



## SD SERVICE UG

SD Service UG provides a global solution for shipowners and managers. The following are the primary directions of our company:

- ballast water treatment systems
- ship exhaust systems
- ship chemistry
- maritime innovations
- technical supply
- laser piston ring monitoring system
- logistic services



# First direction

"SD Service UG" is the official representative of PANASIA - the manufacturer of ballast water treatment systems.



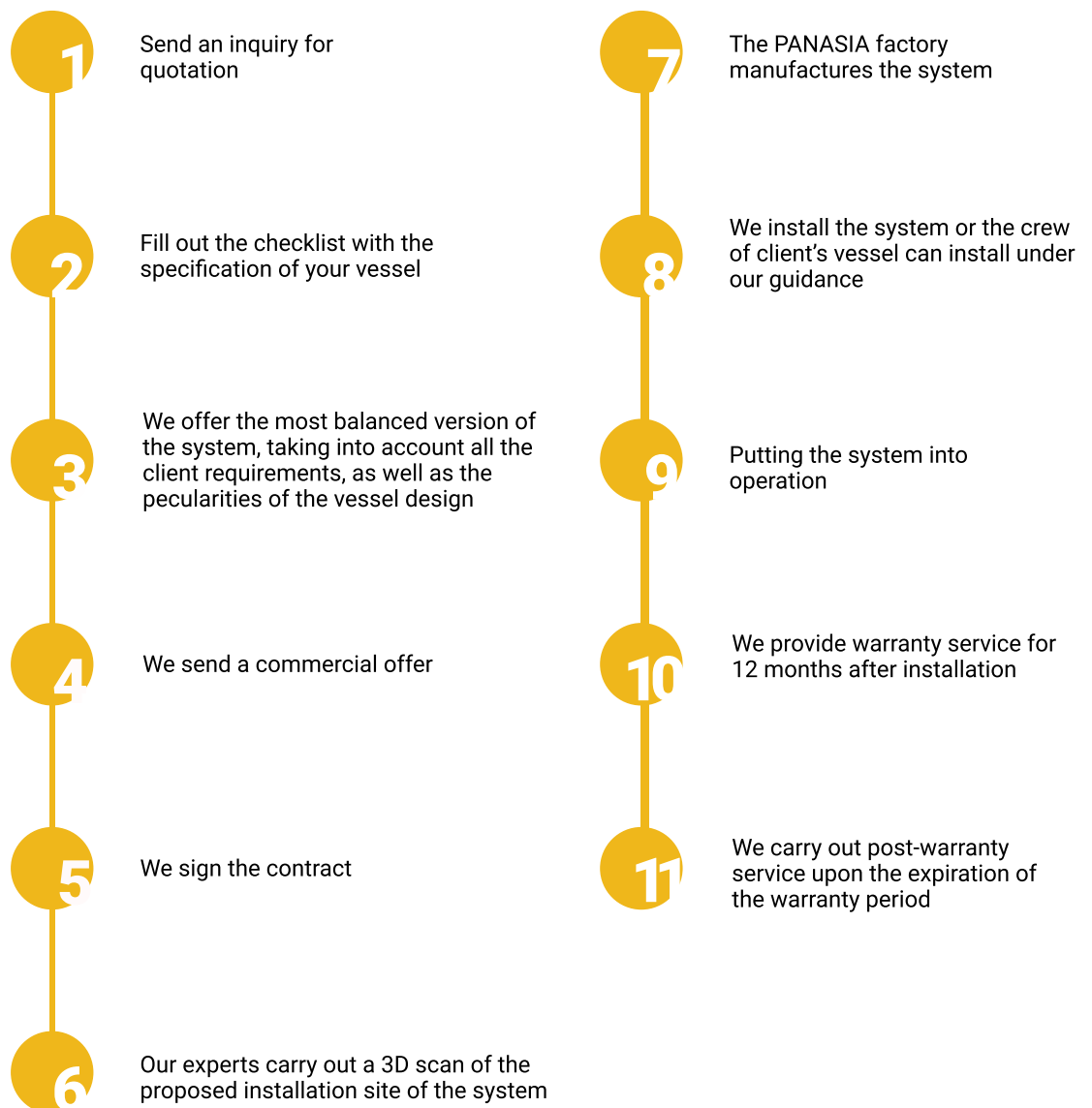
Since its foundation in 1989, PANASIA has grown as a prominent company in marine equipment industry. With the help of accumulated technologies and diversified product line, the company has become a leader in the field of water and air quality control management and facilitates for new enterprises. PANASIA is currently a leading manufacturer of ballast water treatment systems, engine exhaust, and level measurement instruments for the shipping industry.

In order to prevent ecosystem destruction by discharging microbes present in discharged ballast water, the International Maritime Organization (IMO) established the Ballast Water Management Convention in 2004, which obliges vessels with a total tonnage over 400 tons to install a ballast water treatment system. This Convention refers to standards for the exchange of ballast water, their treatment and discharge in international waters, control by the naval ports, installation and inspection of treatment systems, etc. The Convention required ratification by a minimum of 30 States, representing 35% of world merchant shipping tonnage and has already entered into force.

## ADVANTAGES:

- Effective disinfection of harmful aquatic organisms
- Low power consumption
- Low maintenance expenses
- Simple system of control
- Automatic backwash in block
- Automatic UV lamp cleaning
- Simple installation (vertical or horizontal arrangement)
- Independent of water temperature and salinity
- Requires no chemicals for water treatment
- Does not produce active substances

## HOW TO ORDER AND INSTALL OUR BALLAST WATER TREATMENT SYSTEM:



# Second direction

## EXHAUST GAS CLEANING SYSTEM

"SD Service UG" is the official representative of PANASIA - the manufacturer exhaust after-treatment systems.

The International Maritime Organization (IMO) has established the maximum allowable sulfur content in fuel used by ships in accordance with MARPOL 73/78, "International Convention for the Prevention of Pollution from Ships," which entered into force in 2005. All vessels operating in the SECA Sulfur Emission Control area must use fuels complying with a sulfur limit of 0.1% or less from 2015.

In addition, in 2020, the regulatory requirement for the use of fuels with a sulfur content of 0.5% or less in all waters of the oceans comes into force. To fulfill the requirements regarding the maximum allowable sulfur levels in the fuel of ships, ships must use fuel with the appropriate sulfur content or be equipped with a desulfurization system equivalent to the requirements of IMO, MARPOL 73/78.

Low sulfur fuels are a viable option on a short-term basis, but too expensive for permanent use, which makes the flue gas desulfurization system, combined with the ongoing use of existing high sulfur marine fuel, an optimal alternative for long-term operating costs while respecting environmental standards.



# Third direction

## MARINE CHEMISTRY

Our company offers comprehensive supplies of marine chemistry, including:

- Boiler Water Treatment Additives
- Additives to engine cooling systems
- Fuel additives
- Detergent Chemistry
- Products for evaporators and desalination plants for reverse osmosis
- Water analysis laboratories
- Oil analysis laboratories
- Technical gases
- Welding equipment, electrodes and other consumables
- Chemistry for tanks and holds cleaning



## MARICHEM MARIGASES

Marichem Marigases Worldwide Services has been manufacturing and supplying quality chemical products, coatings, chemical equipment, welding machines, accessories and equipment for shipping and other industrial sectors for almost half a century.

# Fourth direction

## TECHNICAL SUPPLY

Our company offers a comprehensive supply of technical spare parts and consumables, including:

- Spare parts for main and auxiliary diesel engines
- Spare parts for boiler equipment
- Spare parts for air compressors, fuel and oil separators and other auxiliary equipment
- Deck and Engine Consumables
- Bearings

# Marine innovations

## SEMINVENTIONS LASER PISTON RING CONTROL

We collaborate with an innovative company developing a piston ring monitoring system. The project is called a laser piston ring assessment system (PRECLUS) for determining wear level of piston rings on a running engine.

- This system is suitable for any slider-crank mechanism. It can be any internal combustion engine, two- and four-stroke diesel engines, the piston block of auxiliary mechanisms, piston air compressors, piston pumps, etc.
- For one piston ring, PRECLUS makes more than 100 vertical measurements per piston stroke.
- The accuracy of distance measurement with a laser sensor is up to 5 microns.
- 50000 laser measurements per second.
- Photo inspection of the piston ring during engine operation.
- Unique product and latest innovations for the marine industry.
- PRECLUS is very easy to use on board a crew with a different level of training and qualification.

## HANS JENSEN CYLINDER LUBRICATION SYSTEM



Our company is an agent manufacturer of an innovative cylinder lubrication system for two-stroke diesel engines. The patented Hans Jensen Cylinder Lubrication System can reduce cylinder oil consumption by up to two times and reduce sleeve wear by several times.

Thus, the use of Hans Jensen cylinder lubrication systems can significantly reduce the cost of the main engine operating and its repairing. Hans Jensen Lubricators has developed an electronic (hydraulic) lubricator for lubricating the cylinders of two-stroke diesel engines.

HJ Lubtronic provides:

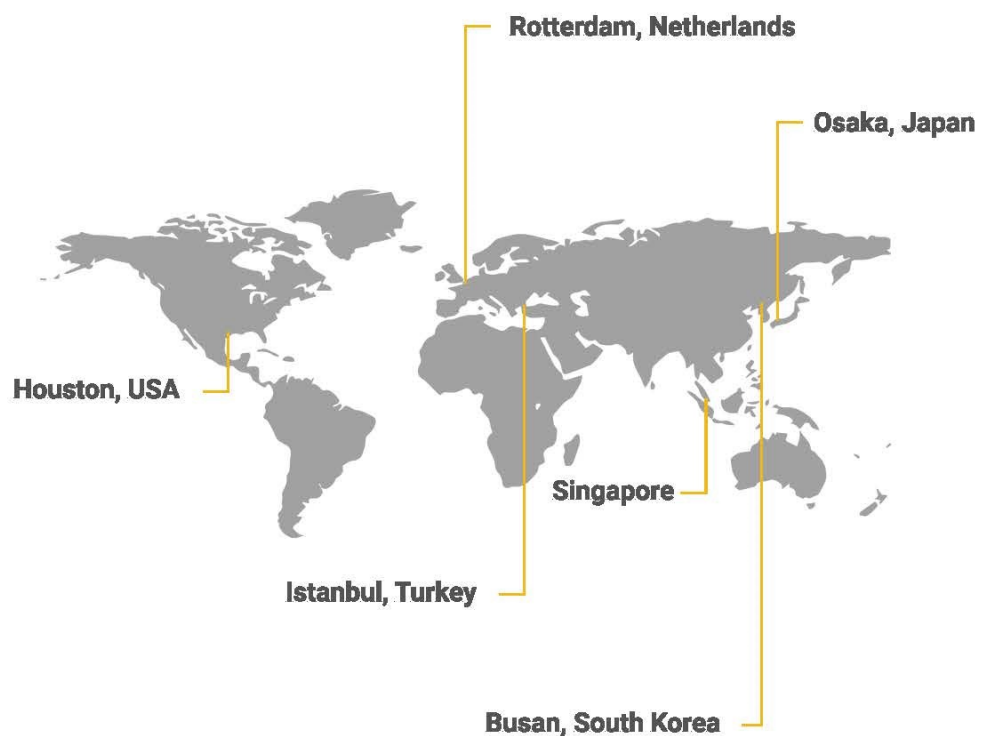
- Optimized feed rate
- Injection with each rotation of the engine
- Flexible feed rate
- Load regulation (especially for engines without camshaft)
- Easy maintenance
- Flexible deadlines
- Increased security

Hans Jensen Lubricators A / S is a leading international supplier in the development, manufacture, marketing and service of cylinder lubrication systems for two-stroke engines in marine power plants.

# Logistic

Logistic services for the delivery of spare parts and worldwide supplies in any way convenient for the customer by sea and land.

The service of storing your parcels with no size and time limits in several convenient hub cities.



## Contacts:

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