



# Victor Marine

Globally focussed on cleaner solutions

## Oily Water Separators & Bilge management

### Introduction to bilge water

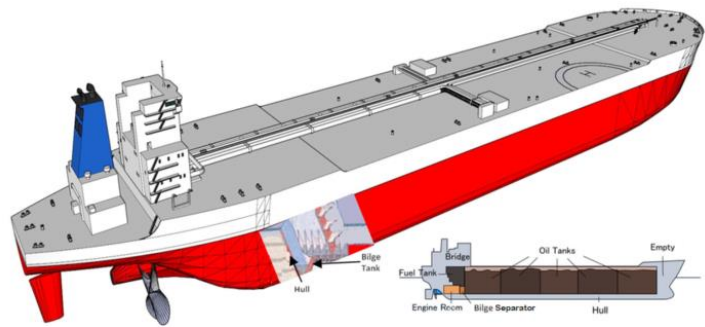
Bilge water is a mixture of liquids and particles that collects in the bilge of a ship. Sea water and fresh water can find its way into the bilge wells due to drainage from the deck, leakage from pipes, pumps and valves, from spillages, condensation and cleaning processes. On its way it washes any other fluids or particulates with it. These might include soot, dust, oil, sludge, chemicals, detergents or firefighting foams amongst other fluids.

Oily bilge water is an inevitable byproduct of normal ship operation.



### How oil gets in the bilge

Bilge water predominantly contains oil from the engine rooms. Here small leaks from wear and tear, imperfect seals and malfunctions go directly to the bilge. As well as spills during routine processes or detergents from cleaning compound the problem.



### Importance of proper onboard bilge management

Proper bilge management has real term benefits to ship operators such as:

#### Operational efficiency

An overfilled bilge tank can affect the stability and fuel consumption of a ship, having the ability to process bilge water onboard ensures optimal operation conditions can be maintained.

## Cost savings

Onboard treatment removes the need for costly and time-consuming bilge discharge at port facilities.

## Safety

A buildup of oil and chemicals in the bilge can present a fire and health hazard.

## Environmental Protection

Oil is a major pollutant which can seriously damage marine and coastal habitats. Bilge water disposal is a major global source of oil pollution, proper discharge can mitigate this issue.

## Regulations

MARPOL has regulated that all ships over 400 gross tons are required to have equipment installed onboard that limits the discharge of oil into oceans from bilge water to 15ppm when a ship is enroute.

Failure to comply with such directives carries with it serious consequences, including fines exceeding \$1 million, detention of the vessel and prosecution.

The harshness of such punishments emphasizes the global imperative to remove marine pollution, and the importance of every vessel operating within environmental safeguards.

## Technology

Employing effective oily water separators is the only way to ensure compliance with bilge water discharge regulations.

### How CS series separators can help

The CS series of oily water separator (OWS) has a range of sizes, flowrates and control options to suit each individual installation.



They play a critical role in ensuring compliance with the International Convention for the Prevention of Pollution from Ships (MARPOL) regulations, specifically Annex I, which governs the prevention of pollution by oil from ships.

### Above and beyond oily water separation

The CS series is capable of reducing the oil content of bilge water to below 5ppm, exceeding the “clean design” notation, and can be factory set to run at 15ppm or 5ppm presets.

## Unique Advanced Granular Media (AGM)

The third stage of the CS separator is comprised of a unique Advanced Granular Media (AGM) refined to adsorb 60% of its weight in oil contaminants – increases the life of consumables, minimising costs and maximising uptime.

## Automated control

Should the oil content exceed 15ppm or 5ppm, the CS series is capable of autonomously switching from discharging to returning to bilge, and switching back to discharge once the oil content lowers again.

## No high-speed moving parts

Using a slow running positive displacement screw pump improves oily water separation and results in less maintenance and lower costs.

## Ensuring Compliance

All CS series separators are fully class certified and ensure bilge discharge complies with environmental regulations, MEPC.107(49), thus avoiding penalties, fines, and reputation damage. They also include Type Approvals from BV, DNV, ABS & USCG as well as United Kingdom conformity assessment UKCA.



## Looking after your oily water separator

Like any machine proper use and maintenance of an OWS is essential for proper operation and longevity.

## Understanding the working principles

OWS primarily work by taking advantage of the differing density of oil and water. Oil is less dense and so floats in water. However, this is hindered by the creation of emulsion. Emulsion is where oil and water are fully mixed. This is mainly caused by turbulence (mechanical emulsions) and surfactants [detergents] that create chemical emulsions. These can be both harmful and difficult substances to deal with.

Some chemicals and biological matter can be detrimental to the OWS units if they are allowed to enter them, notable examples are firefighting foams and engine coolants. It is imperative for the long life of an OWS that these are restricted from entering the bilge in the first place.

Additionally solid matter and sludge can act to blind an OWS and stop proper functioning if allowed to enter it. Therefore, it is important that a ship has proper sludge holding tanks and mitigation strategies for particulate matter entering the bilge.

## Maintenance

Finally following a recommended maintenance schedule will keep an OWS running for as long as you need it to.

## Summary

CS series oily water separator is a vital component in the global effort to reduce marine pollution and an indispensable tool in the effective running of any vessel.

With proper use and maintenance, they will keep any ship compliant with international regulations and running at their best for many years to come.

To find out more about the Victor Marine CS series separator visit [victormarine.com](http://victormarine.com)

