

SKYSAILS YACHT SYSTEM



TECHNOLOGY

The SkySails Lite system is based on the SkySails technology that is being used in the shipping industry to provide added wind propulsion for cargo ships. In order to adapt it to the requirements of the yacht market its size is scaled down and it is simplified with regards to handling.

The SkySails Lite system consists of three main components: A towing kite with rope, a launch and recovery system, and a control system for automatic operation.

Instead of a traditional sail fitted to a mast, SkySails uses large towing kites for the propulsion of the ship. Their shape is comparable to that of a paraglider. The towing kite is made of high-strength and weatherproof textiles.

The tethered flying SkySails can operate at altitudes between 100 and 150 m where stronger and more stable winds prevail.

Looked at from a physical perspective, these dynamically flying kites are the highest-performance means of using wind power that can be achieved. By means of dynamic flight maneuvers, e.g. the figure of "8", SkySails easily generates five to 25 times more power per square meter sail area than conventional sails.

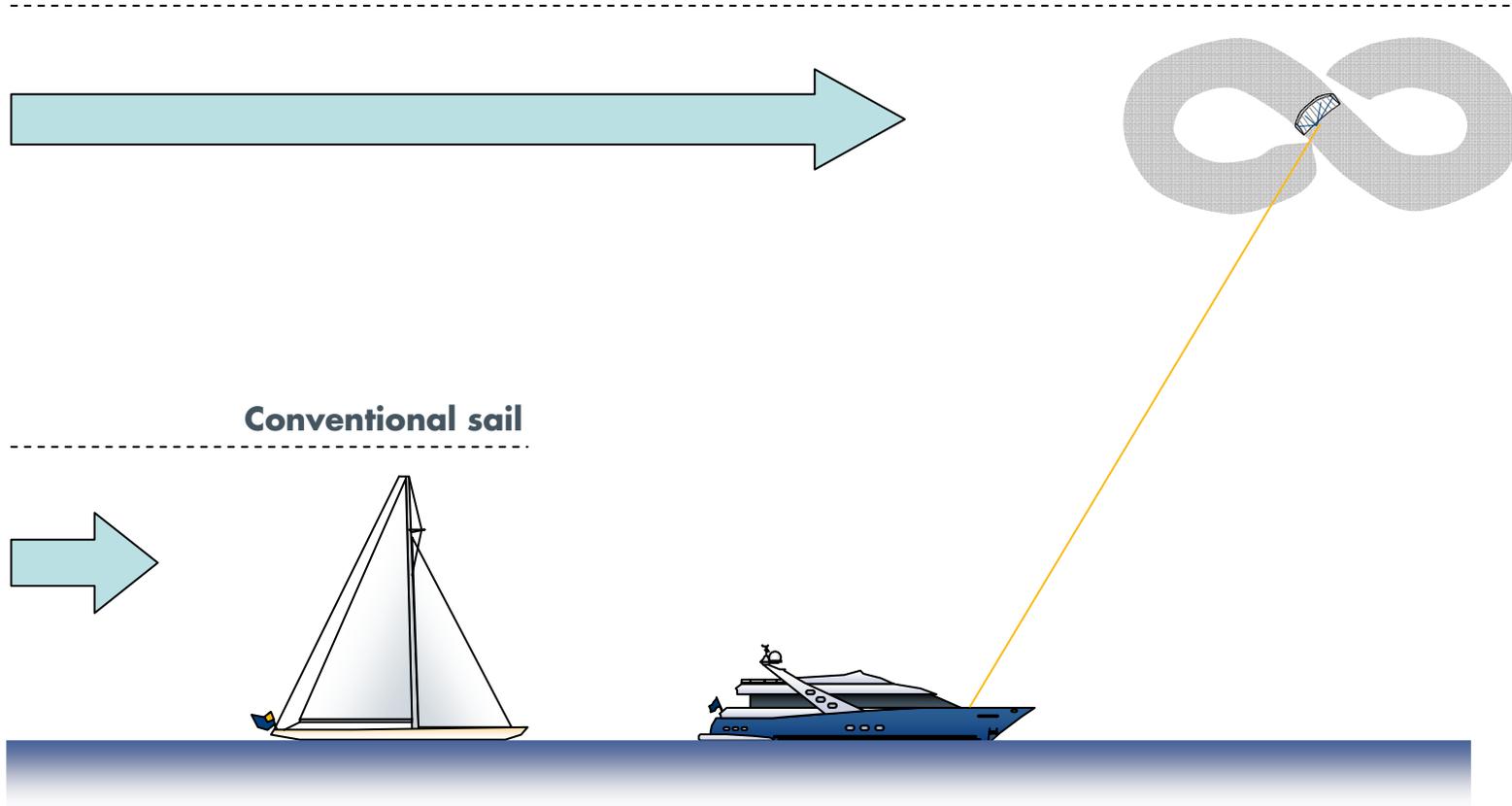
The tractive forces are transmitted to the ship via a highly tear-proof, synthetic rope.

SKYSAILS HIGH ALTITUDE SAILING



20m² KITE ~ 300m² SAIL

High Altitude Kite Sailing



Conventional sail

KITE MODULE



The launch and recovery system of the SkySails propulsion manages the deployment and lowering of the towing kite and is installed on the forecastle. During launch a telescopic mast lifts the towing kite, which is reefed like an accordion, from its storage compartment.

At sufficient height the towing kite then unfurls to its full size and can be launched. A winch releases the towing rope until operating altitude has been reached. The recovery process is performed in reverse order.



TECHNOLOGY

The entire launch and recovery procedure can be carried out by 2 persons and lasts approx. 10 minutes each. Once the kite is launched, the SkySails' automatic control system performs the tasks of steering the towing kite and adjusting its flight path.

All information on the operation status of the system is displayed in real-time on the monitor of the SkySails workstation on the bridge and thus easily accessible for the crew.

The SkySails system supplements the existing propulsion of a vessel and is used offshore or large inland waterways. The SkySails system is designed for operation in predominantly prevailing wind forces of 3 to 8 Beaufort at sea. The system can be recovered, but not launched at wind forces below 3 Beaufort.

Their double-wall profile gives the SkySails towing kites aerodynamic properties similar to the wing of an aircraft. Thus, the SkySails system can operate not just downwind, but at courses of up to 50° to the wind as well.

KITE MODULE



ALL-IN-ONE MODULE



250 cm x 70 cm x 70 cm at 250 kg



~30m² Kite size



for yachts up to 50 m length



TECHNOLOGY

The textile towing kite is easy to stow when folded and requires very little space on board ship.

The complete SkySails System is stored in a small box which is 2,5m x 0,7 x 0,7 (l * w * h) in size.

In contrast to conventional sail propulsions the SkySails system has no superstructures which may obstruct loading and unloading at harbours or navigating under bridges, since the towing kite is recovered when approaching land.

Unlike conventional forms of wind propulsion, the heeling caused by the SkySails system is minimal and virtually negligible in terms of ship safety and operation.

Depending on the operator's preferences, the main engine can either be switched off or throttled back to save fuel or kept running at constant power to increase the ship's speed.

CONTACT



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