26L has 25% reduction of the CO2 emission from the base diesel engine by adopting new technology against fluctuation of propulsion load and fuel calorie.
This engine has won both of type approval certificate of Engine type and Engine Safety, Control and Alarm System by DNV.

～ Features ～

- NOx emission adapts to IMO/Tier 3 regulation, by applying lean-burn system.
- 6EYG26 engine accomplishes the prescribed performance against the fuel of methane number 65 or more.
- 6EYG26 engine also maintains the performance against the fuel calorie variation.
- 6EYG26 equips knocking detection and avoidance system.

INQUIRIES

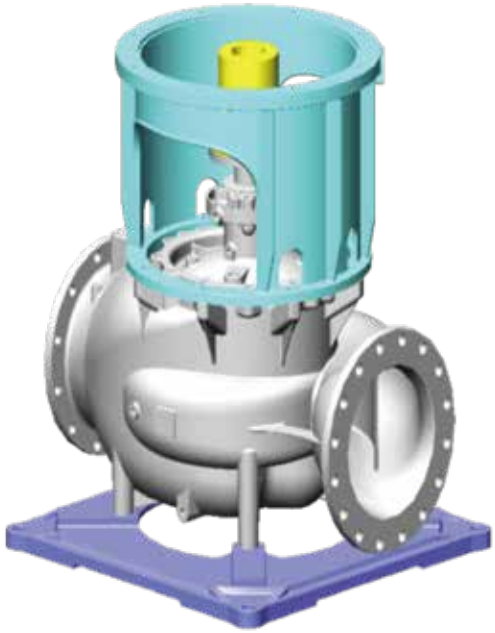
No.1 Sales Group Overseas Sales Division
Marine Products Sales and Marketing Division
Power Solution Business
2-1-1, Yaesu, Chuo-ku, Tokyo, 104-8486, Japan
Tel : +81-3-3275-4909　Fax : +81-3-3275-4969
E-mail : ichiro_fuwa@yanmar.com

Pump

http://www.naniwa-pump.co.jp/english/

NANIWA PUMP MFG. CO., LTD.

SOx / Nox Scrubber Water Circ. Pump



Water Circulating Pump which is designed for NOx & SOx Scrubber System has been developed.
Its features are as follows:
- Specially designed for SOx/NOx Scrubber System.
- All wetted parts are made of stainless steel enduring a wide range of pH value (pH3~11).
- Newly designed diaphragm type mechanical seals in order to resist smoke dust which contaminates the pumping water.

INQUIRIES

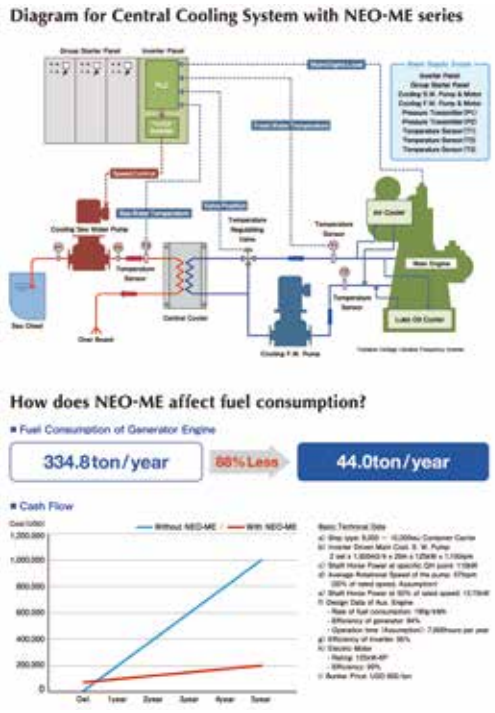
Tel : +81-6-6541-6231
E-mail : info@naniwa-pump.co.jp

Pump, Inverter Control

http://www.naniwa-pump.co.jp/english/

NANIWA PUMP MFG. CO., LTD.

NEO-ME



Naniwa Pump supports customer expectation for “greener ships”, paying close attention to the following parameters.
- Environmental Protection
- Safety of Operation
- Saving Energy

NEO-ME series control rotational speed of Main Cooling Sea Water Pump according to following information.
- Main Engine Load
- Sea Water Temperature
- Temperature Regulation Valve Position
- Fresh Water Temperature

NEO-ME series operate Main Cooling Sea Water Pumps with economy and safety. Its standard features are as following:
- High response performance to main engine load
- 0% Speed at 100% F.W. Circulation
- Adaptive to sea water temperature change
- Based on those features NEO-ME series realizes:
- Full time minimum fuel consumption
- Optimized operation for vessel speed reduction

For safety operation:
- Flushing alert system is incorporated.

INQUIRIES

Tel : +81-6-6541-6231
E-mail : info@naniwa-pump.co.jp

Bilge Water Treatment

Pumps, Bilge

http://www.heishin.jp/en/

HEISHIN Ltd.

Heishin PC Pump

Heishin PC Pump is capable of handling high-viscosity fluids, high-concentration slurries and fluids containing solids. As conveyed materials move through pipes, practically no unpleasant odors are produced. Also, it is a quiet pump that makes no drive noise aside from the motor. Heishin PC Pump with these features is best suited for conveyance of bilge water.

INQUIRIES

Nihombashi Kato Bldg. 8F, 2-1-14, Nihombashi, Chuoh-ku, Tokyo 103-0027, Japan
Tel : +81-3-5204-6380 Fax : +81-3-5204-6377
E-mail : info@mohno-pump.co.jp

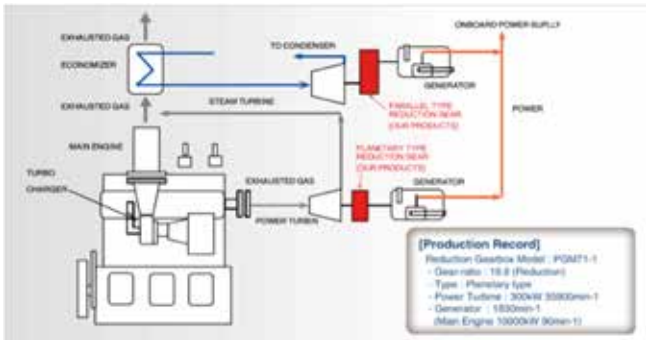
Energy Saving

Reduction Gear

http://www.hitachi-nico.jp/en/index.html

HITACHI NICO TRANSMISSION CO., LTD.

Reduction Gearbox for Exhaust Power Recovery System



Exhausted gas from marine diesel engine remains much energy to be recovered.
Our reduction gearbox is used in the exhaust power recovery system with power turbine and steam turbine.

- Light weight and compact design.
- High reliability on many production experience for continuous use high speed turbine.
- Two kinds of type are selectable as parallel-type and planetary-type, depend on turbine speed.

Reduction Gearbox (Model : PGM71)

INQUIRIES

405-3 Yoshinocho 1-chome, Kita-ku, Saitama, 331-0811, Japan
Tel : +81-48-652-6708 Fax : +81-48-652-8719
https://www8.hitachi.co.jp/inquiry/hitachi-nico/en/form.jsp

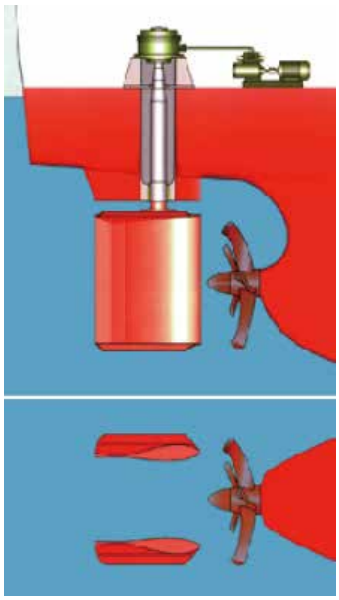
Saving energy, Easy ship's maneuverability

Rudders

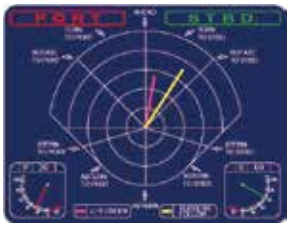
http://www.japanham.com/en

JAPAN HAMWORTHY & CO., LTD.

Super VecTwin System



Outline of VecTwin Rudder



Joystick panel

Example of thrust vector

- Excellent maneuvering system with a pair of high lift rudders fixed behind a propeller.
- Safe navigation maneuverability having any operation mode including going-astern with turning capability, hovering, extra dead slow forwarding, and turning port and starboard, with forward direction propeller revolution, which develop thrust in all directions.
- Improved propulsive efficiency with reaction fins and propeller boss cap fins (PBCF) which removes propeller hub vortex.
- Function of easy and short-time approaching to and departing from berth reduces mental and physical hardships of crew, which brings an excellent economical effect.
- An emergency stop which reduces the stopping distance to about a half of that of a conventional ship.

INQUIRIES

Omodaka Bldg., 1-15-1, Shigino-nishi, Joto-ku, Osaka, 536-0014, Japan
Tel : +81-6-6962-8877 Fax : +81-6-6962-8899
E-mail : jhc@japanham.co.jp

Energy Saving, Hull Resistance

Rudders, High Lift

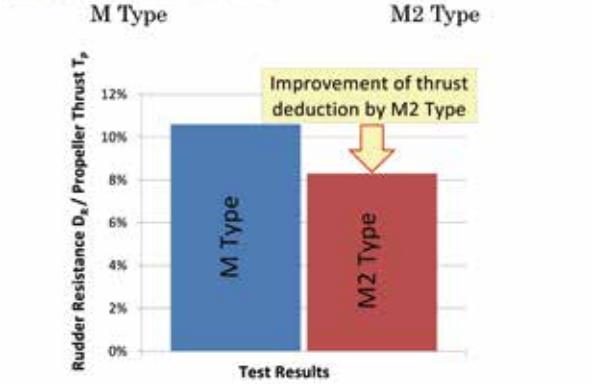
http://www.kamome-propeller.co.jp/en

KAMOME PROPELLER CO., LTD.

K-7 Rudder

M Type

M2 Type



The K-7 Rudder consists of the main rudder and the flap fitted to the rudder with hinge. As the flap turns more than 2 times of the main rudder angle during steering, the lift generated in the propeller slip stream is higher than the conventional rudder by the effect of the camber composed by the main rudder and the flap.
As the K-7 rudder area required to attain the same turning performance becomes smaller than the conventional rudder required for the same ship, K-7 rudder makes the rudder resistance reduced and contributes to the energy saving.

INQUIRIES

Business Operation Division, International Department
690 Kamiyabe-cho, Totsuka-ku, Yokohama, 245-8542, Japan
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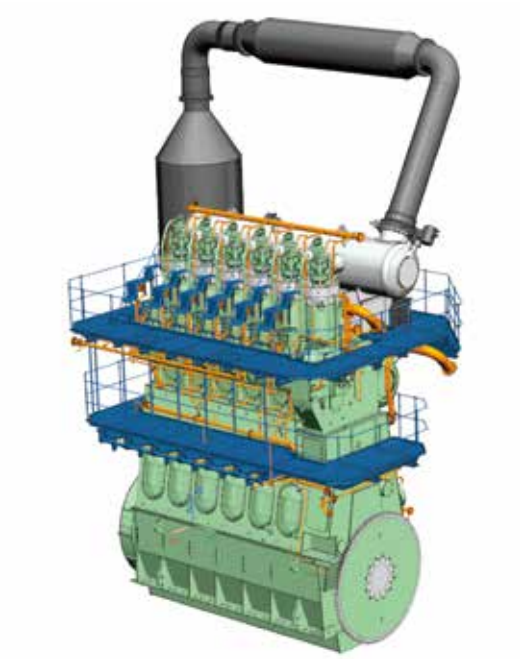
E-mail : info@kamome-propeller.co.jp

Selective Catalytic Reduction System

http://www.hitachizosen.co.jp/english/index.html

HITACHI ZOSEN CORPORATION

Hitz Green SCR (Selective Catalytic Reduction) for 2 stroke engines



Hitachi Zosen developed an Hitz Green SCR (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 CO_2 and has the feature of compacting, too.

INQUIRIES

Sales Department Marine Machinery & SCR System Business Unit Machinery Business Headquarters
Tel : +81-3-6404-0143 Fax : +81-3-6404-0149
E-mail : scr-maritime@hitachizosen.co.jp

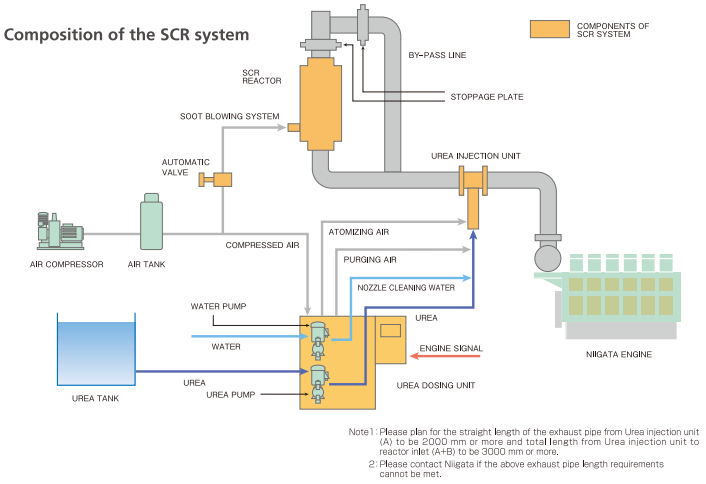
SCR, NOx, Tier Ⅲ

Selective Catalytic Reduction System

http://www.niigata-power.com/english/index.html

NIIGATA POWER SYSTEMS CO., LTD.

Selective Catalytic Reduction System



- Niigata has developed marine SCR compliant with the NOx Tier III enforced by the IMO, and prepared SCR for each engine (550 to 6600kW) as the line-up.
- Niigata has delivered the first SCR system for the marine propulsion engine in 1995, nearly 20 years ago, which is still working. Based on such experiences, Niigata started to supply SCR which can be apply to not only new building ships but also existing ships.
- Development of this SCR system utilizes the part of technologies and findings for compact design in the research undertaken by Niigata for “Super-clean Marine Diesel” Project of the JSMEA.

INQUIRIES

14-5, Sotokanda 2-Chome, Chiyoda-ku, Tokyo, 101-0021, Japan
Tel : +81-3-4366-1226 Fax : +81-3-4366-1310
E-mail : info1_sales1@niigata-power.com

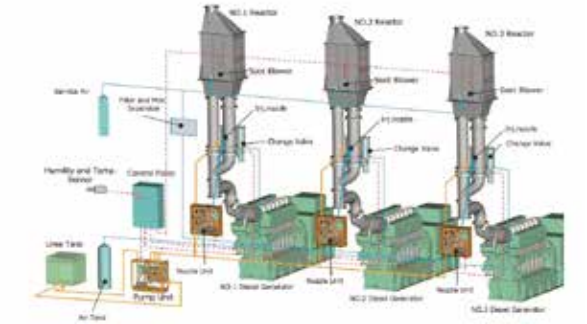
Environmental Technologies

Selective Catalytic Reduction System

http://www.yanmar.com/global/

YANMAR CO., LTD.

Selective Catalytic Reduction System



The SCR System with Three Unit Engine Installations

YANMAR developed SCR System that meets to IMO Tier3 regulations.
Making use of our original technology and wealth of experience, we have created a system whose design and functionality are optimized for marine vessels, and which is perfectly matched for use with diesel engines, both in ECA and non-ECA waters. In addition, repeated verification tests have been conducted on ocean-going vessels (equipped with SCR systems for 3 auxiliary engines) to further improve the system.

- The by-pass branching section and catalytic reactor have been integrated into a single unit, achieving high-performance NOx reduction. Engines equipped with our SCR system is obtained NOx certification (Scheme A), whilst maintaining performance onboard.
- Control unit integrates all devices including catalytic reactors mounted to each individual engine. A single pump unit and control panel can manage system for multiple engines, allowing the system to remain compact.

INQUIRIES

No.1 Sales Group Overseas Sales Division
Marine Products Sales and Marketing Division
Power Solution Business
1-1-1, Nagasu Higashidori, Amagasaki, Hyogo, 660-8585, Japan
Tel : +81-6-6489-8042 Fax : +81-6-6489-1082
E-mail : ichiro_fuwa@yanmar.com

Prevention of marine pollution products

Sewage Treatment Equipment

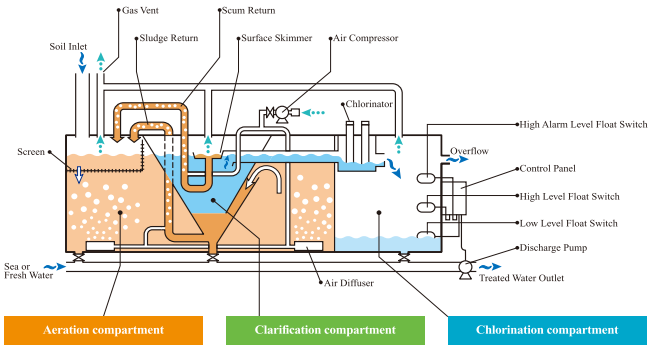
http://www.sasakura.co.jp/e/index.html

SASAKURA ENGINEERING CO., LTD.

Biological type Sewage Treatment Plant

The vessel discharge restrictions of the International Convention for the Prevention of Pollution from Ships are not limited to oil, but rather control sewage as well.
Sasakura's Sewage Treatment Plant has met to IMO(International Maritime Organization) regulation, MEPC. 227(64).

◆Flow Diagram



INQUIRIES

7-32, 4-chome, Takejima, Nishiyodogawa-ku, Osaka, 555-0011, Japan
Tel : +81-6-6473-2134
E-mail : marine@skm.sasakura.co.jp

Inverter Energy Saving

Shaft Driven Generating System

http://www.nishishiba.co.jp/nsdk/index.htm

NISHISHIBA ELECTRIC CO., LTD.

Shaft Driven Generating System

The shaft generating system driven by a high-efficiency main engine enables energy saving.
Operation of the shaft generating system reduces the operation time of the diesel generator engine, resulting in maintenance work saving.

INQUIRIES

NISHISHIBA ELECTRIC CO., LTD. Osaka Branch
29th Fl., Umeda Sky Building West Tower, 1-30 Oyodonaka 1-chome, Kita-ku, Osaka, 531-6129, Japan
Tel : +81-6-4797-2451 Fax : +81-6-4797-2453

Marine Propulsion & Auxiliary Machinery 2015 Environmental Performance Award

SOx Scrubber

http://www.portenterprise.com

Port Enterprise Co., Ltd.

ME Production SOx Scrubber

DFDS 391teu RORO
Main Engine x 1
Open Loop

TORM L-Class MR2
Main Engine x 1
Aux Engine x 4
Boiler x 2
Open Loop
(Hybrid Ready)

ME Production SOx scrubber is 100% order made in order to ensure its efficacy as well as easy installation. Both the size and shape can tailored to match any vessel without compromising its performance.

In addition to that, this award-winning system offers options of Na2CO3 and MgO for alkaline chemical along with conventional NaOH. Both Na2CO3 and MgO can be carried in powder instead of liquid. They are totally safe, easy to handle, and less expensive than NaOH.

ME Production SOx scrubber can also be catered for special needs, such as “Open Loop Plus” with optional active alkaline chemical dosing function to operate in freshwater/low salinity water areas or where strict pH discharge limit applies, containerization of wash water processing system for retrofit projects or vessels with rather limited space, and many more, limited only by your imagination.

INQUIRIES

No. 2-1-28, Chikko, Minato, Osaka, 552-0021, Japan
Tel : +81-6-6573-5391 Fax : +81-6-6575-3036
E-mail: penterj@penterj.co.jp

EGCS, The world smallest SOx scrubber

SOx Scrubber (EGCS)

http://www.fujielectric.com

FUJI ELECTRIC CO., LTD.

Marine Exhaust Gas Cleaning System / SAVEBLUE

◇Compact Design

Fuji’s SOx Scrubber is the world's smallest. It can be installed with ease in both new builds and retrofits with high performance of 98%Sox removal

◇Minimal pressure loss

Our patented cyclone system reduces the loss of pressure that usually attends scrubber use, which keeps more power for the engine.

INQUIRIES

Gate City Ohsaki, East Tower 11-2, Osaki 1-chome, Shinagawa-ku,Tokyo 141-0032, Japan
Tel : +81-3-5435-7066 Fax : +81-3-5435-7475
E-mail : mita-itsuro@fujielectric.com

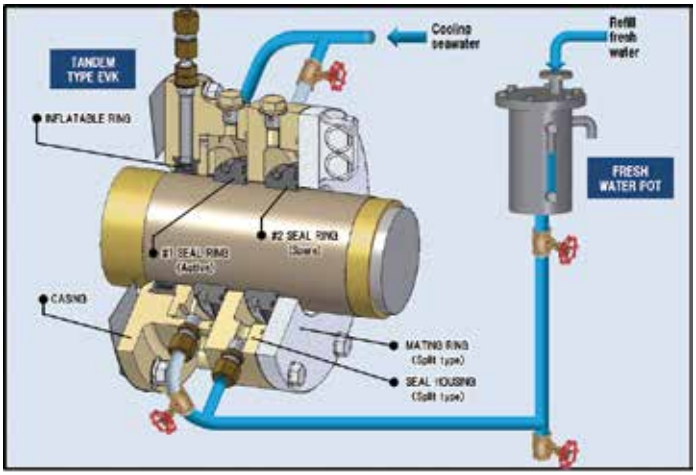
KEMEL New Water Lubricated Stern Tube Seal, Environmentally Friendly

Stern Tube Seal

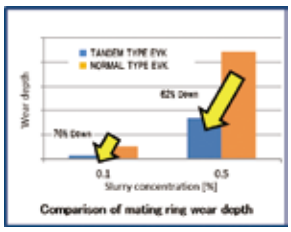
https://http://www.kemel.com/

KEMEL EAGLE INDUSTRY CO., LTD.

Tandem Type EVK Seal



PATENTED



Utilizing our expertise and know-how built over the years, and as the world leader in innovation, KEMEL has recently launched a new water lubricated stern tube seal called “Tandem Type EVK Seal”. This new product greatly contributes to safe navigation and environmental conservation.

FEATURES

- **Improved Wear Resistance**

The active #1 seal ring is always lubricated by self-controlled clean fresh water. This results in a significant reduction in wear of the mating ring, seal housing and seal ring.

- **High Operability**

The spare #2 seal ring can be easily activated only by closing the valves without disassembling the seal unit.

- **Easy Upgrade from Existing EVK**

Converting an existing EVK seal into a Tandem type can be easily done just by adding another seal housing. (Ask KEMEL for more details.)

INQUIRIES

Eagle Industry Co., Ltd. KEMEL Tokyo Branch
Tel : +81-3-3436-4830
E-mail : sales.tokyo@kemel.com

Energy Saving , Optimum Ship Operation , Environmental Technology

Switchboards, Control systems, automatic, Monitor panels, Monitoring & control systems, Starters

http://www.terasaki.co.jp/english/

TERASAKI TERASAKI ELECTRIC CO., LTD.

TERANET50X

TERANET 50X system integrates interchangeable and standard components over a dual loop Ethernet network, which effectively minimizes the impact of equipment. Then, the ship-to shore information sharing platform enable ships and land- based offices to share data with wide range of applications through communication and storage features designed for utilizing “ Big Data” base. In addition, the system is put on energy-saving ship and contributes to global environmental protection by increasing the optimum operating efficiency of the plant.

INQUIRIES

6-13-47 Kamihigashi, Hirano-ku, Osaka, 547-0002, Japan
Tel : +81-6-6791-2790 Fax : +81-6-6791-2773
E-mail: hakuei-osaka@terasaki.co.jp

Energy Saving

Turbochargers

https://www.mhi-mme.com/

MITSUBISHI HEAVY INDUSTRIES
MARINE MACHINERY & EQUIPMENT

MET Turbochargers are the standard worldwide exhaust gas turbochargers used in large marine and stationary engines.

Hybrid Turbochargers
As well as supplying supercharged air to the engine, our hybrid turbochargers generate electric power from the turbocharger's rotational energy.

Variable Turbine Inlet (VTI) Turbochargers
Turbochargers improve engine performance at low load operation by maintaining high scavenging pressure by changing the nozzle area.

Integral EGB Turbochargers
Ordinary, exhaust bypass line has been installed between exhaust gas receiver and exhaust gas duct of the engine. Integrated EGB enables to bypass the exhaust gas by integrating the bypass pipe and open/close valve on turbocharger in between gas inlet casing and outlet gas casing.
Integrated EGB is also available by retrofitting from standard MET turbocharger by just changing several parts. Also, this system could be applicable to temperature increment procedure at 2-stroke engine with Low Pressure SCR system.

INQUIRIES

Tokyo Branch Office
Tel : +81-3-6716-5331 E-mail: info_meet@mhi-mme.com

Energy Saving, Less Fuel Consumption, GHG (CO_2) Reduction

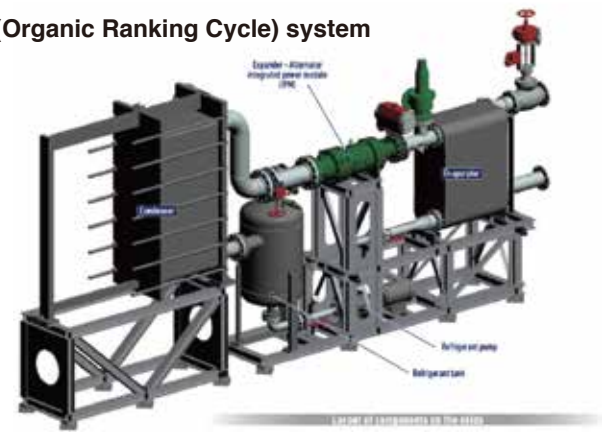
WHRS(Waste Heat Recovery System)

https://www.mhi-mme.com/

MITSUBISHI HEAVY INDUSTRIES
MARINE MACHINERY & EQUIPMENT

WHRS

ORC (Organic Ranking Cycle) system



WHRS
WHRS is a marine waste heat recovery system that carries out high efficient power generation onboard ships through effective utilization of energy from the marine engines' exhaust gas. Exhaust gas energy is effectively recovered though the optimal control of the combination of exhaust gas and steam turbines lowering a ship's fuel costs.

ORC (Organic Ranking Cycle) system
ORC is compact power generation systems that enable electrical power recovery and power generation using a heat transfer medium with a boiling point lower than that of water, like those used in air conditioners.

INQUIRIES

Business Development Division
Tel : +81-3-6716-5330 E-mail : info_meet@mhi-mme.com

Winches, mooring, electric & hydraulic

http://manabezoki.co.jp/

MANABE ZOKI CO., LTD.

Electric deck machinery driven by Inverter

Our electric deck machinery is driven by inverter system which enables you to operate Windlass and Mooring winch very smoothly and easily. In addition to eco-friendly owing to no use of working oil, by adopting our own sampling-controlled AUTO TENSION system, ship can keep the mooring position in stable condition even though changing marine tide or loading quantity on board. Sampling-controlled AUTO TENSION controls each winch group independently and each winch group works in interval during AUTO TENSION mode. You can also easily adjust output torque from 20% to 100% by torque volume knob according to mooring condition.

INQUIRIES

2F Ichigo Mita Building 5-13-18 Shiba, Minato-Ku, Tokyo, 108-004, Japan
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E-mail : eigyou_2@manabezoki.co.jp

JAPANESE MARINE ECO PRODUCTS

August.2018.Revision

http://www.jsmea.or.jp/eco-products

JAPAN JSMEA

Japan Ship Machinery and Equipment Association