

DESMI SEAWEED

The Eco-Friendly Sargassum Handling Solution

PROVEN TECHNOLOGY



DESMI SEA TURTLE SARGASSUM PROJECT

The DESMI Sea Turtle Sargassum Project was born in 2015 when a massive amount of pelagic sargassum (*sargassum fluitans & natans*) arrived on the beaches of the Caribbean. Initially, it was a research and development project focused on finding an eco-friendly and cost-effective solution. Today, it is a comprehensive response system to combat the arrival of sargassum.



14 LIFE
BELOW WATER



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 of a preliminary research program, testing different barrier alternatives and sargassum removal units in four different countries, the DESMI Seaweed solution has proven to be efficient and unique, providing a reliable alternative for sargassum management. For over five years now, it has successfully kept beaches free of sargassum, while removing sand-free sargassum from the water for its potential future use as a base for bio-stimulants, energy, cosmetics, and more.

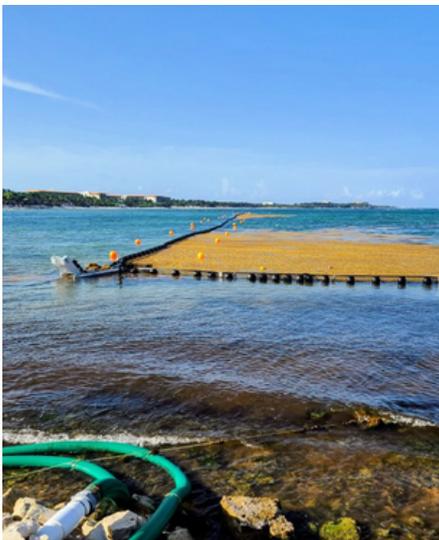
The removal capacity of the DESMI SEA TURTLE systems ranges from 20 to 50 m³/hour - 17 to 30 ft³/min, and they can transfer sargassum over 250 meters - 820ft from the shoreline. They are capable of operating even in rough weather and shallow waters conditions in which traditional sargassum workboats cannot operate. Their operation does not require a crew, and there are no storage space limitations. The anchoring and maintenance requirements of the mesh-type barrier are significantly lower compared to rigid wall barriers.

Some facts about DESMI:

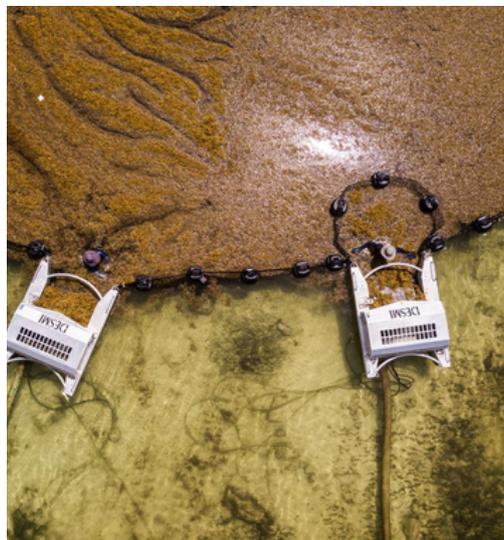
- Founded in 1834 by Henning Smith and one of Denmark's oldest companies
- +1100 employees at 32 locations in 19 countries around the world
- Pumps and pumping solutions have been manufactured for more than 100 years
- Floating containment booms have been a part of the product range for more than 50 years



DESMI SEAWEED CONCEPT



Diversion



Removal



Disposal

PROTECTED BEACHES

Based on marine currents and the predominant direction of sargassum arrival to the beach, DESMI MESH BOOM are installed using modern, non-invasive seabed anchoring techniques, in a diversion configuration that protects the shoreline.

When it is not possible to divert the sargassum entirely, it is concentrated in accumulation pockets created with barriers, placed at the sides of the boom configuration before the sargassum comes into contact with the sand.

The sargassum is removed using floating mechanical units with hydraulic or electric operation, which transfers it away from the beach —alive, fresh, and free of sand.

DESMI SEA TURTLE units feature a flexible discharge hose that can be connected to standard PVC water pipes up to 250m / 820 ft of 6" or 8" rigid hoses buried beneath the sand.

The sargassum can be transferred away, directly into containers or trucks for processing and/or final disposal.



THE BEST SARGASSUM BOOM ON THE MARKET!

The DESMI MESH BOOM is the result of years of research and testing. It is based on a nautical mesh that allows water and wind to pass through the barrier wall while retaining the sargassum, effectively protecting the beaches.

The most efficient and durable sargassum boom on the market! Its low weight, high tensile strength, and high buoyancy allow the DESMI MESH BOOM to perform in harsh conditions, such as strong winds and rough waves.



Key Features:

- High tensile strength, low weight, and high buoyancy allow operation in rough wave conditions
- Service life exceeding 5 years
- Nautical grid – not a net, but a mesh made of polyester filaments coated with PVC
- Rigid HDPE floaters filled with flotation foam, free of harmful polystyrene
- Heavy-duty spherical floats: 36 cm / 14"
- Total height: 105 cm / 42"
- Draft: 75 cm / 30" | Freeboard: 30.5 cm / 12"
- Tensile strength: 70 kN / 15,700 lbs
- Standard section length: 15 m / 50 ft
- Marine Aluminum ASTM slide end connectors (F 962) for quick and easy section connection and removal from water
- Galvanized steel ballast weights with stainless steel bolts and nuts
- Compact and easy store when not in use
- Lower anchoring and maintenance requirements compared to rigid wall barriers
- Easy on-site repairs if needed
- More than 21,000 m / 69,000 ft of MESH BOOM have been installed in the Caribbean

DESMI SEAWEED SOLUTIONS

The DESMI SEAWEED concept uses currents and mesh-type barriers that allow water, waves, and wind to pass through the barrier while diverting sargassum away from the beach.

When removal is necessary, systems from the DESMI SEA TURTLE family can transfer the sargassum free of sand. The operation of the removal unit is safe for operators, swimmers and sea life. It can work for long periods since it has no storage limitations.

Compared to other sargassum removal alternatives, it offers, among others, the following advantages:

- Significantly fewer operators required
- No boats required
- Low energy consumption
- Lower maintenance costs
- A system that works in all weather conditions
- Operates in shallow waters
- Cost-effective due to lower investment compared to sargassum workboats



DESMI SEA TURTLE Remover Family TRI-TURTLE & E-TURTLE

Based on the success of the DESMI SEA TURTLE MKII, new sargassum removal units have been developed. The DESMI removers are portable floating units made of stainless steel, designed to remove floating sargassum free of sand through a transfer system capable of transporting sargassum away from the shoreline. This keeps it away from swimmers and tourists, while avoiding the use of trucks and tractors on the beach.

The removal units can be either hydraulic or electric operated, both featuring wireless remote control. The hydraulic version includes an external power unit equipped with a quiet and discreet electric or diesel engine.

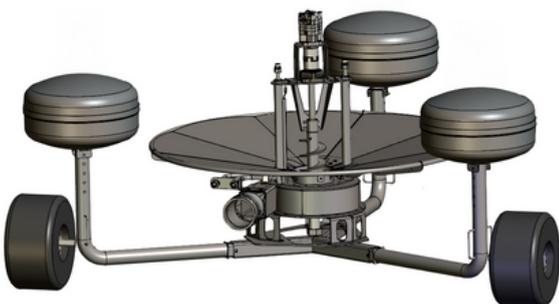
The removal units have a flexible discharge hose that can be connected to standard PVC piping or rigid 6" or 8" hoses that can be buried under the sand for discrete installation.



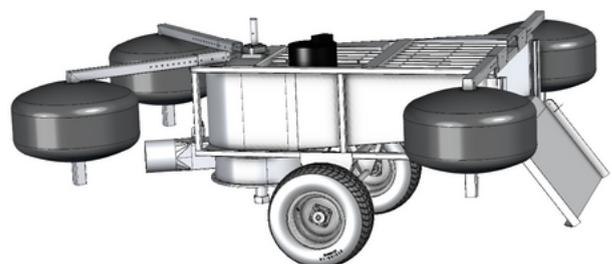
Key Features:

- Operate in shallow waters and in bad weather conditions
- Can work for long periods as they have no storage space limitations
- Require only one or two operators
- Can handle most of the floating plastic debris found alongside sargassum washing up on beaches
- Safe operation for operators, swimmers, and marine species
- Constructed from AISI 316 stainless steel
- Sargassum removal capacity of 30–50 m³/hour (17–30 ft³/min)
- Transfer distance up to 250 m (820 ft) at 3 m (10 ft) height
- Weigh less than 300 kg / 661 pounds equipped with wide wheels for moving over sand
- Very low operational and maintenance costs compared to vessels used for sargassum removal
- No registration or crew required

DESMI SEA TURTLE SARGASSUM REMOVERS



DESMI TRI-TURTLE



DESMI E-TURTLE

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