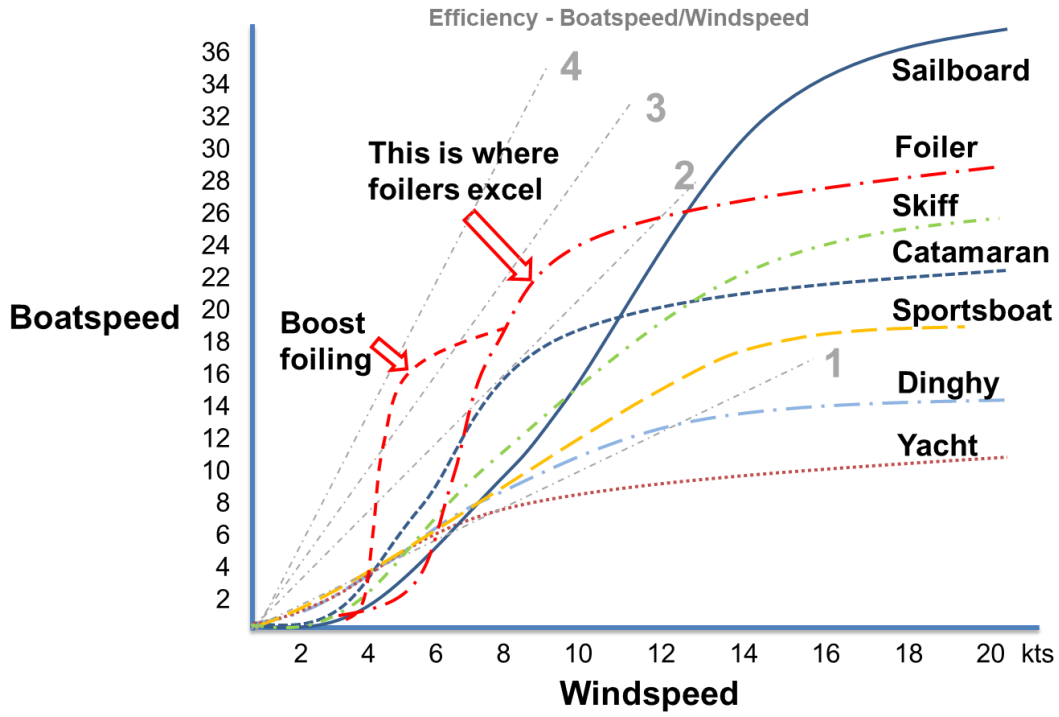
The magic of foiling in 4 just kts of wind

As the sailing world at large has now discovered, foiling provides a wonderful experience due to the sheer efficiency, speed, thrill & challenge. There is nothing quite as satisfying or addictive as flying silently and effortlessly above the waves at exceptional speeds, much faster than the wind is blowing!

Foiling has proven particularly efficient in winds of 7-15 kts where it is possible to readily achieve over 2-3 times the windspeed. In stronger winds however, control issues, drag and cavitation tend to limit top speeds to just 1-2 times the windspeed. The well known Achilles heel for foiling however is clearly in winds below 7kts, when they cannot normally take off and are relatively slow due to the extra drag of their foils when in displacement mode. So it is this mid-range windspeed where foiling is most efficient and offers the greatest benefits for sailors.



A truly fascinating feature of hydrofoils is that once up and foiling, the drag on these craft is so low, that they can continue to sail in winds as light as 4 kts without returning to the surface. In fact it is typically possible to sail at 16-18kts in just 4-6kts of wind, impressively reaching 3-4 times the windspeed. So there is a golden opportunity here to foil in light winds, provided you can take off.

Typically, we just wait for a gust strong enough to power take off, but some days that never comes, so, many foilers often just do not bother going out in light air. In some cases, entire regattas have been cancelled due to light winds while conventional dinghies can easily compete in these same conditions!

An new, exciting way to overcome this issue is to use a small electric ‘boost’ motor to propell the boat to takeoff speed. Once foiling, the motor sits clear of the water, removing all drag and is not involved in powering flight. The setup is quite different to that for prone foil surfing, SUP foiling, flite boards etc where the motor is the primary means of propulsion. The boost for dinghy foiling is only required momentarily, as the sail itself is integral to powering the system.

This means much less power is required for takeoff and no power is used at all to maintain foiling! Its is rather like getting something for free. Inject a small 5 second power boost and spend the whole day foiling, when you were previously unable to foil at all!

This is all down to the magical effect of apparent wind, where the boost power increases boatspeed, by just a couple of knots, enough to increase the apparent wind from 4kts to around 6kts. This extracts even more power from the sail, providing yet another knot or two, which brings the boat to the critical takeoff speed of around 7kts. Once clear of the water the power turns off and the boat continues to foil naturally.

In such light air, the wind is usually steady and gentle, the entire experience is so enjoyble and manageble. You get a sublime ride, like on a magic carpet. It is hard to believe this is even possible!

Completely new opportunities

The Skeeta Waterspots and Stoke Boost technology eliminate the need for those rather undignified physical acts of pumping, ooching and flapping so endemic in Windfoil and Wingfoil classes.

Even when the wind is up, you can use the boost to take off without any struggle or need to bear away. That little power injection even assists you to complete a foiling tack and keep your ‘air time’ to a maximum. Both sailing and racing is improved.

In displacement sailing mode with the low power setting, it is suprising just how nice it feels to sail at 6-7 kts in just 3-4kts of wind. You can even make your way out of harbours and sheltered coves in a flat calm to get to the wind.

The effect of the boost means you can effectively foil all day, even in light air, and if the wind dies below 4 kts you can always comfortably motor sail home at 6kts!

This technology has creates completely new opportunity to race e-Foiling Dinghies just as UCI now host E-MTB and even E-Supercross events on electric boosted mountain bikes.

With the easily attached kit using the unique Skeeta Boost e-Daptor, and the Stoke Boost integrated power unit it is possible to just clip the unit on and go. No special connections are

required as the battery is integrated in the drive unit and the bluetooth controller strapped to the tiller extension is so convenient and works really well!

The power source can be readily rotated out of the water, so the boat can be launched and sail as normal with no extra drag. You can even retract the motor on the water if the power runs out. It is really having the best of both worlds.

Power is controlled by a Bluetooth controller attached to the tiller extension and the boost motor can be easily retracted or deployed while n the water for launching and retrieval.

These dinghy foiling boost kits have been specifically engineered by Stoke for the Skeeta & Nikki foiling dinghies. This is a world first and works so well, Skeeta are now manufacturing e-daptor kits for their near 500 existing foiling dinghies, which are now available worldwide from both Skeeta distributors such as Melges in the USA and Stoke.

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