5PPM APPROVED

OILY WATER SEPARATORS

Victor Marine Ltd are specialists in the design and manufacture of Oily Water Separators and their accessories. Victor Marine systems are 5ppm approved, compliant with IMO regulation MEPC 107(49) and available in a range of sizes.

victormarine.com

Victor Marine
Globally focussed on cleaner solutions

Oily Water Separators

Victor Marine's bilge oily water separators are specifcally engineered for the marine industry.

Victor Marine have been supplying systems for over 80 years and have installed over 7000 units. Combining their many years of experience and the latest technologies, Victor Marine have developed a range of oily water separators which ensure reliability, maintainability, affordability and compliance with the latest IMO regulation MEPC 107(49).

The compact **CS Series** is designed to fit the smallest engine rooms and is easy to install. Its three stage separation system and fully automatic operation is both effective and reliable, whilst making it easy to use and maintain.

Military, Offshore, Retro-fit and Special Editions

Victor Marine has an in-house design team able to develop bespoke systems, for example, systems tailored for retro-fitting in tight spaces, shock-mounted systems for naval standards, and low-magnetic signature systems for **minesweepers, offshore rigs** with ATEX requirements and **onshore and offshore power stations**.

The **CS Lite** is specifically engineered to be lightweight for use on vessels where the weight of a standard separator would be an issue e.g. fast attack craft and superyachts. Constructed from marine-grade aluminium, this model offers a 30% weight saving over the standard CS Series model.

Please contact us for any special requirements.

Victor Marine services

Design. The designers at Victor Marine have a wealth of experience and industry knowledge. Customers can discuss their specific requirements for any project, and the development team will collaborate and create an innovative, bespoke solution. Our comprehensive in-house engineering and testing facilities mean we can design, manufacture and build many systems under our own roof. Victor Marine can also provide a range of certification and process options.

Commissioning and Servicing. Victor Marine Ltd offer engineers worldwide for all Commissioning and Servicing for our Oily Water Separator and Sewage Treatment Plants. Our engineers are fully qualified and trained to a high level on all of our products.

After sales and tech support. Victor Marine maintains a worldwide network of agents who can provide customers with a comprehensive after-sales service for example installation, commissioning, technical support, servicing and spares.

MADE IN BRITAIN MADE IN EU

GLOBALLY FOCUSSED ON CLEANER SOLUTIONS

The CS Series Oily Water Separator units are suitable for use on board vessels such as container & general cargo ships, chemical, VLCC, oil and product tankers, passenger and RO-RO ferries, workboats such as dredgers & tugs, offshore support & service vessels, naval vessels & warships, cruise ships, superyachts and fast patrol craft, fishing vessels, vessels for oil & gas such as FPSO, FLNG, FSU & LNG.

Our units are used to separate oil from bilge water to the required international standard of 15 ppm (parts per million) oil content before discharge overboard and to maintain a cleaner marine environment, aiding the preservation of marine life throughout the world's oceans and seas.

System Benefits:

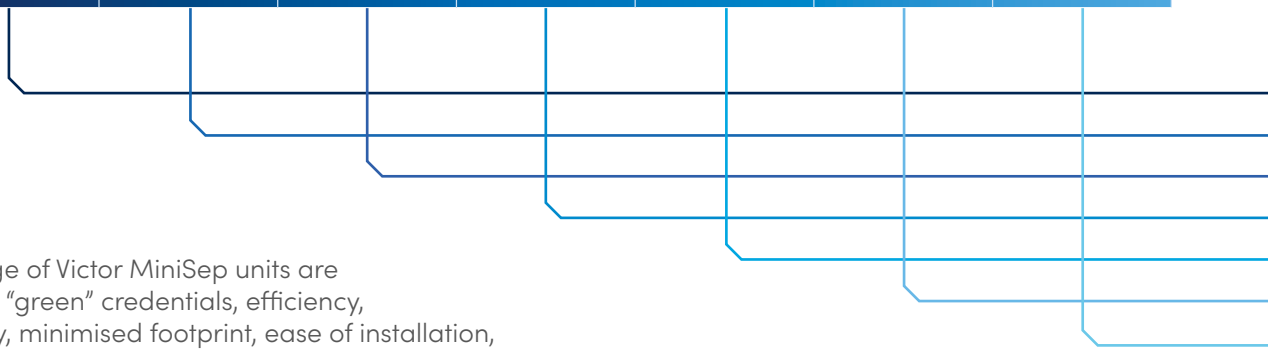
- Fully compliant with IMO regulation MEPC 107(49)
- Easy to operate
- No special training required
- Supplied as a complete turnkey package
- Economical to run
- No backwashing or cleaning cycle required
- Proven discharges below 5ppm oil content
- Worldwide support and service
- Our separators are approved by ABS, BV, UKCA, USCG, MED, and comply with DNV's 5ppm CLEAN-DESIGN notation. Other approvals such as CCS and RINA can be provided on request.
- High quality separation is achieved with a three-stage separation process. This involves a hydrophobic high viscosity removal system (Hi-VOR system), an oleophalic coalescing filter element and a final stage containing our Adsorption Granular Media (AGM filtration).

Contact us today for more information victormarine.com +44 (0) 1708 899780

Our range of Oily Water Separators

The Victor MiniSep range of Oily Water Separators are one of our most popular products, which now includes the latest designed and approved CS Lite OWS unit. This compact and lightweight version of the original MiniSep CS Range is suited to smaller vessels where size, weight and functionality are key factors, whilst still ensuring efficent separation and maximising consumption.

	CS0500	CS1000	CS2000	CS3000	CS4000	CS5000	CS0500 Lite
Capacity							
m^3/hr	Up to 0.5	1.00	2.00	3.00	4.00	5.00	0.5
US gal/hr	132	264	528	792	1056	1320	132
Dimensions (mm)							
Width (Inc. Maint.)	944 (1655)	1269 (2075)	1300 (2075)	1515 (2300)	1515 (2300)	1646 (2452)	1019 (1655)
Depth (Inc. Maint.)	651 (1090)	849 (1310)	832 (1310)	1046 (1570)	1046 (1570)	1045 (1715)	686 (1090)
Height (Inc. Maint.)	1473 (1710)	1473 (1750)	1473 (1750)	1513 (1760)	1513 (1760)	1513 (2000)	1474 (1710)
Weight (Kg)							
Dry	260	500	500	600	600	770	170
Wet	410	950	950	1330	1330	1650	320
Power (kw)							
50Hz (60Hz)	0.55 (0.55)	0.75 (0.75)	1.1 (1.1)	1.1 (1.3)	1.5 (1.5)	1.5 (1.8)	0.55 (0.55)
inc. heater	1.55 (1.55)	1.75 (1.75)	2.1 (2.1)	2.1 (2.3)	2.5 (2.5)	2.5 (2.8)	1.55 (1.55)
Connections (mm/inch)							
Inlet Suction	32 (1.25")	50 (2")	50 (2")	50 (2")	65 (2.5")	65 (2.5")	32 (1.25")
Overboard	25 (1")	25 (1")	25 (1")	40 (1.5")	40 (1.5")	40 (1.5")	25 (1")
Return to Bilge	25 (1")	25 (1")	25 (1")	40 (1.5")	40 (1.5")	40 (1.5")	25 (1")
Recovered oil	25 (1")	40 (1.5")	40 (1.5")	40 (1.5")	40 (1.5")	40 (1.5")	25 (1")
Flush Valve	15 (0.5")	15 (0.5")	15 (0.5")	15 (0.5")	15 (0.5")	15 (0.5")	15 (0.5")
Pressure Relief	15 (0.5")	15 (0.5")	15 (0.5")	20 (0.75")	20 (0.75")	25 (1")	15 (0.5")
Pressure (Bar/psi)							
Operating	1.38 (20)	1.38 (20)	1.38 (20)	1.38 (20)	1.38 (20)	1.38 (20)	1.38 (20)
Maximum	3.45 (50)	3.45 (50)	3.45 (50)	3.45 (50)	3.45 (50)	3.45 (50)	3.45 (50)
Water Requirement	No back-washing required. Clean water required for oil content monitor and commissioning. Recommended pressure 0.5 - 4 bar.						
Air Requirement	Air Pressure of 4-7 bar for operation of pneumatic valves only.						
	CS0500	CS1000	CS2000	CS3000	CS4000	CS5000	CS0500 Lite



The complete range of Victor MiniSep units are renowned for their "green" credentials, efficiency, reliability, economy, minimised footprint, ease of installation, use and servicing, making the installation and lifespan of the units trouble-free.

Victor Marine have a full in-house engineering and design team, please speak to our sales team about our split base Oily Water Separator systems. Split base units are a unique, low-cost, customer focussed option that allows the CS units to be manufactured in sections, giving easy access of the unit into the ships hold for assembly & installation and eliminate the need to cut into the ships hull. This bespoke & innovative solution can save customers time and money on retro fit projects.

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CS0500

Our smallest unit for capacities required up to 0.5m3/hr. Suitable for vessels up to 1600 GWT such as:

- Fishing Vessels
- Fast Patrol Vessels
- Workboats & Tugs
- Offshore Support Vessels

CS1000

Our small to mid-range unit for capacities required up to 1m3/hr. Suitable for vessels between 1600 to 4000 GWT such as:

- Naval Vessels
- Offshore Support Vessels
- General Cargo Vessels

CS2000

Our mid-range units for capacities required up to 2m3/hr. Suitable for vessels between 4000 to 15000 GWT such as:

- Oil & Chemical Tankers
- VLCC
- Cargo ships
- Container Vessels
- Passenger/RO-RO Ferries
- Naval Vessels

CS3000

Our mid-range units for capacities required up to 3m3/hr. Suitable for vessels between 4000 to 15000 GWT such as:

- Oil & Chemical Tankers
- VLCC
- Cargo ships
- Container Vessels
- Passenger/RO-RO Ferries
- Naval Vessels

CS4000

Our mid-range units for capacities required up to 4m3/hr. Suitable for vessels between 4000 to 15000 GWT such as:

- Oil & Chemical Tankers
- VLCC
- Bulk Cargo ships
- Container Vessels
- Passenger/RO-RO Ferries
- Naval Vessels
- FPSO/FLNG/FSU

CS5000

Our largest unit for capacities required up to 5m3/hr*. Suitable for vessels between 4000 to 15000 GWT such as:

- Oil & Chemical Tankers
- VLCC
- Bulk Cargo ships
- Container Vessels
- Passenger/RO-RO Ferries
- Naval Vessels
- FPSO/FLNG/FSU

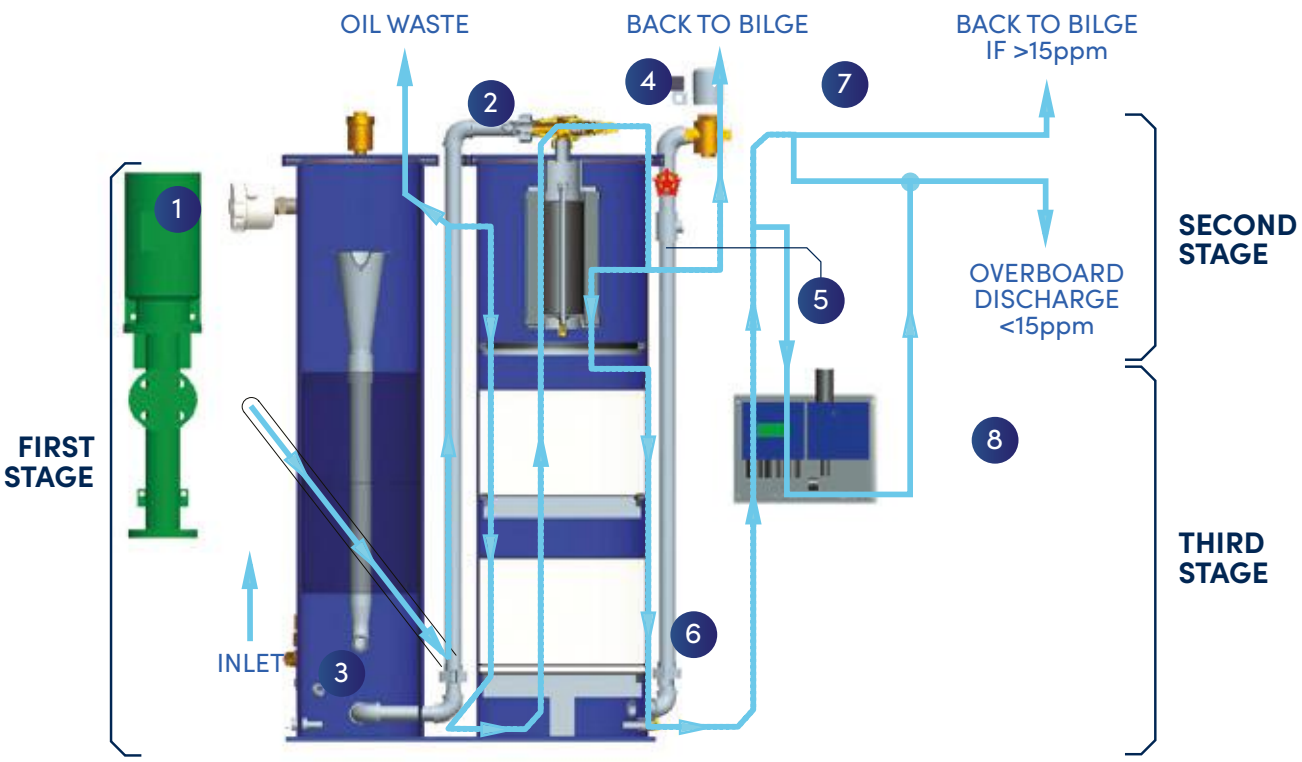
*Can be designed to 10m3/hr on request

CS0500Lite

The lightweight version of our smallest CS500 unit for capacities required up to 0.5m3/hr. Specifically engineered to be lightweight for use on vessels where weight is as issue. Constructed from marine-grade aluminium giving a 30% weight saving over the standard CS500 and having low-magnetic properties for vessels such as Minesweepers.
Suitable for vessels up to 1600 GWT such as:

- Minesweepers
- Fast Patrol Vessels
- Carbon Fibre Vessels
- Workboats & Tugs
- Offshore Support Vessels
- Fishing Vessels

Process Diagram



1	PUMP	3	PRESSURE RELIEF VALVE	5	COALESCING FILTER ELEMENT	7	DIVERTER VALVE
2	AIR ELIMINATOR	4	WATER VALVE	6	ADVANCED GRANULAR MEDIA	8	OIL CONTENT MONITOR

Process Description

Bilge water is taken from the vessel bilge tank via a slow-revving positive displacement pump to prevent further emulsification. The oily bilge water is fed into the first stage High Viscosity Oil Removal (Hi-VOR) system and the initial sludge oil separation takes place. Free oils are removed via a high matrix oleophalic coalescing pack which draws oil to its surface creating large globules of oils that are floated to the top of the tank. This waste oil is then discharged to the waste oil tank. The second stage 20 micron coalescer cartridge system coalesces the remaining free oils. Emulsified oils enter the final AGM stage for treatment.

Our engineered Advanced Granular Media (AGM) is a specially formulated organoclay and has extremely high adsorption properties that remove emulsified oil, grease and low soluble organic compounds from waste water streams. The AGM is very efficient due to the large surface active areas and can adsorb up to 60% of its own weight in organic contaminants, in comparison to only 2-5% for granular activated carbon. Designed to be quick acting, the AGM is both hydrophobic and oleophalic making it extremely effective. This remarkable adsorption can produce continuous and reliable effluent below 5ppm. With no cleaning cycles, no back wash discharges and no extra downtime for replacements or the use of chemicals, running costs for our system are kept to a minimum.

Coalescer

Advanced Granular Media (AGM)

Oily Water Separator Build Options

Spares

All equipment is manufactured to the highest quality. Oily Water Separator spares are available worldwide and ex. stock. Recommended on-board spares kit includes Advanced Granular Media, Coalescer Set and Gasket Set.

Inlet Pre-Strainer

Options available of a high quality simplex strainer complete with 60 mesh Stainless Steel basket filter or a cost effective Y strainer filter with 1mm mesh Stainless Steel screen. Both methods provide protection to the Oily Water Separator System.

Shock Mount

Approved by the MoD for Naval use, these mounts were designed and developed primarily to protect delicate equipment against shock and vibrations to NSSII standards.

Foot Valve

A 2 inch (DN50) flanged PN10 cast iron body foot valve and coarse strainer (8mm mesh) to be used in the bilge holding tank if needed.

Electronic Oil Record Book

The SMARTSAFE ORB Bilge Overboard Security System was developed to prevent vessels from illegal discharge "Magic Pipes" and minimise discrepancies in the oil record book. It is a complete interlocked system ensuring security of the discharges. The discharge data can also be used as an automated entry into an electronic ORB or interpreted and recorded in the Rivertrace Connected database providing a full auditable trail of the discharges.

Manual Three-Way L-Port Valve

Flanged cast iron three way valve to be used for in-port servicing and inspection. Refer to IMO MEPC 107(49) Section 6.1.1.

Integrated Direct-on-Line Starter Control Panel – Multi-Voltage

Direct-on-Line pump motor starter installed in a mild steel polyester powered coated enclosure, protected to IP54, incorporating all necessary power supplies for the separator. The only shipboard supply required is the incoming power to the interlock isolator. All internal controls are 24V AC. Dry running protection & a first stage vessel heater are included.

Dry Running Protection

The possible malfunction of a progressive cavity pump can be easily avoided by using dry running protection device. Pre-installed within the panel and pump. This is a recommended way to protect and prolong the life of your pump.

Low Level and High Level Switch

Small and lightweight, the bilge switch is extremely stable in non-static, highly contaminated liquids. It is designed for low or high level detection and can be wired into the OWS control panel to control automatic stop of the separator. The bilge switch is supplied with 2 metres of three-core SW4 marine-grade cable. It is a submersible float type with slosh & debris shield to suit the bilge tank environment. It has an IP68 rating, can be pipe or wall mounted and has earned Class Type Approval.

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Contact us today for more information

victormarine.com
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Victor Marine Ltd are specialists in the design and manufacture of **Oily Water Separators, Tank Washing Machines, Sewage Treatment Plants and Gas Freeing Fans**. Formed in 2005 from the merger of two established brands in the marine industry, namely Victor Pyrate Ltd and Hodge Separators Ltd, the company has over 100 years of experience in supplying equipment to the marine industry.

Victor Marine is an autonomous company within the Samuel Hodge Group, a British engineering company founded in 1897, with its origins in ship repairing and machine tool rebuilding.