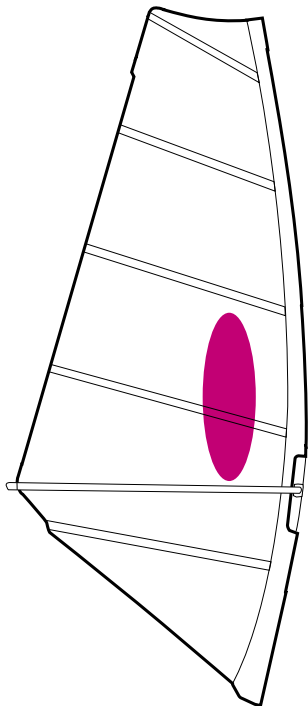




DRAFT COMPARISON

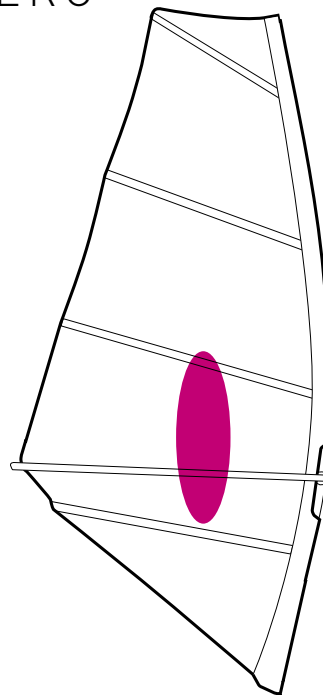
ICE VS HERO

ICE



DRAFT SLIGHTLY HIGHER AND FURTHER FORWARD

HERO



DRAFT SLIGHTLY LOWER AND FURTHER BACK

BATTLE OF THE GIANTS

SINGLE-FIN VS. MULTI-FIN DRAFT FORWARD OR PULL ON BOTH HANDS

Which wave sail fits me best, my sailing style and my board? The latest (board-) developments make it necessary to offer more than one radical wave sail. To understand the differences, the fundamental aspects will be highlighted:

ICE



ICE VS HERO

When going down the line a single-fin wave board wants to be "carved" mainly over your front foot and the rail. This requires a minimum speed, full commitment and a very high skill level. Also you need to stand quite upright over the rail during the bottom turn. Therefore you need a sail with a slightly higher draft position to "force" you into an upright position. In addition the sail needs to go completely neutral during the turn. To achieve this the draft is positioned quite far forward. As a result the sail develops nearly no pull on the backhand and remains completely unaffected when sheeting in or out. On the other hand such sails are more sophisticated to sail, as the sailor does not get back any "feedback" (e.g. when over-sheeting). Also you simply have less to "hold on to".

HERO



ICE VS HERO

With the trend moving towards multi-fin wave boards the down the line surfing style has remarkably changed. In contrary to single-fin wave boards, multi-fin wave boards don't get "carved" over the rail but instead get much more turned through the fins. The angular momentum for the bottom turn is now initiated through sheeting in your sail. To do this you need a sail that gives the rider a certain "feedback" triggering the turn. This means a sail with a draft position being further back and therefore pull on both hands. This pull on both hands has further advantages: As an advantage this pull on both hands means you have something to "hold on to" giving you extra balance/stability (which also counts for flat water sailing on single-fin boards). Also you can rig one size smaller as the further draft back profile produces more low-end power. Another advantage of this new sailing style is that the bottom turn is initiated at much lower speeds which makes it much easier especially for entry level wave sailors. On the other hand pros now can surf much closer to the impact zone. You do not have to stand upright over the rail anymore but can remain in a natural slightly tucked position. Therefore compared to the ICE our brand-new 4-batten wave sail HERO not only has a slightly further back- but also lower draft position, which helps the high-end control.

4 BATTENS AND HIGH-END CONTROL?

ICE VS HERO

How can you achieve a reasonable wind range (high-end control) on a 4-batten sail? The secret is to generate the ideal balance between elasticity and stability.

For a better understanding here comes a little sail theory. The following factors make for stability (resulting in greater wind range) in a rig:

1. **Amount of battens:** the more battens, the more control you get but the stiffer and heavier the rig becomes
2. **Mast geometry:** SDM-masts are stiffer but also less elastic than RDM-masts
3. **Mast length:** the shorter the mast, the softer it is

With the trend of manoeuvre sails away from SDM- towards RDM-masts the sails have become much more elastic but also less stable. Reducing the amount of battens further increases the elasticity. Now if you also try to reduce the luff length as much as possible (= shortest + softest possible mast) the overall structure simply becomes too soft. The result is a super elastic rig that feels nice just in the ideal wind range but simply collapses when powered up.

Exactly here we have focused when developing the new HERO. Instead of following the trend towards the shortest possible luff length, risking loss of wind range Kai has worked with his proven BALANCED.LUFF.LENGTH concept: As short as possible for most radical throwability and as long as necessary to generate sufficient stability for maximum wind range.

2012

FERNÁNDEZ
E42



PRO'S + CON'S WAVE SAILS

HERO

2012

- + Earliest planing wave sail in the NorthSails range
- + Most draft back wave sail in the range → pull on both hands gives you extra balance/stability
- + Most draft back wave sail in the range → works best on multi-fin wave boards and/or single-fin boards on flat water
- + 4-batten design → most elastic and easiest to pump wave sail in the range
- Least draft stable wave sail in the range
- Too much backhand pressure for single-fin down the line "carving" style

ICE

2012

- + Most draft stable wave sail in the range, makes it unbeatable in nuking gusty conditions
- + Most draft forward wave sail in the range → ideal on single-fin down the line wave boards
- + Most draft forward wave sail in the range → best on-off
- Least powerful wave sail in the range
- Not enough backhand power for typical multi-fin wave style

ID

2012

- + Best of both worlds: up to 5.0 based on the ICE design, larger sizes based on the DUKE
- + Use of ODL (high-tech Yachting laminate) makes the ID by far our lightest wave sail (up to 700g lighter than ICE and DUKE)
- + Use of ODL makes the ID more elastic (better to pump) than ICE and DUKE
- Due to the fact that the ODL laminate is less than half as thick as regular XPLY the UV-resistance is limited → warranty limited to 2 years

DUKE

2012

- + Most versatile wave sail in the range bridging from flat water freestyle (or even freeride) up to power wave sailing
- + Biggest wind range of all wave sails in the range
- Too grunty/direct for light-weight guys in the waves



SAIL DIFFERENTIATION

PERFORMANCE

PLANING



DRAFT STABILITY/V-MAX



HANDLING



CROSSOVER

PLANING



DRAFT STABILITY

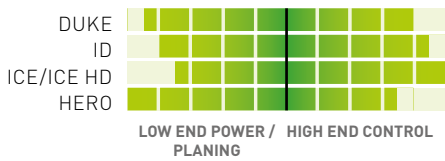


HANDLING



WAVE <> FREESTYLE

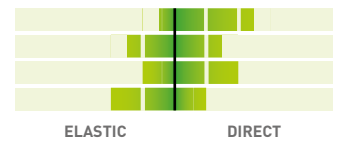
WIND RANGE*



ON/OFF



SAIL FEELING



PHYSICAL SAIL WEIGHT (5.0)

DUKE	3.80 (2011: 4.15)
ID	3.10
ICE	3.75 (2011: 4.10)
ICE HD	3.80 (2011: 4.15)
HERO	3.60

SAIL FEELING



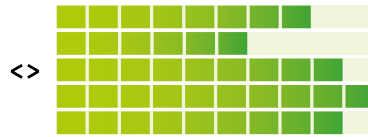
ARTIFICIAL SAIL WEIGHT (5.0)

3.75
3.15
3.65
3.70
3.65

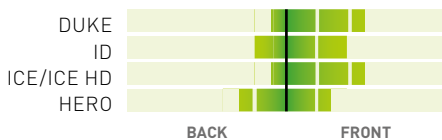
PHYSICAL SAIL WEIGHT (5.0)

DUKE	3.80 (2011: 4.15)
ID	3.10
ICE	3.75 (2011: 4.10)
ICE HD	3.80 (2011: 4.15)
HERO	3.60

DURABILITY/ UV-LONGEVITY



DRAFT POSITION



IDEAL BOARD



* EXPLANATION: ON A HERO YOU GET PLANING AS IF YOUR SAIL WAS 0.2 SMALLER THAN A DUKE, 0.3 SMALLER THAN AN ID OR 0.4 SMALLER THAN AN ICE. BUT YOU ALSO NEED TO CHANGE DOWN EARLIER ACCORDINGLY