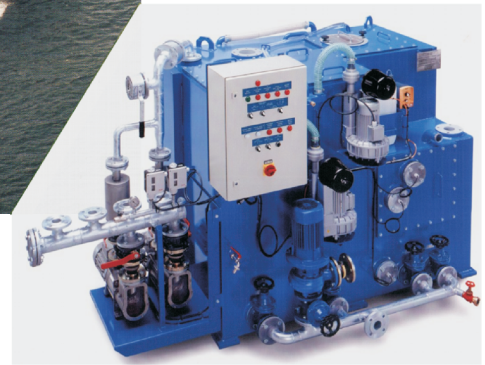


BioCompact® S Series

The marine wastewater treatment system



Description

The BioCompact® S Series provides a compact, built-in wastewater treatment solution for small and large ships (for as few as 5, or as many as 1,000 people). S Series systems are fully contained containerised steel units, which require a minimal amount of on-site assembly, and employ a scaled-down version of the activated sludge process used by municipal treatment plants.

BioCompact® S 20 with integrated jets vacuum sanitation system

The BioCompact® S series treatment plants carry a long history, with more than 1,500 units sold since 1980. S-type treatment plants have been approved by the US Coast Guard, the German *See-Berufsgenossenschaft* (a certifying agency for the International Marine Organization, IMO), the Marine Division of the British Department of Trade, the Danish *Søfartsstyrelsen*, the USSR Register of Shipping, the Chinese Register of Shipping, the Finnish Board of Navigation, the National Swedish Administration of Shipping and Navigation, as well as the Polish *Rejestr Statków*.

The BioCompact® units are simple, relatively maintenance-free and operate under the ControLogic™ system that allows instantaneous, automatic monitoring of the unit's performance. The ControLogic™ electronic monitoring device of the L-Series provides instant access to BioCompact® performance data allowing spot checks of treatment efficiency, pH balance, aeration efficiencies and temperature readings.

Unique Features

- S Series is available for 5, 10, 15, 25, 35, 50, 100, 200, 300, 600, 800, and 1000 people.
- Long history of successful operation throughout the world.
- The ControLogic™ system provides complete, automated monitoring of the operation.
- The aeration requirement is electronically determined, and power consumption depends on the actual load on the system.
- Durable steel construction.
- Low maintenance expenses - few moving parts that may be subject to failure.
- Superior treatment quality.
- Optional automatic effluent disinfection.

Lifetime

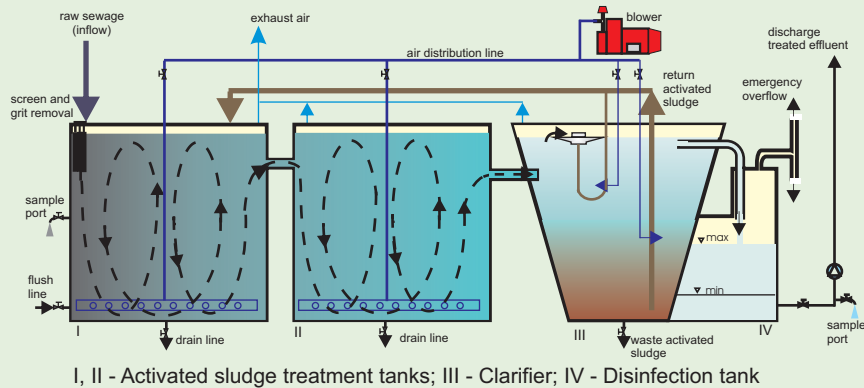
The BioCompact® S Series treatment plants are exceptionally well designed, built, and surface treated, allowing a very long lifetime expectancy. Easy serviceability of blowers and pumps allows for efficient maintenance.

Maintenance

Ordinary maintenance includes a bimonthly check of the concentration of activated sludge, a monthly check for verification of proper operation of sensors and their cleaning.

BioCompact® S Series

Treatment Schematic



Dimensions

| Type | Length (m) | Width (m) | Height (m) | Weight, empty (kg) | Weight, in operation (kg) |
|---------|------------|-----------|------------|--------------------|---------------------------|
| S 10 | 1.62 | 1.47 | 1.48 | 900 | 2,150 |
| S 15 | 1.68 | 1.50 | 1.73 | 1,000 | 2,750 |
| S 20 | 1.99 | 1.65 | 1.73 | 1,200 | 3,550 |
| S 25 | 2.25 | 1.65 | 1.73 | 1,400 | 4,280 |
| S 35 | 2.20 | 2.11 | 2.17 | 1,765 | 5,815 |
| S 50 | 2.20 | 2.72 | 2.17 | 2,725 | 8,600 |
| S 100 | 3.85 | 2.80 | 2.40 | 4,350 | 12,880 |
| S 200 | 4.76 | 3.66 | 2.45 | 6,100 | 26,000 |
| S 300 | 5.00 | 4.21 | 2.65 | 7,980 | 37,000 |
| S 600* | 6.30 | 4.76 | 2.75 | 11,000 | 50,000 |
| S 800* | 5.52 | 4.76 | 3.35 | 12,000 | 52,000 |
| S 1000* | 7.75 | 6.10 | 3.20 | 13,500 | 104,500 |

Applications

The BioCompact® S-Series is the affordable yet highly efficient solution for wastewater treatment on marine vessels.

Installation

The smaller BioCompact® S Series plants consist of one container, the larger plants consist of two separate containers, which are linked on-site. All dimensions of the containers comply with pertinent transportation standards. The BioCompact® S-Series units are integrated into the vessel itself.

Performance

The table (right) reflects the superior treatment quality that is achieved with using BioCompact® systems for the treatment of wastewater and sewage. These systems have been tested under the following condition:

Sewage volume = 175 l/person, organic load = 87.5 g BOD per person per day.

Treatment Quality



Two BioCompacts® S 800 systems on the flatbed

| Parameter | Permitted Limits | BioCompact® actual test results |
|-------------------|-------------------------|---------------------------------|
| Suspended solids | 150 mg/l | 4.23 mg/l |
| Effluent BOD | 50 mg O ₂ /l | 8.1 mg O ₂ /l |
| Coliform bacteria | < 200 cfu/100 ml | 2.75 cfu/100 ml |

Ordering Information

| B C | | S | | << ORDER NUMBER | |
|-----|---|---|--|-----------------------------------|--|
| | | | | Marine application | |
| 1 | 0 | | | 1.75 m ³ /d capacity | |
| 1 | 5 | | | 2.62 m ³ /d capacity | |
| 2 | 0 | | | 3.50 m ³ /d capacity | |
| 2 | 5 | | | 4.38 m ³ /d capacity | |
| 3 | 5 | | | 6.13 m ³ /d capacity | |
| 5 | 0 | | | 8.75 m ³ /d capacity | |
| 1 | 1 | | | 17.50 m ³ /d capacity | |
| 2 | 1 | | | 35.00 m ³ /d capacity | |
| 3 | 1 | | | 52.50 m ³ /d capacity | |
| 6 | 1 | | | 105.00 m ³ /d capacity | |
| 8 | 1 | | | 140.00 m ³ /d capacity | |
| 0 | 1 | | | 175.00 m ³ /d capacity | |
| 0 | | | | No effluent disinfection | |
| 1 | | | | Effluent UVdisinfection | |
| 2 | | | | hypochlorite disinfection | |
| 3 | | | | chlorine dioxide disinfection | |
| 0 | | | | electronic controls | |
| 1 | | | | performance recording | |
| 2 | | | | remote monitoring | |
| 3 | | | | satellite uplink / downlink | |

PLEASE NOTE: If disinfection is required, the method of choice is chlorine dioxide, available as an option for S50 systems or higher. While chlorination of wastewater generates chlorinated organic compounds as disinfection byproducts, the disinfection with chlorine dioxide does not produce those. Chlorinated organic compounds are persistent in the environment, and for this reason, many jurisdictions (including Canada) have banned the chlorine disinfection of wastewater.

BioCompact

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