



HYDRA

David Ezzy fell in love with hydrofoiling, so he made the Hydra. Foiling opens a new challenge for sail design because the fundamentals of foiling are different than in normal windsurfing. This is why the Hydra looks so different than a normal windsurfing sail.

The first big difference between foiling and normal windsurfing is that the foil flies through the water with much less drag, causing the angle of the apparent wind (the wind created by your movement plus the real wind) to shift more forward, which means that the wind angles are completely different than in normal windsurfing. Second, you need a powerful sail to pump up onto the foil, but once you're on the foil, you want a very easy-to-control, light sail. And the third difference is that you are above the surface of the water when you're flying on the foil.

The biggest visual difference between the Hydra and a normal sail is the elongated foot. This is very similar to how winglets work on a jet wing, and aerodynamic theory tells us that an end-plate like this greatly improves the efficiency of the sail. For example, David can ride a 4.0 in conditions he would normally ride a 6.0. A long foot like this only works because the Hydra flies above the surface of the water.

The extra long foot provides the needed low-end power to get up on the foil without using cambers or an extra batten below the boom, saving close to a kilo in weight. Being able to ride a smaller, lightweight sail makes foiling more fun by giving you the sensation of flying with nothing in your hands. You want a sail that "goes away."

The extra long foot also makes the sail more stable. This means that you are less vulnerable to gusts throwing you off balance when you're flying on the foil, making foiling a

lot easier. But at the same time, because only the foot is extended and not the entire sail, the pull of the sail remains forward for a more comfortable sailing experience.

The Hydra also borrows the 3/4 batten concept from our hardcore wave sail, the Taka. A 3/4 batten allows the sail to luff, which means that it can easily go from full to flat. This is important for many aspects of foiling. This helps the Hydra to be extra powerful when you're pumping it but flat and responsive when flying on the foil. And, the Hydra's 3/4 batten is the reason it can de-power so easily and change its shape for the needs of the foil. When you sail up wind, you want a flat sail, and when you sail downwind, you want a full sail. The 3/4 batten allows both to occur without having to adjust the outhaul.

David had 5 goals when designing the Hydra:

- 1) Must be more efficient than a normal sail
- 2) Must be less sensitive to gusts than a normal sail
- 3) Must have early power to get up and going but also controllable when flying
- 4) Must be able to de-power easily
- 5) Must be super light weight

Size m ²	Luff Min	Luff Max	Boom Min	Boom Max	Ezzy Mast Base/Top	Base Extension
4.0	353	358	131	141	340 / 340	14 - 18 cm
5.0	395	400	151	164	370 / 400	10 - 16 cm
5.5	413	418	158	172	400 / 400	14 - 18 cm
6.0	434	439	166	179	400 / 430	20 - 24 cm
7.0	454	459	185	199	430 / 430	24 - 29 cm

