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established 1979
Company Planning, Marketing, Organisation, Sales
Discussion partner for Executives

**JOCHEN DEERBERG
BUSINESS CONSULTANCY**

DEERBERG-SYSTEMS

established 1982
Technical Analysis, Design, Supply of partial or complete
Concepts and Equipment for Waste Handling on board Ships
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**DEERBERG-TRADING
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1756 - 2010
For over 250 years Quality
and Innovation has been
a Deerberg Tradition

Waste Management Integrated Solutions for Special & Merchant Vessels



DESIGN | SUPPLY | SERVICE | RETROFIT
OF WASTE MANAGEMENT SYSTEMS FOR

Subsea Construction Vessels,
Offshore and Support Vessels,
Tankers and Cargo Vessels



Photo: Lauritzen Offshore Services

Integrated Waste Management Solutions for Special & Merchant Vessels



Changing Requirements



Photo: Lloyd Werft

More than 600 Special and Merchant Vessels equipped

Whether Subsea Construction Vessel, Offshore, Support or Cargo Vessel, the operational profiles have as many facets as there are different types of vessels fulfilling their daily tasks on our oceans. However, one fact is valid for all. The industry is facing new challenges to comply with marine environmental regulations. Increasing international legislation and public awareness are affecting the shipboard operation. On board waste treatment has become essential to maintain operational flexibility, save operation costs and protect our marine environment.

Essentially all waste streams will have to be treated to avoid pollution. Crew health and safety as much as cost and time for discharge in ports are determining the concept of the Waste Management System. In addition to waste water and sewage treatment there is a need for an efficient solid and liquid waste handling system. Most vessels require recycling equipment to treat or safely store solid waste; depending on the number of crew a food waste transport and processing system can be considered. Vessels with large amounts of solid waste and sludge oil require an incinerator for effective destruction of the waste.

Based on 30 years of experience in waste management on board ships, in which we have equipped more than 600 Special and Merchant Vessels, we have specifically designed a range of equipment suited for your individual needs.

Solid Waste Handling

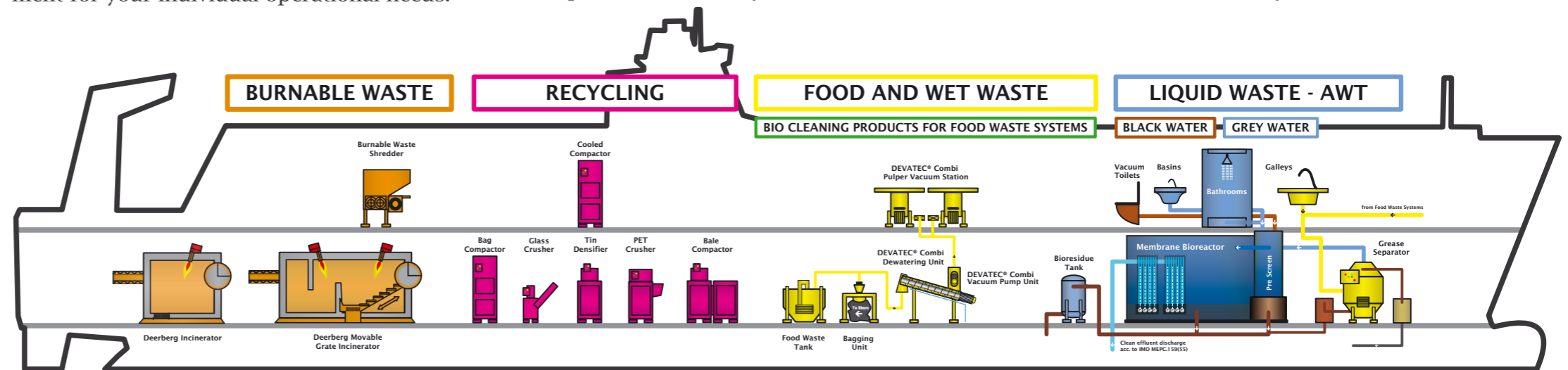
Our baling presses, crushers or compactors are designed to handle e.g. glass, tins, paper, plastic bottles and general household waste in a most efficient way. The volume is significantly reduced, waste can be safely stored and given to port reception facilities for later disposal or recycling. Deerberg offers a wide range of recycling equipment for your individual operational needs.

Food Waste Handling

The Deerberg Food Waste Vacuum Transport and Processing System DEVATEC® Combi consists of one or more decentralised feeding stations, located in galleys and pantries. A vacuum pump creates the vacuum needed to transport the food waste to a Processing Unit where the food waste is pressed out and stored for later treatment or disposal. Individual system solutions available.

Waste Water Treatment

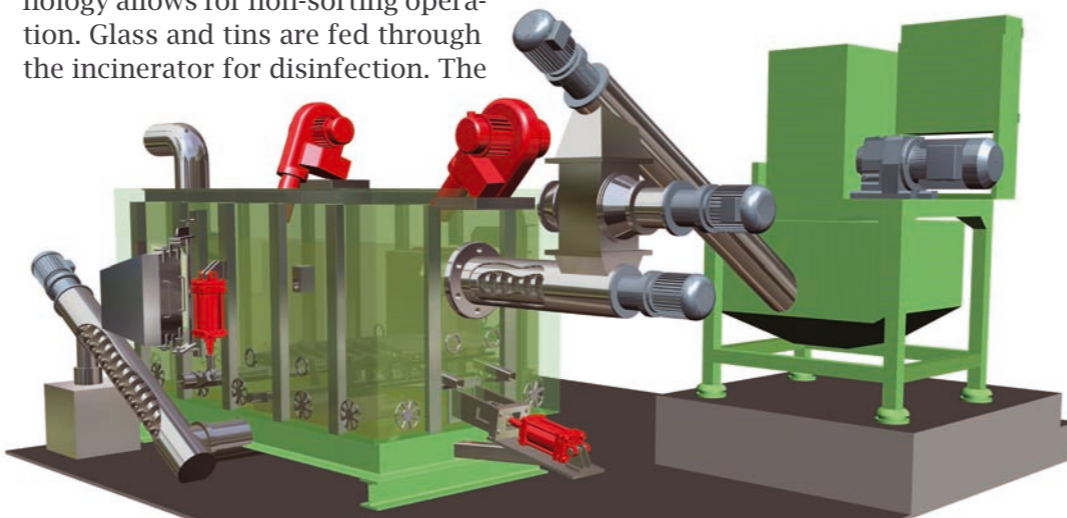
Our advanced waste water treatment plants (AWT) use a membrane bio-reactor to treat grey water, galley grey water (grease separator required) and black water. The compact and efficient AWT systems comply with the latest IMO MEPC 159(55) regulations and produce a high quality effluent without using chemicals. Our AWT systems are available in various system sizes.



Deerberg offers Incineration Systems in many versions and sizes

The Deerberg Movable Grate Incinerator safely, reliably and effectively burns all sorts of solid waste, including plastic, sludge- and cooking oil, as well as e.g. medical waste. With our AWT interface even organic waste (food waste and bioresidues from the AWT process) can be incinerated. The Deerberg Movable Grate Technology allows for non-sorting operation. Glass and tins are fed through the incinerator for disinfection. The

ash remains are sterilized, non-hazardous and free of organic matter. The Deerberg Incinerator is characterized by its quality, long lifetime, and optimum results. Our renowned Movable Grate Incinerator is now also available for Special and Merchant Vessels. Energy recovery systems are available on request.

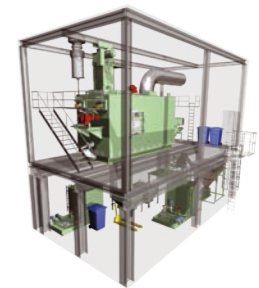


Deerberg also offers standard incineration systems for solid waste and sludge oil in various sizes.



Photo: Allseas

TURN-KEY SOLUTIONS One of Deerberg's specialties is to flexibly respond to customer requirements with market-led innovations and solutions. Our experienced technical department is capable of designing and delivering turn-key waste management solutions and offers all services to successfully integrate the systems and components into the ship system.



Deerberg Turn-Key Example: A prefabricated turn-key module for Allseas' Audacia (10m x 5m x 5m, 75 tons)

158 LARGE PASSENGER VESSELS, 72 NAVY VESSELS, 27 YACHTS, 10 SPECIAL VESSELS AND 600+ MERCHANT VESSELS EQUIPPED FOR MORE THAN 250 YEARS QUALITY AND INNOVATION HAS BEEN A DEERBERG TRADITION