



DESMI Seaweed

Eco-Friendly Sargassum Handling Solution

PROVEN TECHNOLOGY

DESMI

DESMI SEAWEED SEA TURTLE SARGASSUM PROJECT

The DESMI Sea Turtle Sargassum Project was born in 2015 when a massive amount of Sargassum (Pelagic Sargassum Seaweed) arrived in the Caribbean.

Initially it was an investigation and research project developed to find an ecological and cost-effective solution and today it is a complete response system ready for Sargassum abatement.



DESMI Sea Turtle Sargassum Project supports the UN sustainable development goal No. 14.
For more information please visit www.desmi.com/un-sustainable-development-goals.aspx

Sargassum Free-of-Sand & Sand Free-of-Sargassum

After more than four years' research programme, testing different boom alternatives and removal units in four different countries, the DESMI seaweed solution has proven to be very efficient and unique, providing a reliable alternative for sargassum management keeping sandy beaches free of sargassum and at the same time removing free-of-sand Sargassum for future utilization as base for paper, medicine, fertilizer etc.

The DESMI removal unit capacity is 20 - 30 m³/h, and the systems can operate even in bad weather conditions and shallow waters, where boats will not be able to perform. For operation, no crew or license is needed.

The requirement for anchoring and maintenance of the MESH boom is significantly smaller than for rigid booms and there is no need for heavy trucks on the beach.

Facts about DESMI:

- Founded in 1834 by Henning Smith and one of Denmark's oldest companies
- +1000 employees at 29 locations in 19 countries around the world
- Pumps and pumping solutions have been manufactured for more than 100 years
- Floating containment booms have been a part of the product range for more than 40 years



Sargassum Project



Keeping Beaches Free of Sargassum

PROTECTION OF BEACHES

The boom is installed using modern anchoring non-invasive techniques, in a deflection configuration, and protects the beach. At the same time it concentrates the sargassum in a pocket configuration that prevents contact with sand. Once the sargassum is concentrated inside the pocket, a mechanical, hydraulically driven floating unit removes the Sargassum using a conveyor belt, vortex effect and transfer systems.

The units are named DESMI Sea Turtle MKIII, DESMI Tri Turtle and DESMI Whale Shark.

The removal unit has a flexible discharge hose that can be connected to standard water PVC pipes 6" or 8", buried under the sand, or rigid hoses. Sargassum free-of-sand can be removed from the water and transferred up to 200 metres away from the beach to containers or trucks for final disposal.



Beach Protection

The DESMI MESH BOOM is the result of years of investigation and tests. It is based on a nautical grid that allows water and wind to pass but retains the sargassum, protecting the beaches. Heavy Duty semi- spherical (Globes) floats allow our boom to perform in waves. We do not use a net, our mesh allows for very easy maintenance and no sea life affectation.

Constructed with eco-friendly materials, DESMI MESH BOOM has been protecting beaches for more than 5 continuous years.

Light weight, high tension strength, and high buoyancy enables the DESMI MESH BOOM to perform in harsh conditions as e.g. big waves and heavy winds, and remove them from the water easily per sections or completely in case of storms.



Main Features:

- High tension strength, low weight and high buoyancy enable it to perform in heavy waves
- Section length standard 15 m / 50 ft, any length on inquiry
- ASTM Slide aluminium (F 962) end connectors – allow easy and quick boom removal from water
- Nautical grid (not a net), mesh made of polyester filament yarn
- Foam filled HDPE floats, no harmful polystyrene
- Heavy duty spherical floats 36 cm / 14"
- Hot galvanized cast iron ballast weights with stainless steel bolts & nuts
- Mesh tensile strength: 53 kN / 12000 lbs
- Overall height: 105 cm / 42"
- Draft: 75 cm / 28"
- Freeboard: 30 cm / 14"
- Compact and easy storage when not in use
- Less maintenance and anchoring requirement compared with fixed wall booms
- Easy on-site repair if needed
- DESMI 5 years guarantee on spare parts provision and availability

OPERATION OF THE SYSTEM

With the DESMI SEAWEED solution you get an eco-friendly solution, where the DESMI MESH BOOM is anchored to the sea bed to divert sargassum, and when needed, sent towards removal pockets, and from there, DESMI units removes and transfer to any on-shore container, fresh, alive and free to sand sargassum for future utilization.

Mesh is the best option for sargassum diversion, it allows water, waves and wind to pass through the boom. The removal unit is safe for operators and swimmers.

Compared with manual sargassum removal you have the following advantages:

- Much lower number of operators
- No license requirement
- Low energy consumption
- Less maintenance
- A system for all weather conditions
- Shallow water operation
- Cost-effective due to low investment compared to workboats



Ultimate Sargassum Removal Unit

The DESMI SEA TURTLE MKII is the ultimate sargassum removal unit. The concept is simple, it is a portable floating aluminum sea grade unit fitted with a stainless steel conveyor belt that removes floating sargassum free-of-sand to a transfer system able to transport sargassum far from the beach, away from swimmers and tourists, avoiding the need of trucks

or tractors on the beach. The complete removal unit is hydraulically driven by an external electrical or diesel power pack. The removal unit has a flexible discharge hose that can be connected to standard water PVC pipes 6" buried under the sand, or rigid hoses.



Main Features:

- Able to perform in shallow waters and bad weather conditions
- Requires only one or two operators
- Able to manage most of the floating plastic trash encountered with the sargassum arriving at the beach
- Safe for operators, swimmers and sea species
- Aluminum marine grade 5 frame construction
- Stainless steel AISI 316 mesh belt & transfer system
- Fitted with aluminum ASTM slide connectors for installing the DESMI MESH BOOM
- Sargassum removal capacity 20-30 m³/h / 12-17 ft³/min
- Transfer length up to 200 m / 600 ft at 3 m head
- Dimensions approx. 244 x 170 x 122 mm / 8 x 5.6 x 4 ft. Weight: 350 kg / 770 lb
- Fitted with sand wheels for easy removal from the water
- Very low operational and maintenance costs compared with sargassum removal workboats
- No license, no crew required

DESMI Sea Turtle MKIII, DESMI Tri Turtle, DESMI Whale Shark



Removal Unit

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