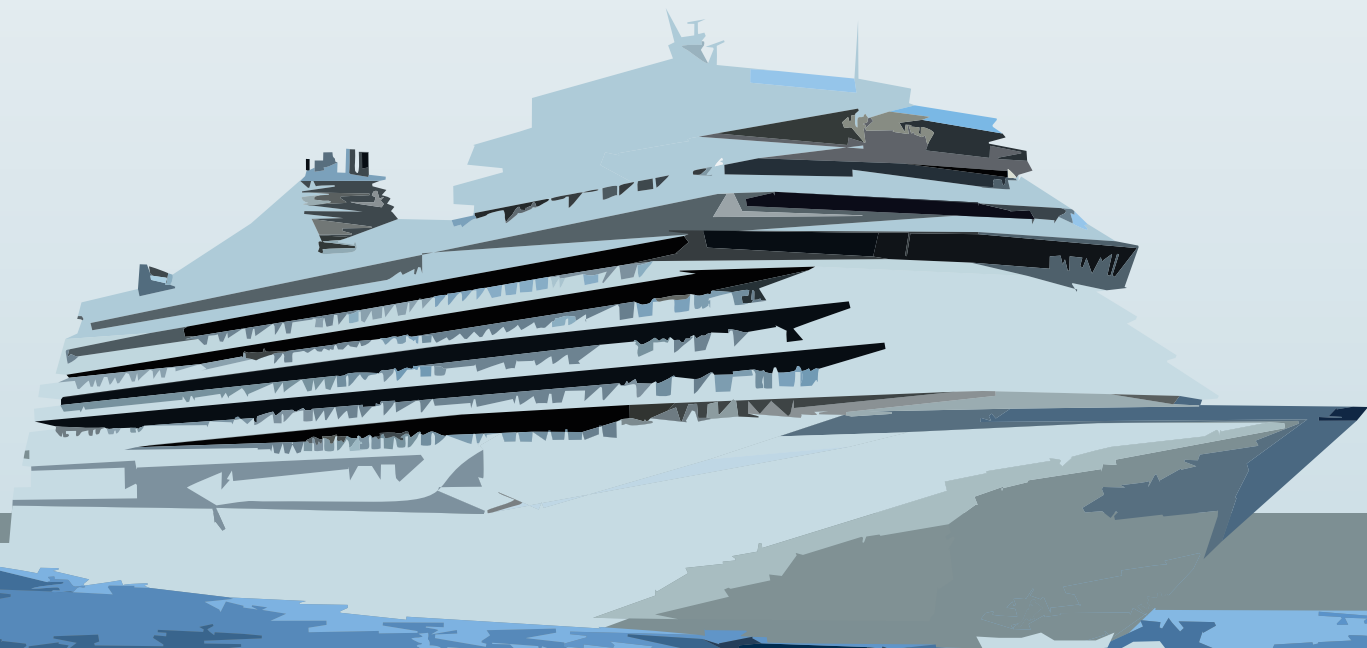
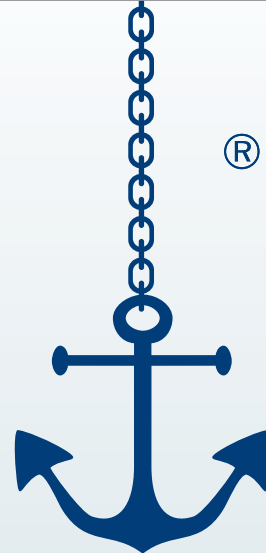



**Kloska
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MARITIME ENVIRONMENT PROTECTION SYSTEMS



KTMS
Kloska Technical
Marine Sales GmbH



BILGE WATER	GREY/BLACK WATER	RECYCLING		FOOD WASTE		BURNABLE WASTE	BALLAST WATER
Oily Water Separator	Sewage Treatment Plants	Crusher & Shredder	Compactor	Vacuum Systems	Grease Separators	Waste Processing Systems	Ballast Water Treatment Systems
Marpol 73/78 Annex I	Marpol 73/78 Annex IV	Marpol 73/78 Annex V		Marpol 73/78 Annex V		Marpol 73/78 Annex VI	MEPC.173(58)
5-15ppm Type approved by: German BG Verkehr RMRS	MBR Systems MBBR Systems Black Water Vacuum Systems	Glass Paper/Cardboards Plastics Cans	Plastics Paper/Cardboards Tins/Cans	Vacuum Disposer for Food Waste and Bones	Flow rate up to 54m³/h Optional: With automatic grease discharge	Sludge Oil Burnable Waste Food Waste Bio Waste Unsorted Waste	30 -2.000 m³/h

Annex I

Regulation for the prevention of pollution by Oil

Covers prevention of pollution by oil from operational measures as well as from accidental discharges; the 1992 amendments to Annex I made it mandatory for new oil tankers to have double hulls and brought in a phase-in schedule for existing tankers to fit double hulls, which was subsequently revised in 2001 and 2003.

Annex II

Regulation for the prevention of pollution by sewage from ships

Details the discharge criteria and measures for the control of pollution by noxious liquid substances carried in bulk; some 250 substances were evaluated and included in the list appended to the Convention; the discharge of their residues is allowed only to reception facilities until certain concentrations and conditions (which vary with the category of substances) are complied with.

In any case, no discharge of residues containing noxious substances is permitted within 12 miles of the nearest land.

Annex III

Prevention of pollution by harmful substances carried by sea in packaged form

Contains general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications.

For the purpose of this Annex, "harmful substances" are those substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code) or which meet the criteria in the Appendix of Annex III.

Annex IV

Prevention of pollution by sewage from ships

Contains requirements to control pollution of the sea by sewage; the discharge of sewage into the sea is prohibited, except when the ship has in operation an approved sewage treatment plant or when the ship is discharging comminuted and disinfected sewage using an approved system at a distance of more than three nautical miles from the nearest land; sewage which is not comminuted or disinfected has to be discharged at a distance of more than 12 nautical miles from the nearest land.

Annex V

Regulation for the prevention of pollution by garbage from ships

Deals with different types of garbage and specifies the distances from land and the manner in which they may be disposed of. The most important feature of the Annex is the complete ban imposed on the disposal into the sea of all forms of plastics.

Annex VI

Prevention of air pollution from ships

Sets limits on sulphur oxide and nitrogen oxide emissions from ship exhausts and prohibits deliberate emissions of ozone depleting substances; designated emission control areas set more stringent standards for SOx, NOx and particulate matter.

A chapter adopted in 2011 covers mandatory technical and operational energy efficiency measures aimed at reducing greenhouse gas emissions from ships.

Marpol 73/78 Annex I

Regulation for the prevention
of pollution by Oil

BILGE WATER

- Oily Water Separator



The Ocean Clean OWS system is type approved according to IMO Resolution MEPC.107(49).

The robust three-stage-system has proven its reliability on hundreds of vessels since 2005.

Main components, e.g., pump, OMD, valves, tank are made in Germany.

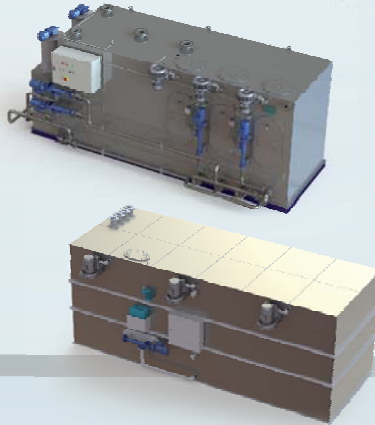
The system will reduce oil content in the effluent water to less than 5ppm (standard setting acc. to IMO: 15ppm).

Marpol 73/78 Annex IV

Regulation for the prevention
of pollution by sewage from ships

GREY/BLACK WATER

- Biological Sewage Treatment Plants



- Vacuum Tanks
- Fat Traps
- Transfer Stations
- Lifting Stations



- Vacuum Pump Stations
- Holding Tanks

Ocean Clean STP are type approved to the latest IMO Resolution by German BG Verkehr.

The compact units for grey and black water or black water only deliver high effluent quality. They are available for gravity and vacuum systems.

Ocean Clean Lifting Stations solve any problem regarding sewage collection and transfer.

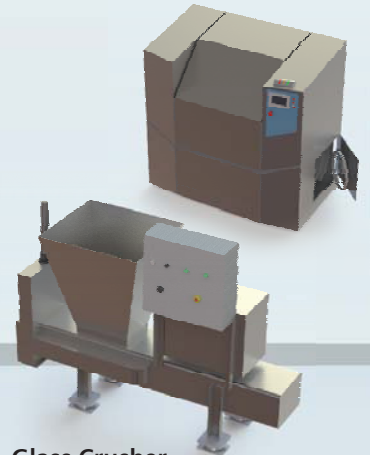
Every Ocean Clean sewage system is made of stainless steel and made in Germany.

Marpol 73/78 Annex V

Regulation for the prevention
of pollution by garbage from ships

RECYCLING

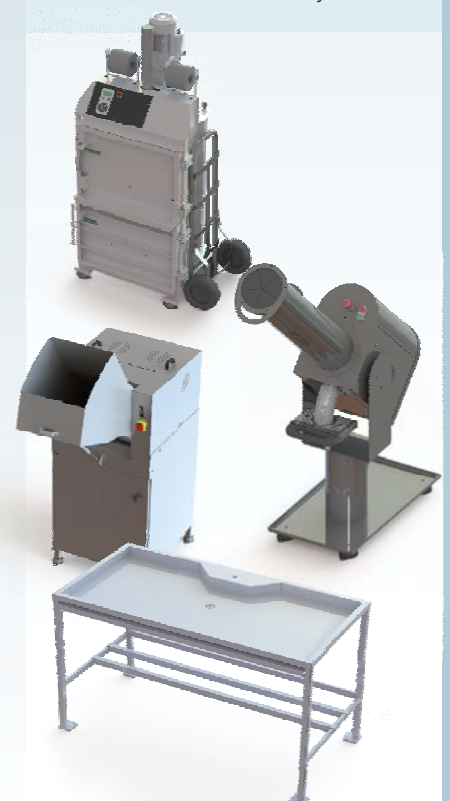
- Tin Compactor
- Bale Compactor
- Bag Compactor



- Glass Crusher
- PET Shredder (Plastic Bottles)

Whether it is plastics, cardboard, cans or bottles: Ocean Clean recycling components will help to reduce the waste volume and make storage and disposal easy and comfortable.

We offer compact units in high-end stainless steel finish as well as industry equipment for high volumes, made in Germany.



Marpol 73/78 Annex V

Regulation for the prevention of pollution by garbage from ships

FOOD WASTE

- Bone Crushers
- Grease Separators
- Food Waste Presses
- Dried Bio Waste Silos
- Dewatered Bio Waste Tanks
- Macerating Systems
- Food Shredders
- Vacuum Disposers
- Vacuum Pump Units
- Booster Pumps
- Bagging Systems
- Reject Waste Water Tanks
- Screw Conveyors

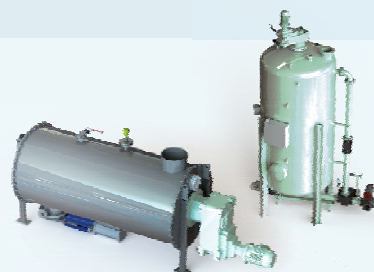


Vegetables, meat, bones and general food waste: Our product range covers equipment for all kinds of galley and restaurant waste.

From preparation to grinding, from wet waste to dewatered bio waste - we offer equipment for yachts, merchant ships and cruise vessels.

That of course does include grease separation and vacuum packing.

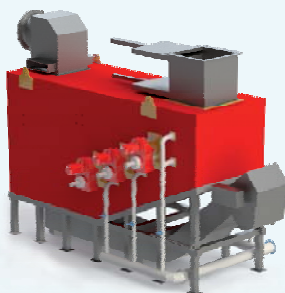
All our units are Made in Germany.



Marpol 73/78 Annex VI

Prevention of air pollution from ships

BURNABLE WASTE



Our Incineration Systems for sludge oil and/or solid waste range from 200 to 2400kW/h and comply with the latest IMO regulations.



Ecological alternative to burning waste: Volume reduction, dewatering and sterilisation for easy and secure storage and disposal.

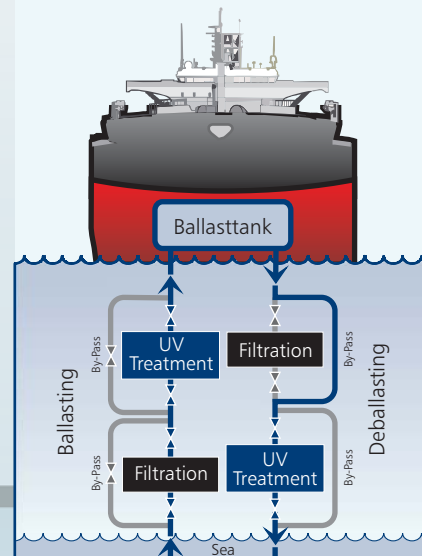
Made in Germany.

MARITIME ENVIRONMENT PROTECTION SYSTEMS

MEPC.173(58)

IMO ballast water management regulation for protection of the environment against invasive species

BALLAST WATER



- Ballast Water Treatment Systems



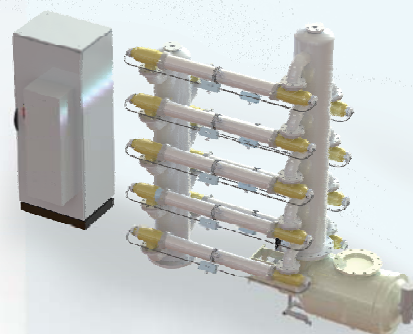
In cooperation with BIO-UV we offer the BIO-SEA®

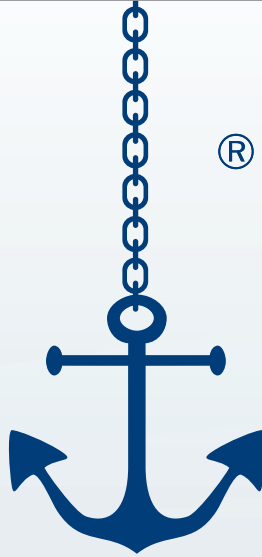
Ballast Water Treatment System, a range of complete systems that combine mechanical filters and UV-C treatment.

The adaptable, compact, economical and automated system does not require any chemical products for ballast water treatment.

The BIO-SEA® system can treat flow rates from 30 to 2000m³/h and will automatically adjust its power consumption to the quality of the treated water.

The modular and flexible system is ideal for retrofitting.





MARITIME ENVIRONMENT PROTECTION SYSTEMS



The increasing amount of waste and garbage produced on every ship has become a serious problem over the past years. Shipowners and shipping companies are facing stricter regulations, more controls and increasing public interest as marine debris is accumulating in the world's oceans.

Kloska Technical Marine Sales GmbH offers waste managements concepts focused on both environmentally friendly volume reduction for later onshore recycling and for hygienic and health & safety conform handling. Our solutions to solve dry and wet waste problems on board of any maritime structure like mega-yachts, offshore platforms, passenger and merchant vessels comply to national and international law.

We develop custom-made solutions and offer engineering, manufacturing, installation and commissioning from a single source including worldwide service and spare parts supply for every piece of the equipment, e.g., pumps and mechanical seals.

KTMS

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