

# **Marine Solutions**



### **SORB**®XT - Oil-Barriers

For a response operation to be successful, fast spill containment is critical.

We provide oil containment booms of various types and dimensions capable of addressing a plethora of applications. Options include inflatable, fence, curtain and solid floatation curtain booms constructed with durable materials, built to last and withstand the harsh conditions of a spill. Custom sizes and storage options are available.

## **Barrier-Types**

Boom Type	Application
FENCE	Ideal for long-term, near shore, harbour and in-land containment operations.
CURTAIN	ideal for multiple applications including inland waters, offshore open seas and waters with high speed currents like rivers.
INFLATABLE	Heavy-duty off shore containment system that can be used to encompass and contain oil spills and other floating pollutants in demanding and harsh sea and weather conditions. Available with various materials.
PERMANENT	Able to withstand constant use over extended time periods without the need of frequent maintenance while ensuring its functionality during encountering heavy debris concentrations and harsh operational conditions.
SILT SCREEN	Ideal for highly erosional locations, provides turbidity control and contains suspended silt, marine litter, floating pollutants or detrimental organisms such as jellyfish.
SHORELINE	Can be used to encompass and contain oil spills and other floating pollutants on land, extending into the sea.

#### **Barrier Structure**

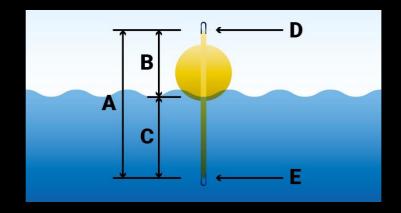
A: Total Operational Height

**B:** Freeboard

C: Draft

**D:** Top Tension Member

E: Ballast - Lower Tension Member



## **SORB®XT - Oil-Barrier "FENCE"**







The Fence Booms are lightweight and flexible ideal for long-term, near shore, harbour and in-land containment operations. The slim boom format allows it to neatly fold upon itself allowing compact storage and maximum space usage. The compact design of the boom makes it easy to deploy and recover. The high rigidity, durability, buoyancy and strength of the boom, provided by thin foam floats, make it ideal for permanent and long-term installations to ports, marinas and moorages.

Model	350F	500F	750F	920F	1150F
Height	350 mm	500 mm	750 mm	920 mm	1150 mm
Freeboard	200 mm	200 mm	300 mm	300 mm	420 mm
Draft	150 mm	300 mm	450 mm	620 mm	730 mm
Section Length	20 m				
Fabric	PVC Coated Po	lyester			
Fabric Tensile Strength	3200 N/5cm				
Connectors	U-Bolts / ASTM	I Z-Туре			
Weight	2.3 kg/m	2.5 kg/m	3.8 kg/m	4.1 kg/m	5.2 kg/m
Upper Tension Member	Seamed Fabric PET webbing				
Flotation	Closed-Cell PE Foam 30kg/m³				
Ballast	DIN 766 Hot Dip Galvanized Chain				
Chain Thickness	8 mm	8 mm	10 mm	10 mm	I2 mm
Operational Temperature	from -10oC to 60oC				
Colour	Yellow				

# **SORB®XT - Oil-Barrier "CURTAINS"**



The Curtain Boom is a cost-effective, rapidly deployed containment system that utilizes solid foam cylindrical floats. Ideal for multiple applications including inland waters, offshore open seas and waters with high speed currents. The strength and rigidity of the solid floats allows the boom to maintain shape and provides excellent conformance to waves and buoyancy where swells and currents are present. The boom can be produced in various lengths allowing custom solutions to booming needs.

Model	350C	500C	750C	920C	1200C
Operational Height	350 mm	500 mm	750 mm	920 mm	1200 mm
Freeboard	200 mm	200 mm	250 mm	300 mm	300 mm
Draft	150 mm	300 mm	500 mm	620 mm	900 mm
Section Length	20 m				
Fabric	PVC Coated P	olyester			
Fabric Tensile Strength	3200 N/5cm				
Connectors	U-Bolts / ASTM Z-Type				
Weight	2.7 kg/m	3.0 kg/m	4.2 kg/m	5.3 kg/m	5.5 kg/m
Res. Buoyancy/Weight Ratio	4.2:1	6.3:1	4.4:1	5.53:1	5.3:1
Upper Tension Member	Seamed Fabric	С	PET Webbing		
Flotation	Closed-Cell PE	Foam 30kg/m³			
Average Float Length	I m				
Ballast	DIN 766 Hot Dip Galvanized Chain				
Chain Thickness	8 mm	8 mm	10 mm	I2 mm	I2 mm
Operational Temperature	from -10°C to 60°C				
Colour	Yellow				

## **SORB®XT - Oil-Barrier "INFLATABLE"**







The Inflatable Booms are light to medium weight containment systems that can be used to contain oil spills and other floating pollutants when an incident occurs. Easily controlled and held in place once deployed. High Frequency Welding manufacturing along with certified polyester fabrics produce extremely reliable and durable, seamless boom able to withstand demanding marine environments and hydrocarbons.

Model	750A	920A	1200A	1500A
Height Deflated	1000 mm	1150 mm	1450 mm	1800 mm
Height Inflated	750 mm	920 mm	1200 mm	1500 mm
Freeboard	300 mm	300 mm	470 mm	500 mm
Draft	450 mm	620 mm	730 mm	1000 mm
Section Length	20 m			
Fabric	PU/PVC Coated P	olyester	TPU Coated Polyes	ster
Fabric Tensile Strength	4500 N/5cm	4500 N/5cm	4500 N/5cm	7000 N/5cm
Connectors	ASTM Z-Type			
Weight	4,4 kg/m	5,5 kg/m	6,4 kg/m	7,1 kg/m
Res. Buoyancy/Weight Ratio	6.0:1	7.8:1	17.1:1	19.0:1
Flotation	Independent Inflatable Chambers			
Aver. Air Chamber Length	4.8 m			
Ballast	DIN 766 Hot Dip Galvanized Chain			
Chain Thickness	10 mm	I2 mm	12 mm	12 mm
Operational Temperature	from -10°C to 60°C			
Colour	Yellow			
Air Valves	One or Two per Chamber			

## **SORB®XT - Oil-Barrier "INFLATABLE Gummi"**



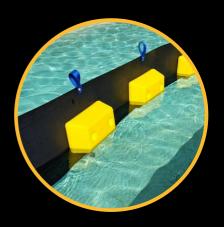




The Inflatable Rubber Boom is a heavy-duty off shore containment system that can be used to contain oil spills and other floating pollutants in demanding and harsh sea and weather conditions. Made from special rubber compound, coated with CSM the seamless boom is extremely durable, able to withstand demanding offshore marine conditions and aggressive hydrocarbons.

Model	525A CSM	810A CSM	1100A CSM	1250A CSM
Height Deflated	650 mm	990 mm	1320 mm	1500 mm
Height Inflated	525 mm	810 mm	1100 mm	1250 mm
Freeboard	260 mm	300 mm	440 mm	450 mm
Draft	265 mm	510 mm	660 mm	800 mm
Section Length	25 or 50 m (other	lengths available upo	on request)	
Fabric	CSM Neoprene/Rubber			
Fabric Tensile Strength	I 4000 N/5cm (double ply)			
Connectors	ASTM Z-Type			
Weight	4,5 kg/m	6,9 kg/m	8,4 kg/m	10,2 kg/m
Res. Buoyancy/Weight Ratio	7,0:1	10,2:1	13,4:1	13,4:1
Flotation	Independent Inflatable Chambers			
Air Chamber Length	4,8 m			
Ballast	DIN 766 Hot Dip Galvanized Chain			
Chain Thickness	8 mm	10 mm	10 mm	I2 mm
Operational Temperature	from -30°C to 70°C			
Colour	Black or High Visibility Orange			

## **SORB®XT - Oil-Barrier "PERMANENT"**







The Permanent Boom (Baffle) is a heavy-duty, fence type boom which incorporates hard exterior floats, designed for long term or permanent near shore, harbour and in-land containment and protection operations including fast rapid deployment around ships. The robust design and durable materials allow the boom to withstand constant use over extended time periods without the need of frequent maintenance while ensuring its functionality during encountering heavy debris concentrations and harsh operational conditions, including currents speeds up to 3 knots.

Model	450P	600P	920P
Height	450 mm	600 mm	920 mm
Freeboard	100 mm	250 mm	320 mm
Draft	350 mm	350 mm	600 mm
Section Length	10 m	10 m	10 m
Material	EP 125 Belt Double Ply 7,	I kg/m²	
Belt Thickness	6 mm		
Belt Breaking Strength	250 N/mm (DIN 22102)		
Boyancy/Weight Ratio	3,5/1	3,0/1	2,5/1
Connectors	ASTM Z-Type		
Weight	II kg/m	12,1 kg/m	14,5 kg/m
Floats	Rotary Moulded HDPE, EPS filled		
Floats Dimensions	450mm x 250 mm x 140 mm		
Ballast	Galvanized Steel Blocks		
Operational Temperature	-10°C to 60°C (Water)		
Colour	Black with Yellow Floats		

## **SORB®XT - Oil-Barrier "SILT SCREEN"**



The Silt Screen Boom provides turbidity control and contains suspended silt, marine litter, floating pollutants or detrimental organisms such as jellyfish. The screen acts as a filter that allows water and natural currents to proceed unhindered while containing silt and similar materials. The boom is ideal for highly erosional locations where sediment run off or storm water pollution can cause damage or distress to delicate environments and ecosystems, including construction or marine repair projects where sediment run-off and disturbances must be regulated and contained.

Model	920STS
Freeboard	300 mm
Draft	620 mm
Section Length	10 - 30 m
Fabric	PVC Coated Polyester
Fabric Weight	750 or 1000 g/m² (Options available)
Connectors	U-Bolts / ASTM Z-Type
Silt Screen Fabric	100% PES / 1100 dtex / 250 g/m²
Screen Fabric Tensile Strength	1900 N/5cm
Silt Screen Depth	Up to 8 m
Flotation	Closed-Cell PE Foam 30 kg/m³
Average Float Length	l m
Upper Tension Member	Seamed Fabric
Ballast	DIN 766 Hot Dip Galvanized Chain
Operational Temperature	from -10°C to 60°C
Color	Yellow / Grey (Other options available)

## **SORB®XT - Oil-Barrier "SHORELINE"**



The Shoreline Boom is a versatile containment system that can be used to address oil spills and other floating pollutants on land, extending into the sea. Its design, utilizes two water filled chambers and one air filled chamber. The boom can adapt to fluctuating water levels. It rises and lowers the tide providing continuous containment on land and through the water surface. The boom can be connected to a variety of other types of booms allowing continuous protection from shorelines into the water.

Model	530S
Operational Height	530 mm
Freeboard	300 mm
Draft	230 mm
Section Length	10 m
Fabric	Polymer Coated Polyester
Connectors	U-Bolts / ASTM Z-Type
Fabric Tensile Strength	4413 N/5cm
Weight	3.0 kg/m
Flotation	One Independent Inflatable Chamber
Chamber Length	10 m
Ballast	2 Independent Water Chambers
Operational Temperature	from -10°C to 60°C
Color	Yellow

### **SORB**<sup>®XT</sup> - Oil Barrier Accessories

To complement our range of containment booms we offer a range of accessories which include storage and deployment devises, power packs, inflators, towing bridles and tide compensators.

Please contact us to discuss your specific requirements.





The Boom Crate is a compact and convenient long-term storage and transportation solution for booms. They neatly contain and protect booms, while doubling as a system that boom can be deployed from and recovered to. The crate can be fitted with rapid-deployment rails (racks), for fast deployment.





The Boom Reel is a highly efficient way to store, transport and rapidly deploy/recover oil boom. Able to store up to 250 meters of various types of Oil Containment Boom, with tailor-made reel options available. It allows boom safe deploy and recover of booms from a variety of scenarios including offshore, near shore and inland operations.

# **SORB**®XT - Oil Barrier Accessories



Hydraulic Power Packs with diesel engines



Hydraulic Powerered Blowers



**Boom Towing Bridles** 



Boom Tidal Compensators

## SORB<sup>®XT</sup> - SCORLITE Brush/Disc/Drum Oil Recovery Skimmer







The ScorLite is an oleophilic, free-floating skimmer designed for oil recovery operations in varying environments and scenarios. The modular system allows fast interchange from brush, to disc or drum recovery bank depending on the viscosity of the target oil. Proven oleophilic technology allows the system to achieve oil recovery rates of up to 99%. The light-weight system is easily and quickly assembled, deployed and operated in emergency operations. Designed with a shallow draft for portability, the skimmer is effective in operations from inland environments to nearshore applications.

Model	ScorLite
Nominal Recovery Capacity (1x Brush Recovery Bank)	Up to 30 m³/h
Certified Max. Recovery Rate (1x Brush Recovery Bank) (According to ASTM F2709 – 15)	Up to 54 m³/h
Certified Max. Efficiency (According to ASTM F2709 – 15)	99%
Dimensions (LxWxH mm)	1000 x 915 x 506 mm
Weight (with Brush Module)	42 kg
Draft	200 mm
Skimmer Frame	Marine Grade Aluminium
Discharge Pump	Remote
Discharge Connection	2" or 3" Camlock
Hydraulic Flow Rate	3 lpm
Hydraulic Pressure	90 bar
Hydraulic Connections	3/8"

# SORB<sup>®XT</sup> - SCORSKIM 60/90 Brush/Disc/Drum Oil Recovery Skimmer







The ScorSkim 60/90 is an oleophilic, triple oil recovery bank, free-floating skimmer with an on-board or remote pump, designed for oil recovery operations in varying environments and scenarios. The 2 or 3 bank modular system allows fast interchange from brush, to disc or drum recovery banks depending on the viscosity of the target oil. Proven oleophilic technology allows the system to achieve recovery rates of up to 98%. The system is designed to be operated offshore, able to handle swells and rough seas by utilizing a stable core. The skimmer is also extremely effective in inland to nearshore recovery operations.

Model	ScorSkim 60	ScorSkim 90
Nominal Recovery Capacity	Up to 60 m³/h (2x Brush Recovery Banks)	Up to 90 m³/h (3x Brush Recovery Banks)
Certified Max. Recovery Rate (According to ASTM F2709 – 15)	Up to 108 (2x54) m³/h (2x Brush Recovery Banks)	Up to 162 (3x54) m³/h (3x Brush Recovery Banks)
Certified Max. Efficiency (According to ASTM F2709 – 15)	99%	99%
Dimensions (LxWxH mm)	1300 x 1020 x 600 mm	1300 x 1300 x 680 mm
Weight (with Modules & On-Board Pump)	100 kg	122 kg
Draft	200 mm	200 mm
Skimmer Frame	Marine Grade Aluminium	Marine Grade Aluminium
Discharge Pump	On-board or Remote	On-board or Remote
Discharge Connection	3" Camlock	3" or 4" Camlock
Hydraulic Flow Rate	6,5 lpm	9,5 lpm
Hydraulic Pressure	90 bar	90 bar
Hydraulic Connections	1/2" - 3/4"	1/2" - 3/4"

# SORB<sup>®XT</sup> - SCORLIP X Weir Oil Recovery Skimmer







The ScorLip X Weir Oil Skimmer is a compact skimmer that utilizes a self-adjusting weir lip which conforms to the waterline providing excellent wave-following characteristics allowing oil recovery from the top layer of the polluted within a 360° suction range. The free-floating weir is equipped with adjustable floats adapting the weir to achieve optimum recovery efficiency in varying environments. The skimmer recovers light, medium and heavy viscosity oils, depending on the pump. The adjustable draft allows the skimmer to operate efficiently in shallow areas. The system is designed for offshore and nearshore operations.

Model	ScorLip X
Recovery Capacity	Up to 75 m³/h
Dimensions (LxWxH)	1900 x 1700 x 800 mm
Weir Diameter	720 mm
Weight	46 kg
Skimmer Frame	Stainless Steel
Discharge Pump	Remote
Discharge Connection	3" Camlock

# SORB<sup>®XT</sup> - SCORLIP 205 Weir Oil Recovery Skimmer







The ScorLip 205 Weir Skimmer utilizes a self-adjusting weir lip that conforms to the waterline providing excellent wave-following characteristics. The free-range movement provided by the bellows allows the weir lip to lie perfectly on the surface to recover oil from 360° off the top of the polluted water. The free-floating weir is equipped with adjustable floats allowing adjustment to achieve optimum recovery efficiency in varying environments, especially offshore. The transfer rate of the pump can be adjusted to provide a uniform flow rate to the recovery rate of the weir.

Model	ScorLip 205
Recovery Capacity	Up to 205 m³/h
Dimensions (LxWxH)	2525 × 2525 × 1700 mm
Weight	350 kg (with thrusters)
Skimmer Frame	Stainless Steel
Discharge Pump	Submersible Centrifugal Screw
Discharge Connection	4" Camlock
Hydraulic Flow Rate	45 lpm
Hydraulic Pressure	272 bar
Hydraulic Connections	3/4"
Solids Tolerance	50 mm
Pump Body	Seawater Resistant Aluminium

## **SORB**<sup>®XT</sup> - **TEMPORARY STORAGE BLADDERS**







The Temporary Storage Bladders (5, 10, 12, 25) are designed to be used as a temporary storage solution developed for use on land and in water. The bladders can be laid out on flat ground to be filled can also be secured filled to a work platform or vessel in water. It is towable when in water. The bladders are designed to store most types of liquids especially hydrocarbons, including diesel. When empty, the system can be folded, reducing the space requirements for storage and increasing ease of transport. Camlock connections allow liquid transfers.

Model	5	10	12	25
Capacity	5 m³	I0 m³	12 m³	25 m³
Dimensions Empty (LxW)	6x2 m	IIx2 m	13x2 m	26×2 m
Dimensions Full (LxD)	5 x Ø1.3 m	10 x Ø1.3 m	12 x Ø1.3 m	25 x Ø I.3 m
Weight	140 kg	172 kg	190 kg	198 kg
Tow Speed Empty	12 Knots			
Tow Speed Full	6 Knots			

## **SORB®XT - TEMPORARY STORAGE BARGES**



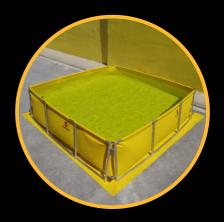




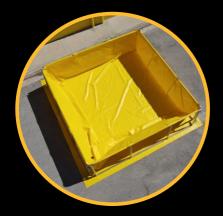
The Temporary Storage Barges (10, 25, 50) are designed to be used as a temporary storage solution developed for use in water. The inflatable oil storage barges are towable floating oil/water storage tank with a pocket shaped bottom. They can be used for recovered oil as collected from a skimmer, or may be used for transportation of all kinds of liquid hydrocarbons or other compatible liquid chemicals. When empty, the system can be rolled into a compact shape, reducing the dimensions of the bladder and the space requirements for storage increasing the ease of transport.

Model	10	25	50
Capacity	10 m <sup>3</sup>	25 m³	50 m <sup>3</sup>
Dimensions Inflated (LxWxH)	6x2 m	llx2 m	13x2 m
Dimensions Full (LxD)	7.5 x 3 x 1.2 m	9.7 x 3.6 x 1.3 m	11.5 x 4.2 x 1.5 m
Material	Neoprene / Rubber & TPU (Cover)		
Tow Speed Empty	12 Knots		
Tow Speed Full	6 Knots		

# SORB®XT - TEMPORARY STORAGE FRAMED TANKS







The Temporary Storage Framed Tanks (4, 8, 10) are a rectangular, open top tanks supported by an aluminium frame designed to store hydrocarbons and other liquids. They are quickly assembled and are designed for multiple applications including on-board vessels, beaches, jetties and most other work platforms. The design evenly distributes the weight of stored liquids. The storage tanks are portable with no tools required for assembly. They are maintenance free other than cleaning after use. They come equipped with a  $1 \frac{1}{2}$  Plastic Decanting Valve for easy drainage and to simplify operations.

Model	4	8	10
Capacity	4 m³	8 m³	10 m <sup>3</sup>
Dimensions Deployed (LxWxH)	2.6 × 2 × 0.9 m	4.9 × 2.1 × 0.9 m	4.4 × 2.6 × 2.8 m
Dimensions Stored (LxWxH)	2.5 x l x 0.3 m	2.6 × I × 0.3m	2.8 x I x 0.3 m
Material	Neoprene / Rubber & TPU (Cover)		
Weight	50.8 kg	54.7 kg	76.8 kg
Base Fabric	Polymer Coated Polyester Fabric or Neoprene/Rubber		
Fabric Weight	I 000 gr/m²		
Drainage	Plastic Decanting Valve		
Frame	Tubular, Marine-Grade Aluminium		

### **SORB®XT - OIL DISPERSANT ARMS & NOZZLES**







The Oil Dispersant Arms are a portable dispersant applicant system that utilizes spray arms to deploy dispersant from multiple nozzles in a systematic, swath approach. The system deploys neat and concentrated chemical dispersants at an output up to 150 lpm depending on the needs of the operation at hand. A portable, diesel-driven pump controls the application of the dispersant. The system is comprised of two aluminium arms that are easily assembled and can be outfitted on a vessel or work platform. Each arm is equipped with four nozzles situated on drop pipes that deploy the dispersant in a swath spray pattern.

The Oil Dispersant Nozzles are a portable oil dispersant deployment system that uses nozzles to deploy neat and diluted oil dispersants. Properly deploying dispersants is fundamental to a successful oil spill operation. The spray set allows the operator full control with the ability to adjust the dispersant application area by altering the configuration and the arrangement of the nozzles. Each nozzle produces a maximum output of 65 lpm. The spray nozzles are adjusted vertically, enabling optimum application of the dispersant when weather conditions and operational requirements affect operations.

Model	Arms	Nozzles
Dimensions (LxWxH mm)	4540 x 230 x 740 mm	260 x 200 x 390 mm
Weight	21 kg per arm, 42 kg in total	8 kg
Nozzles	4 per arm, 8 in total	l per unit
Max. Flow	Up to 135 lpm	Up to 65 lpm
Swath		>10 m

## **SORB®XT - SPILL SCOUT HDPE 5.5**







Spill Scout HDPE 5.5 m is a heavy duty HDPE (High Density Polyethylene) boat practically unsinkable, with an outboard engine, loading capacity up to 2tn, capable of deploying any nearshore boom (curtain or fence) and conducting shore surveys. The boat is extremely useful for any operation and very fuel efficient and versatile. This type of boat is not inflatable.

Model	Spill Scout HDPE 5.5
Length (LOA)	5.50 m
Beam	2.45 m
Power	50 hp
Max. Load	2000 kg
Hull Material	HDPE (High Density Polyethylene)
Hull Type	Monohull
Engine (recommended)	Yamaha T50-High Thrust or equivalent

## **SORB®XT - SEAGUARDIAN TWIN 12**







The Seaguardian Twin 12 Dynamic Recovery Vessel is a high-speed, catamaran hulled response craft able to achieve speeds up to 18 knots designed to minimize initial response time from the first call-out in emergency operations. The vessel is fitted with a retractable oleophilic belt brush skimmer that utilizes proven oleophilic technology and is capable of recovery capacities up to 60 m³/h at speeds up to 4 knots. Paired with an on-board oil transfer pump, the vessel is perfect for advancing oil spill response operations and becomes an integrated oil slick processing system.

Model	Seaguardian Twin 12
Length (LOA)	11.90 m
Beam (Molded)	4.30 m
Recovered Oil Storage Tanks	6000 L
Operational Speed (min max.)	I – 18 knots
Hull Material	Glass Reinforced Plastic (GRP)
Hull Type	Catamaran
Engines	2×315 HP
Oil Skimmer Recovery Rate	60 m3/h
Transfer Pumping Rate	90 m³/h
Fuel Capacity	1000 L





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