

GERTSEN & OLUFSEN 

BIOREACTOR

Full treatment of Black and Grey water



G&O MARITIME GROUP

MARINE LIFE WITHOUT FOOTPRINTS

REAL BIOLOGICAL TREATMENT OF BOTH GREY AND BLACK WATER, WITHOUT USE OF CHEMICALS OR DILUTION

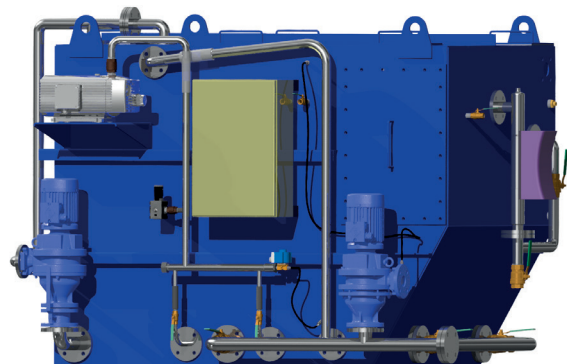
ENVIRONMENTALLY FRIENDLY AND YET COST EFFECTIVE

Cost effective operation for fleet owners and protecting our sea and environment for future generations, are two objectives at equal importance to us. This is why; at Gertsen & Olufsen we take great pride in solutions that meet these demands, without compromising one over the other.

The G&O Bioreactor is utilizing the submerged fixed-film bacteria principle. It is a 100% biological treatment system able to handle all Grey and Black water from any vessel or offshore facility with no need for filters, membranes or chemicals during treatment. Test results and operational experience with more than 800 plants delivered since 2002 has proven that the G&O Bioreactor offers both high efficiency, fully operational flexibility of the vessel and low and easy maintenance requirements.

Additional key features include:

- 15 standard systems – ranging from 1.85 m³/day up to 74.0 m³/day in a single system.
- Custom designed systems – e.g. where space limitations disqualify the use of standard systems.
- Tailor-made Split units – e.g. for retrofit projects.
- Designed for easy maintenance.
- Built-in Clean and Inlet tank.
- Produced in EU & China.
- Fitted with quality components from European suppliers.
- Gravity or vacuum systems.
- Vacuum equipment, grease separation and sludge handling systems available
- Docking inspections and Service agreement available



MEETING AND EXCEEDING IMO RULES

The G&O Bioreactor is tested and type approved and Wheelmarked by DNV-GL and all test results were meeting and exceeding the IMO Rules. Additionally the G&O Bioreactor is approved by US Coast Guard and Transport Canada.

BIOREACTOR FACTS

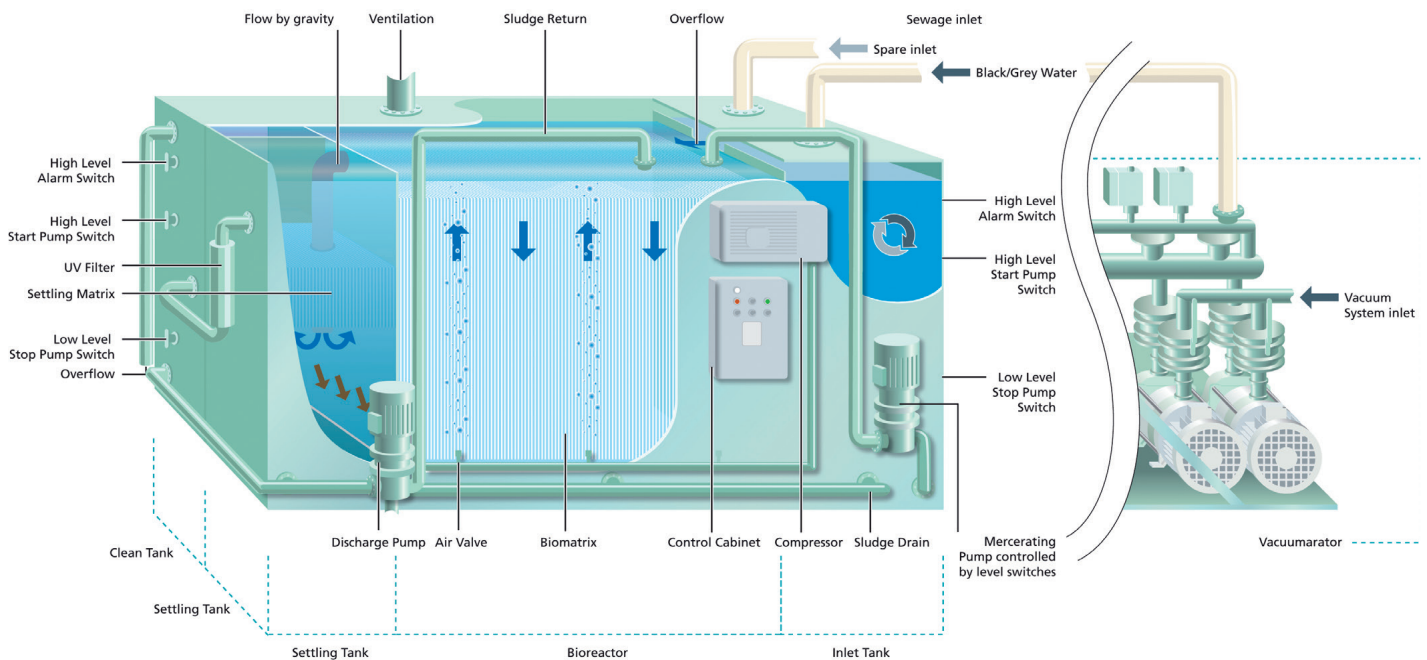
- Certified and Type approved by DNV-GL according to IMO MEPC 227(64).
- Approved by US Coastguard and Transport Canada.
- Compact design and low weight.
- Available in coated black steel, stainless steel and coated stainless steel.
- EEx and ATEX systems available.
- Successfully in the market since 2002 with more than 800 systems delivered and with ongoing improvements and features.



Transport
Canada



U.S. Department of
Homeland Security
United States
Coast Guard



Black & Grey waste water is led into the inlet tank of the Bioreactor via a macerating pump or a vacuum pump and through the main chamber matrix by the air from the membrane aerators.

The waste water passes through the settling matrix and UV light for final disinfection before going into the clean water tank for discharge.

TECHNICAL SPECIFICATIONS FOR STANDARD PLANT SIZES

Specifications				
BIOREACTOR TYPE	HYDRAULIC LOAD (m ³ /d)	ORGANIC LOAD (BOD5kg/d)	* NO. OF PEOPLE NON PASSENGER VESSEL 135/75 (Hydr./Org.)	* NO. OF PEOPLE PASSENGER VESSEL 185/85 (Hydr./Org.)
BR01850BG	1.85	0.75	10	8
BR03700BG	3.70	1.50	20	16
BR05550BG	5.55	2.25	30	24
BR07400BG	7.40	3.00	40	32
BR09250BG	9.25	3.75	50	40
BR11100BG	11.10	4.50	60	48
BR14800BG	14.80	6.00	80	64
BR18500BG	18.50	7.50	100	80
BR23125BG	23.13	9.38	125	100
BR27750BG	27.75	11.25	150	120
BR37000BG	37.00	15.00	200	160
BR46250BG	46.25	18.75	250	200
BR55500BG	55.50	22.50	300	240
BR64750BG	64.75	26.25	350	280
BR74000BG	74.00	30.00	400	320

*Numbers are based on the given hydraulic & organic load pr. person pr. day



Gertsen & Olufsen | Solvang 22 | DK-3450 Allerød | T: (+45) 4817 4055 | W: www.g-o.dk
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G&O Maritime Group provide value, safety and reliability to the global maritime industry through green, innovative quality solutions.