



Sewage Treatment Plants



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Sewage Treatment Plants

Sewage rules for ships to enter into force following breakthrough ratification

Regulations for the prevention of pollution by sewage from ships are set to enter into force in September 2003 following the ratification by Norway of Annex IV of MARPOL 73/78 Convention on marine pollution. Norway's ratification means the entry-into-force criteria for the Annex, set at 15 States whose combined merchant fleets constitute not less than 50 per cent of the world's merchant fleet by tonnage, have now been met.

Norway deposited its instrument of acceptance for MARPOL Annex IV on 26 September 2002. This brought the total number of countries that have accepted Annex IV to 88 and their tonnage accounts for 51 per cent of the world's total. In accordance with MARPOL Article 15(2), Annex IV will now enter into force on 27 September 2003.

The Annex sets out in detail how sewage should be treated or held aboard ship and the circumstances in which discharge into the sea may be allowed. It requires Parties to the Convention to provide adequate reception facilities for sewage and contains a model International Sewage Pollution Prevention Certificate to be issued by national shipping administrations to ships under their jurisdiction.

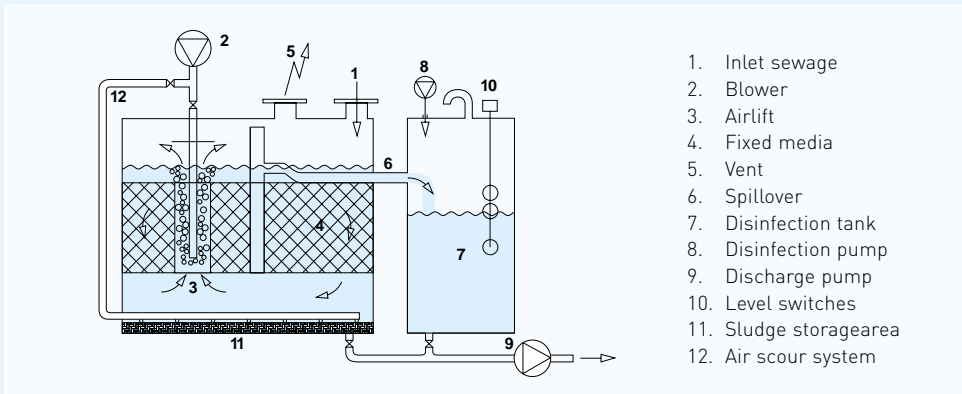
The Annex will apply to ships engaged in international voyages. On entry into force it will have immediate effect on all new ships of 400 gross tonnage and above and new ships of less than 400 gross tonnage which are certified to carry more than 15 persons. It will apply to existing ships of 400 gross tonnage and above and of less than 400 gross tonnage and above but certified to carry more than 15 persons five years after the date of entry into force.



MSD II /30 in «special configuration» in painted stainless steel version with UV-lamp disinfection, installed on a luxury yacht.

Technical Data

Biological sewage treatment plant for simple installation and operation built on skid as a complete unit with internal piping and wiring prefabricated. Capacity calculated for both black & grey water in separate inlets. Type approved by Lloyds Register of Shipping, IMO certificate and USCG acceptance, for vessels visiting USA.



1. Inlet sewage
2. Blower
3. Airlift
4. Fixed media
5. Vent
6. Spillover
7. Disinfection tank
8. Disinfection pump
9. Discharge pump
10. Level switches
11. Sludge storage area
12. Air scour system

Main dimensions and Specifications

Item	Type	Capacity		Dimensions (m) L x W x H	Capacity (m ³ /day)
		(Persons / Black water)	(Persons / Gray water)		
STP 001	MSDII/10	10	10	1,15 x 0,95 x 1,40	0,85 + 0,85
STP 002	MSDII/20	20	20	1,75 x 1,05 x 1,45	1,73 + 1,73
STP 003	MSDII/30	30	30	1,75 x 1,30 x 1,45	2,59 + 2,59
STP 004	MSDII/40	40	40	1,70 x 1,55 x 1,45	3,46 + 3,46
STP 005	MSDII/50	50	50	2,18 x 1,55 x 1,45	4,32 + 4,32
STP 006	MSDII/60	60	60	2,50 x 1,55 x 1,45	5,18 + 5,18
STP 007	MSDII/70	70	70	2,90 x 1,55 x 1,45	6,04 + 6,04
STP 008	MSDII/80	80	80	3,25 x 1,55 x 1,45	6,91 + 6,91
STP 009	MSDII/100	100	100	2,18 x 1,55 x 1,95	8,64 + 8,64
STP 010	MSDII/160	160	160	3,25 x 1,55 x 1,95	13,82 + 13,82
STP 011	MDSII/200	200	200	3,25 x 2,10 x 2,10	17,28 + 17,28
STP 012	MSDII/240	240	240	3,25 x 2,40 x 2,10	20,73 + 20,73
STP 013	MSDII/300	300	300	4,00 x 2,00 x 2,10	25,92 + 25,92
STP 014	MSDII/400	400	400	4,20 x 3,20 x 2,10	34,56 + 34,56
STP 015	MSDII/500	500	500	5,20 x 2,60 x 2,10	43,20 + 43,20
STP 016	MSDII/600	600	600	5,20 x 3,10 x 2,10	51,84 + 51,84
STP 017	MSDII/700	700	700	6,40 x 2,80 x 2,10	60,48 + 60,48
STP 018	MSDII/800	800	800	6,40 x 3,10 x 2,10	69,12 + 69,12

(All the standard dimension to be considered as guiding figures only)

Advantages

- The biomass (bacteria) are attached to a carrier medium, meaning there are no active sludge parts floating or circulating in the treatment tank.
- This results in a very simple and reliable process independent of clarifiers and sludge return system.
- Sludge removal is a simple and clean job, which can be done within 15 minutes, by simply operating the valves and use of the installed discharge pump.
- The standard calculation provides at least 3 months sludge buffer, but in practice (depending on specific on board situation) this can sometimes be even 6 months intervals.



**MSD II /200 in «Modular type»
for limited space installation area.**



Safety Equipment

- Lifeboats—totally enclosed / partially enclosed /open • Freefall Lifeboats
- Rescue / Fast Rescue Boats • Davits - ships and rig davits / single arm / liferaft davits

Deck Equipment

- Deck Cranes • Offshore Cranes • A-frames • Winches - mooring / tugger / hoisting etc.
- Windlasses • Capstans

Other Equipment

- Anchors • Chains • Reverse Osmosis Plants • Sewage Treatment Plants
- Tunnel thrusters • Accommodation Modules • Firefighting Systems
- Purifiers • Fenders • Various Maritime / Offshore Equipment

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