



EnviRo-Care

Complete Marine Debris Management Solutions

PROVEN TECHNOLOGY

**DESMI**

# DESMI

## EnviRo-Care

### Combating the Global Marine Plastic Pollution

DESMI specializes in the development, manufacturing, sale and service of pumps and pumping solutions including a wide range of environmental equipment for oil spill, seaweed and clean waterways.

DESMI was founded in 1834 and is one of Denmark's oldest companies. Today our solutions are sold to more than 150 countries via a network of subsidiaries and distributors on six continents.

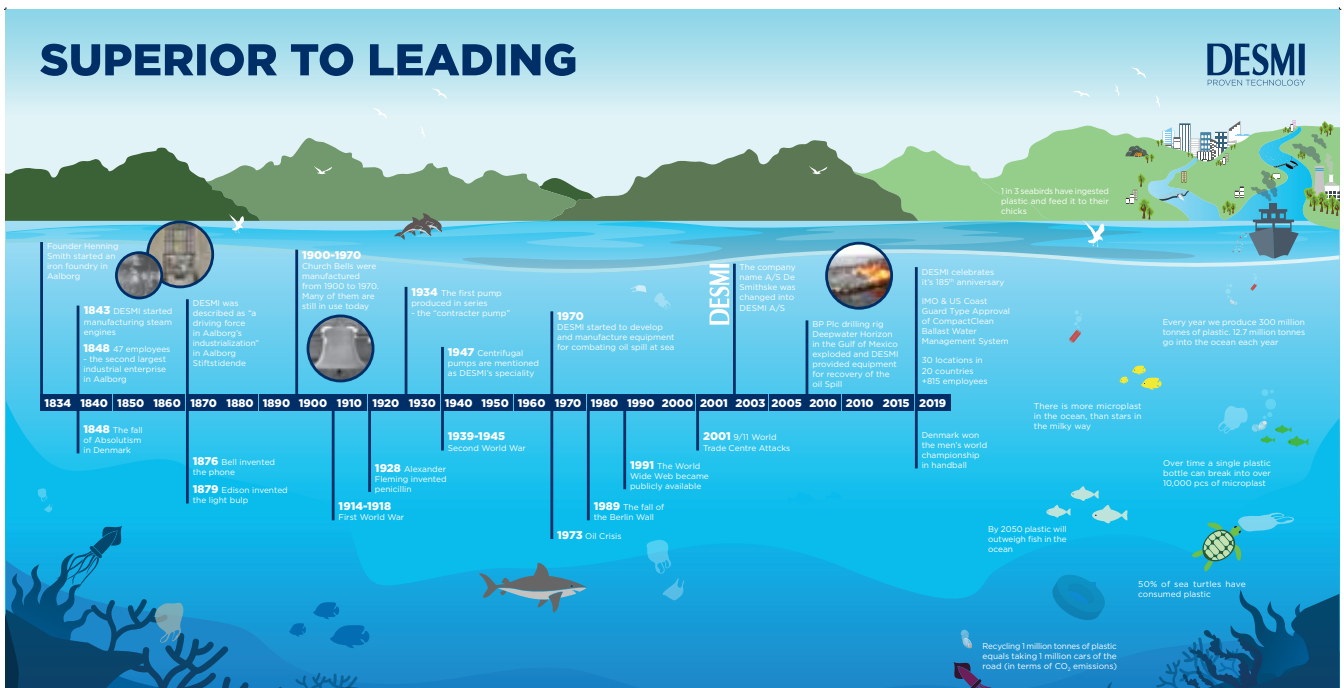
With more than 40 years of experience, DESMI's EnviRo-Clean segment offers Proven Technology for Oil Spill, Seaweed & Clean Waterways. Whether the requirement is for offshore, near shore, the Arctic or Equatorial environment, we continue to deliver proven solutions for all spill conditions including marine debris and seaweed.

Green Technologies and environmental consciousness have always been a part of the DESMI DNA, and our initiatives within cleaning up rivers, tributaries etc. is one of many initiatives that we are proud of taking action on. Not only do we ensure

a safe marine life and healthy environment, we also prevent development of waterborne diseases. We work closely with the local organizations and governments and deliver high quality projects that have high clean-up efficiency and project sustainability. At the same time, we ensure right balance to preserve ecosystem and no harm to marine life.

#### Protecting Environment with Sustainable Solutions:

Each year approximately 8 million tons of plastic waste leaks into the oceans making it the most widespread pollution problems. This has led to a global call for prevention actions due to the negative influence on marine life, fishery resources, livelihood of coastal areas, tourism, environmental impact and the long-term threat against human health.





DESMI is a certified UNSDG partner and the sustainable impact our solutions have had on the environment so far are huge.



DESMI solutions are designed for maximum collection of the floating marine debris in all contexts. Our systems are environment friendly and cause no emissions. From narrow drains to open seas, our solutions can cover wide range of challenging areas, in addition to our capabilities to tailor the solutions to match the needs of our customers.

Recovering much of the macro waste from upstream water channels ensures capability of the waste to be recycled or responsibly managed, thus DESMI encourages the circular economy agendas and support partners in such initiatives.

With maximized recovery of marine based plastics, DESMI supports the global ocean conservation agendas and reduces the leakage of plastics to

the oceans, thereby contributing to various United Nations sustainable development goals.

DESMI is continuously looking for partners to increase the climate performance, therefore joining forces can combat tons of floating solid waste from leaking into the oceans, improving the socio-economic value of the society, improve waste management practices and empower the job market.

As our projects prevent the plastic pollution from reaching our oceans, thus creating awareness, contributing to safe marine life, healthy environment and mitigating waterborne diseases; they are prioritized across regional , national and international authorities.



# ENHANCER Series - Marine Life Friendly Trash Remover

The simple, and consequently reliable, DESMI Enhancer has a proven record for removing floating trash in rivers, channels, streams and other areas with flow in one direction. It is a floating basket with front entrance and front brackets allowing connection to booms giving the opening required.

The robust construction is ensured by making the actual floating structure in galvanized steel and the floats in heavy HDPE pipes with welded on flanges.

During emptying of the two versions (basket and net) the Enhancer is designed with a gate which is closed when the basket or net is lifted out of the Enhancer in order to ensure the unit is not filled with floating debris outside the collection basket/net.

The recovered material can be either manually

treated, or DESMI can also deliver a containerized pyrolyze treatment plant called PDMF giving 80 % volume reduction and with carbon negative by-products.

## Advantages of ENHANCER Series:

- Simple and strong construction
- Designed to contain & recover all type of marine debris
- Operates under a wide range of tidal conditions and water flow
- No harm to the environment & marine life
- Low maintenance
- High recovery capacity

ENHANCER Series (With Basket)



ENHANCER Series (With Net)



# RISE Series - Automated Trash Remover System

DESMI units under Rise - series are smart surface debris collection systems. These automated systems are designed to guide the marine debris for easy recovery with perforated belt designs. Serving the efficient purpose to remove the floating surface debris, while allowing the water to pass and intending to allow marine life to stay unharmed.

The Rise is equipped with electrically driven belt systems that lifts the debris out of the water draining away free water by gravity, and then load the material on a subsequent angled belt to either right, left or in a straight line direction.

The operation of the Rise-series increases the efficiency of waste collection, in addition to, minimizing the time, which an operator may spend in the proximity of the polluted waters. Hence, making the operation safer for the operators.

The Rise - Series systems are made in marine grade aluminum whereas, the buoyancy is created by high

abrasion resistant pontoons. Furthermore, the angled belt is counter balanced making the transport of waste material safe and easy. With their modular design, the series ensures ease of shipping, storage and assembly.

## Advantages of RISE Series:

- Simple and strong construction - High durability
- Easy to assemble and operate
- Up to 3,500 kg recovered waste per hour
- Operates under a wide range of tidal conditions and water flow
- No harm to the environment & marine life
- Low maintenance & energy consumption
- Reduce health risk to the operator



## RO-FENCE BOOM - Durable Containment Boom

RO-FENCE is a rigid buoyancy boom for long-term deployment, manufactured in robust materials designed to withstand harsh effects of abrasion, UV, oil and marine degradation.

RO-FENCE is best suited to protected and inland waters. The bright colour floats are manufactured in high abrasion resistant material. These moulded HD Polyethylene floats are attached to base fabric with corrosion resistant fittings. The same floats are utilized for both boom sizes, providing a commonality of spares.

The floats can be unbolted from the base fabric for cleaning if necessary. A float can be simply replaced if damaged.

Anchor eyebolts can be provided at regular intervals at the floats or at the end connector.

RO-FENCE is ballasted by lead weights placed under each pair of floats. Alternatively, stainless steel blocks or galvanized chain ballast can be used. Connectors are also provided at the ends of each section according to preference. The standard connector is ASTM. Other types of connectors can be fitted on request.

RO-FENCE can be supplied in section lengths up to 200 m / 656 ft. The heavy-duty floats can be filled with foam as an option, to provide ultimate reliability and increased buoyancy.



### Advantages of RO-FENCE:

- RO-FENCE has rugged construction for long life
- Designed for heavy duty and permanent installation
- Fitted with impact and abrasion resistant floats
- Sturdy base fabric
- Optional foam filled floats for ultimate reliability
- A choice of section lengths and end connectors
- Simple to repair
- Ideal for containment and protection from oil spills, trash and other floating pollutants
- Extreme durability ensures low maintenance requirements

## A-BOOM - Environmentally Friendly Fence Boom

The A-BOOM Fence Boom suits emergency response of Oil Spill or Plastic Spill in water areas.

Due to the minimal weight of the 15m sections of boom (22 kg), it can easily be deployed by a small crew and for convenience can be disposed of by burning after use.

### Advantages of the A-BOOM:

- Light weighted boom for emergency response
- Rapid deployment
- Easy to transport and handle
- UV resistant



# MESH BOOM - High Buoyancy Floating Mesh Barrier

A revolutionary high buoyancy floating mesh barrier for Sargassum Seaweed, floating trash, water lilies and other floating elements that require control.

DESMI innovates its line of floating booms, developing a unique in the market mesh floating boom able to perform in bad weather conditions to contain and deflect undesirable elements like Sargassum, floating seaweed, plastic trash, water lilies, etc.

DESMI MESH BOOM is the result of years of investigation and tests, its design is based on a Nautical Grid that allows water and wind free passing but retains any floating elements protecting beaches, water sources, marinas, power plants, industrial facilities, water cooling sources, etc.

Its light weight, high tension strength and high buoyancy makes the DESMI MESH BOOM to perform in harsh conditions as big waves and heavy winds. It is NOT a NET!, nets are designed to close their borders and catch fishes, the Nautical grid keeps the size and shape of the square borders 2.54cm/1".

## Advantages of the MESH BOOM:

- Adequate for use in waves and wide water bodies
- Designed for heavy duty and permanent installation
- Does not disturb water species as per its short draft
- Can be used to deflect pollutants to a collection point at the shore
- Does not catch fishes, it is not a Net
- Strong anchoring points located at both sides of the aluminum end connectors
- No harmful polystyrene
- Easy on-site repair if needed
- Compact and easy storage when is not in use
- Less maintenance and anchoring requirements compared with fix wall booms.
- Standard aluminum marine grade connectors allows easy connection and retrieval



# SWEEP SERIES - Ocean Friendly Trash Remover

Combatting Marine Pollution with the SWEEP - series will result in a much cleaner shoreline and reduce the plastic in the water significantly. The concept is well proven within the Oil Spill Combat industry when recovering heavy fractions of oil/tar balls.

Experience has shown that it is important to have puncture resistant guide booms creating the opening of the system. DESMI is using two sizes: Ro-Boom 650 and Ro-Boom 1000 as guide booms. The guide boom 650 is 2 sections, each with 3 air chambers. The guide boom 1000 is 2 sections, each with 5 air chambers. The actual collection part of the Sweep series consists of an entrance net connected to the two guide booms. The entrance net is again connected to one or more trawl bags recovering the floating debris.

The other end of the guide booms has tow bar and towing rope connected to one or two towing boats. If towing with two boats, it is important to ensure good and constant communication between the boats. With one boat operation there are two possibilities:

1. Having the boat equipped with a Jib with a length of typically 5 - 8 meters giving a corresponding opening of the Sweep
2. Using a Ro-Kite which will allow an opening of up to 20 meters - will normally require a boat minimum 12 - 15 meters in length with keel and some 150 hp



## Advantages of SWEEP Series:

Long lasting durability

- Easy to assemble
- Easy to Operate
- Design giving low shipping cost
- Up to 3,500 kg recovered waste per hour

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