



KLEARSEP™ Oily Water Separator

Data sheet



KLEARSEP™ cross-flow filtration system with ceramic membranes

KLEARSEP™ filtration system treats shipboard bilge water. This Oily Water Separator reliably reduces hydrocarbon concentration to less than 5 ppm, below the international MARPOL convention, which requires a sea water discharge of less than 15 ppm.

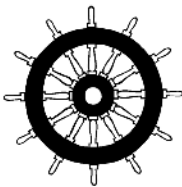
This filtration system is third party certified for a production flow rate of 2.5 m³/h (11 US gpm) and can be installed on board of new or existing ships (retrofit).

This result is achieved using a single separation step using ceramic membranes which allow the emulsified and free hydrocarbons to be removed and concentrated in order to store the final waste on-board, and dispose of it after the ship is docked.



ALSYS references with bilge water treatment technology

COMPANY	SHIP	Commissioning date
STENALINE	SUPERFAST VII	2018
STENALINE	SUPERFAST VIII	2018
COMPAGNIE DU PONANT	LE LYRIAL	2015
COMPAGNIE DU PONANT	LE SOLEAL	2013
COMPAGNIE DU PONANT	L'AUSTRAL	2011
COMPAGNIE DU PONANT	LE BOREAL	2010
STENALINE	SUPERFAST X	2009
DFDS	Côte des FLANDRES	2009
NAVIERAS ARMAS	AL ANDALUS EXPRESS	2009
DFDS	Côte des DUNES	2009
CORSICA LINEA	Pascal PAOLI	2008
CORSICA LINEA	Le MEDITERRANEE	2008
CORSICA LINEA	Danielle CASANOVA	2006



Bureau Veritas examination certification with International Maritime Organization (IMO) MEPC 107 (49).



What makes KLEARSEP™ system unique?

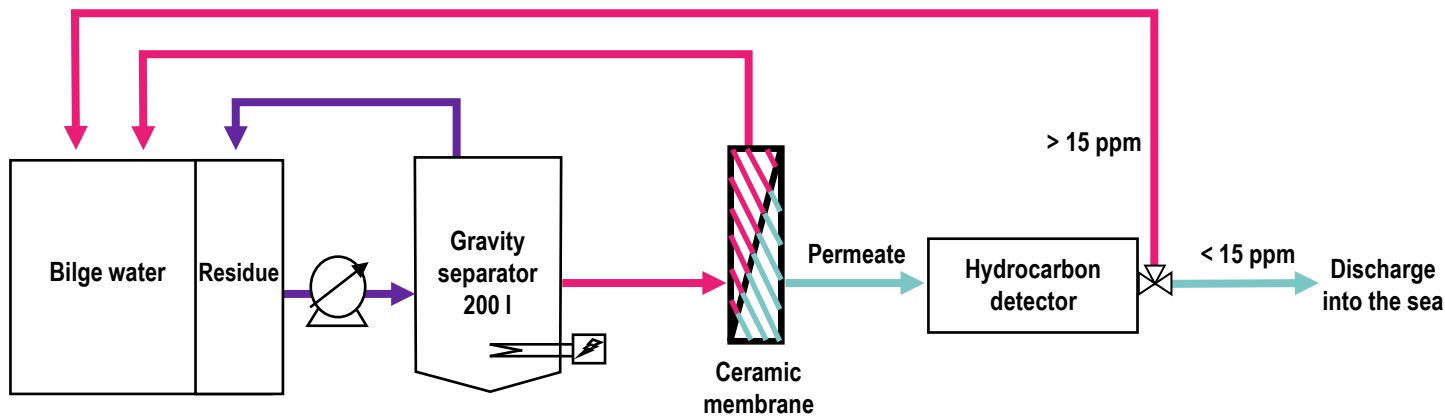
- Turnkey system, ready to connect to utilities
- Experience of ALSYS teams in starting-up the installation on board ships
- Robust and durable construction: the assembly is "marine" certified and all components are resistant to high temperature and corrosion
- Fail safe equipment: the treated product is continuously controlled by a hydrocarbon detector. The results are recorded and easy to verify in real time. Off-spec product is diverted to bilge tank. Optional: GPS-monitoring black box.
- All processing steps are managed by PLC and visualized on an operator terminal. Production flow rate is high and constant (2.5 m³/h)
- Automatic membrane cleaning, simplified start-up procedure
- Compact footprint (~ 1.3 m² = 1.6 m x 0.8 m or 14 ft² = 5.4 ft x 2.6 ft)
- **Environmentally friendly: small quantities of chemicals are used (only for automatic cleaning), low-frequency of disposal operations for the concentrated bilge water (about twice a year).**

KLEARSEP™ filtration system with ceramic membranes

- Membranes are physical barriers that block oils and hydrocarbons (unlike centrifugation or decantation ...)
- Ceramic membranes are media filters with a long lifetime that can be regenerated by cleaning (unlike other filters)



How the KLEARSEP™ system works?



Performances

Specifications	KLEARSEP™ 2500
Structure (frame and piping):	Stainless Steel
Maximum flowrate:	2.5 m³/h at 50°C or 11 US gpm at 122°F
Max. working pressure:	1.0 Mpa or 145 psig
Supply pump capacity:	0.4 Mpa or 58 psig
Motor kW rating:	1.1 kW or 1.5 HP
Dimensions:	1600 x 800 x 2200 mm or 5.4 ft x 2.6 ft x 7.2 ft
Weight:	700 kg or 1543 lbs
Supply voltage:	380 to 450 V / 3 phases / 50 to 60 Hz
Total volume:	270 l or 71 US gal
Shipboard supply:	Compressed air / water for cleaning
Option:	Feed pump that connects the bilge water tank to the filtration skid

* including the gravity separator

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