

BALI 4.0

AN INNOVATIVE AND EASY-GOING 40 FOOTER

The most recent Barcelona Boat Show saw the first outing of the 4.0, the latest development in the young Bali range, which will likely later be completed by a flagship model of over 50 feet. When the first one was launched back in February at the factory at Marans, we went aboard for a two-day test run in the Pertuis Rochelais on France's Atlantic coast.

Text and photos:
Philippe Echelle



↑ *A simple and modern sailplan. Unfortunately the tubular bimini means the gooseneck is fixed higher up.*

THE 2ND CONQUEST OF SPACE

There was a time when cruising catamaran coachroofs proudly displayed their coefficients of air penetration and even had a structural role! The interior designers came in some time back and jumped at the opportunities available to crews with these new volumes! Another revolution is taking place right in front of our eyes. One which aims to free the whole platform of bulkheads, completely revisiting the way we move around on board and the design of the nacelle! Leopard and Lagoon have both employed the use of a forward cockpit for some time now, with the Cape Town yard then opening a breach in the forward bulkhead, by cutting a door in it. Greg Young and Tag invented the modular

deck salon. The Bali 4.3 and 4.0 have today standardized the opening of the front bulkhead, installing a sun-deck in place of the trampoline and creating a retracting aft window panel. A real step forward!

THE SMALLEST BOAT IN THE BALI RANGE: GOOD THINGS COME IN SMALL PACKAGES

Making a set of specifications such as these for a 40 foot catamaran was a daring move! Architect Xavier Faÿ's talent for creating volumes while modeling a characterful shape yet still maintaining dynamic qualities has allowed this challenge to become reality (see the paragraph on the designer in the Bali 4.5 test we did in Multihulls World no. 139).

A CLEVER DESIGN SUPPORTED BY INNOVATIVE NAVAL ARCHITECTURE

Seen from ahead or from $\frac{3}{4}$ of the way forward, the boat has a neat profile, and the lines are alluring. The shape of the windshield is skillfully drawn, with the upper edge extending forward as a sunshield, making a defining element of the Bali 4.0's coachroof. The visual perception from further aft is somewhat heavier, but we'll see later on how this all makes sense. At the waterline the bows are very fine, with a nice deflector step which creates interior volume and softens the freeboard. The depth of the topsides is cleverly highlighted by a line below the deck edge, a longitudinal reveal which integrates the hatches and characterizes the style. The top of the bows are subtly broken by a little reversed edge. The biggest accomplishment is probably the skillful ski-shaped design forward and the tunnel-effect that this bold option creates. Testing the 4.5 on a delivery in challenging conditions (30 knots upwind in the Golfe du Lion, where the Mediterranean coast of France meets Spain) allowed us to discover the importance of this part of the design and to dissolve any doubts some may have on this subject. Aft, the 4.0's topsides are interrupted by the emergence of the sugarscoops, though it might have been better to have carried the angle as far as the transom. The helm station on the semi-flybridge is comfortable, enhanced by an elegant wheel, but I wasn't so keen on the tubular bimini, which I found didn't sit well in the overall lines and also forces the gooseneck to be higher (even though this wasn't a deliberate choice!)

A QUALITY BUILD

The factory at Marans is a very modern industrial site, built to house the automated assembly line of Harmony



The balance and trim are remarkable, and the hulls slip through the water. The profile from $\frac{3}{4}$ ahead is attractive



The design and construction of the ski-shape forward is really noteworthy, and the bridgedeck clearance is comparable with the competition. Fine-entry bows, reasonable weight loading, overall intelligent structure and hulls give great results on the water.



Sliding window lifted, and the interior blends with the exterior, transforming the boat into an opened-up watersports platform.



monohulls. There's a composite preparation cleanroom, where the organization of the work is exemplary. Each part (foam or woven cloth) is coded: fitting is done with care, in calm and order with an absence of both noise and odor. The fabrication is meticulous. The molds are built in-house, with the master ones milled by a 5-axis digitally-controlled machine. During our visit we were able to observe every stage of the build of the 4.0 from laying up to equipment installation. Once the composite infusion stage was complete, the outboard half-hulls are brought back, and the jointing edges carefully laminated. The skegs are then grafted onto the keel stubs extending from the hulls: this creates a sacrificial element in the event of a major collision or grounding, limiting any structural damage. Balis are not easy boats to build, despite having many elements which are digitally modeled. The two main bulkheads are of sandwich construction, made in molds and fitted forward and aft into a central chassis connected to the bottom of the hulls which takes the compression loadings of the mast. This mechanically solid box formed by the bulkheads gives an extremely strong H-shape at the core of the boat. The forward ski-shape is constructed on reinforced sample composites and a network of compartments (in resin-impregnated



With the rig set further aft, the self-tacking solent is a useful size: the sail turns out to be easy to trim and is powerful. The balance under sail is excellent.



The forward cockpit and immense sunbathing area communicate with the interior via a sliding window, and simply take the place of a trampoline.



plywood), generously glued where they adjoin. The precision involved in the assembly, the density of the reinforcing and the care taken with the joints guarantees they will stand up to any trial. An anti-osmosis polyester resin is used for the underwater hulls.

A GUIDED TOUR: INSIDE OUT!

At only 12 meters in length, this multihull offers an astonishing amount of habitable space, supplied with every comfort, each with its own neat logic. The engine installation, developed with Nanni, includes special brackets for fitting a second domestic alternator (2.25kVA) and a 60 or 180 liter/hour watermaker. Brilliant! Combined with the solar panels, this creates self-sufficiency on a boat fitted with a 272 liter fridge/freezer. The layout of the nacelle is really innovative, with a large opening forward (the Plexiglas panel slides vertically), and the efficiency created through the combination of the aft bulkhead would render any air-conditioning totally useless. This thoroughfare opens up communication with the front of the vessel, whereas the side opening windows and removal of the aft door have reinvented the use of space in a catamaran nacelle. The dining area is set aft opening up to seat 8 people toward the exterior. As if by magic (with the bulkhead folded up), and in nice weather, this 40 footer works like a much bigger boat, while remaining extremely compact and easy to use. The forward cockpit becomes like a terrace capable of welcoming numerous friends; the sidedecks and their

access steps are safe and easy; to port, an independent stairway leads to the large sunbathing area on the bimini and the double sun lounger without disturbing sail-handling or the helm. The aft platform works well, folding down to transform into an area for imaginative water sports, and is ergonomic for getting in and out of the dinghy. The creative modular design of the Bali allows you to adapt to any conditions outside (cold, excessive heat, spray, etc). The interior design by Hervé Couedel is spot on, and the standard of finish (Catana cabinetmaking) is very high. On the owner's version, the port hull has a contemporary aspect and amazing volume; the two double cabins to starboard, which are separated by the heads compartment, are vast and also private. The battery bank is housed in the center of the vessel, beneath the salon floor.



The helm station is surrounded by relaxation areas (aft bimini, ergonomic lounger accessed via its own stairway). The feel of the helm is one of the best things about the boat.

THE COMPETITION

Model	Lagoon 39	Lucia 40	Leopard 40	Nautitech Open 40
Yard	Lagoon	Fountaine Pajot	Leopard Catamarans	Nautitech Bavaria
Upwind sail area in m ²	76	94	96	92
Weight in T	11.6	9.1	9.4	7.8
Basic price in € ex-tax	223,700	253,000	279,000	276,000



The opening and closing of the aft bulkhead is effortless - the mechanism is assisted by stainless hydraulic rams.

SEA TRIAL

With two 40hp motors coupled to three-bladed folding propellers, the maneuverability is excellent and maximum speed exceeds 8 knots (you get 7 kts at 2,000 rpm), and the additional (optional) soundproofing of the machinery spaces is really neat. Access to the helm station is good, the design team having worked meticulously on the overall ergonomics of the whole boat. Its position is delightful, and taking the helm reveals a special surprise: it is extremely light, precise and it feels as though there is a perfect contact with the rudder blades. The sailplan of the 4.0 follows the latest trends, with the rig set further aft, stepped on the coachroof. The mainsail remains effective with its moderate area (though a square-topped sail is recommen-

ded). However, it is the foresail that gives the power. The Soromap mast is straightforward and of good quality, equipped with a low-friction batten-car track. The Antal deck hardware (tracks, winches, organizers) and the Rutgerson bearing blocks are of very high quality. The sails are by Multisails, and are well cut. For this first model built at Marans, the trim is perfect, and the boat floats high despite being encumbered by all the US options (aircon, generator, etc: the boat is destined for charter in the Virgin Islands!). Right from the start, the boat slips through the water and rapidly picks up speed. Any pitching moments are well dampened. The 4.0 doesn't, however, have the waterline length of its bigger brother, the 4.5 and will start to have a bit of a porpoise effect earlier in big seas. There was no gennaker on our test boat, but with 12-14 knots of wind on the first afternoon, the liveliness of the 4.0 was already noticeable, and we easily picked up to 8.8 knots on a reach under main and solent. The following day, with the wind settling down around 8-10 knots, the other great revelation came when we were on the wind (less than 45°

TECHNICAL SPECIFICATIONS

Designers: Olivier Poncin et Yann Chabaud
 Architect: Xavier Faÿ
 Builder: Catana
 Interior Designer: Hervé Couedel
 Length: 11.93m
 Beam: 6.72m
 Draft: 1.12m
 Light displacement: 8.6t
 Maximum displacement: 11.2t
 Construction: foam sandwich/glass/polyester under infusion process
 Mainsail area: 48m² / 50m² for the square-topped sail
 Self-tacking solent: 33m²
 Gennaker: 56m²
 Asymmetric Spi: 90m²
 Motors: 2x20hp or 2x40hp Nanni diesel (Volvo or Yanmar as an option)
 Transmission: Saildrive
 Eau: 800 liters
 Diesel: 400liters
 Black water holding tank: 2 x 50l / grey water: 2 x 150l
 CE Certification: 10 persons in Category A
 Basic price: €253,000 ex-tax

PRINCIPAL OPTIONS IN € EX-TAX

Excellence Pack: 31,930
 Motors: 2X40hp Nanni + 2.25kW alternator: 5,000 / Volvo: 7,260
 Square-topped hydranet mainsail and hydranet solent: 7,740
 Gennaker and associated deck hardware: 10,440
 Bimini for helm station: 2,870
 Sun awning for forward cockpit: 2,490
 Balyline shades for coachroof protection: 1,590
 Cockpit protection screens: 1,440
 Helm console cover: 390
 Full basic upholstery: 4,730
 Folding propellers: 3,180
 7.5kW Generator: 17,385
 Reversible air conditioning: 13,220
 Blackout blinds in the cabins: 1,960
 Carpet salon and cabins: 2,290
 Raymarine electronics pack: 12,300
 60 liter/ hour Low consumption watermaker: 10,290
 200 W solar panels: 2,400
 Antifouling with epoxy primer: 2,240
 Safety equipment for 8 persons: 4,850
 Delivery to La Rochelle: 7,550

A WORD FROM THE DESIGNER, BY OLIVIER PONCIN

The team had big ambitions for this Bali 4.0: we wanted to create a high performance catamaran which at the same time would be easy to handle, sporting a truly "open" nacelle for the living space, free from bulkheads. It meant that the useable space had to be equivalent to that of a 44 or 45' catamaran, making the most of the volume so that whether it was fine or not outside, you could still comfortably seat eight people to eat, carry large reserves of water and diesel and have a large refrigerator. We wanted a forward cockpit capable of taking the entire crew, as well as having ventilation as effective as that on the 4.3 and the 4.5, to avoid suffering with the heat. The coachroof is designed to give the helmsman perfect visibility, yet not be isolated from the crew. To achieve all this at a very competitive price is not so straightforward! Xavier Faÿ, the Balis' architect is very keen on his hulls having good performance and together with Yann Chabaud, co-designer and project manager, they have achieved this feat.





to the apparent, on a flat sea) with the solent allowing us to achieve a very good VMG. This type of sailplan gives a vitality to the foresail, which remains filled even at fairly tight angles. This leads us to assume that the performance under gennaker or spinnaker would be good. The panoramic view from the helm is excellent, and the 4.0 remains great to helm in all conditions. Being hard on the wind in light to moderate airs doesn't turn into a monotonous affair. In fact it is enjoyable thanks to the sensitivity of the lines. The helm is responsive, meaning you don't need to resort to the autopilot all the time. Agility when tacking is awesome - the Bali seems to pivot around its skegs without needing any adjustment to the main, and the car of the self-tacking solent comes across smoothly. This catamaran really does everything itself! On this model, the manual winch to the left of the helm station handles the sheets for the solent and the main. Its positioning isn't great for putting a lot of effort into it, so this will be adapted on later models. The traveler lines come back on the bimini and are handled by the electric winch.

CONCLUSION

The bold choices made with the Bali 4.0 are combined with top-quality design and build. This very accessible catamaran is perfectly suited to family crews or charterers. It is welcoming, exceeding the expectations of guests in terms of on-board life, and it all works well. The formidable natural ventilation will be most welcome in the tropics, but this 40 footer is also apt for more temperate climates thanks to its adaptability. On top of that, she's great fun to sail!



→
Beneath the forward seats are the tanks, the generator (if air-con is fitted) and the ground tackle. The chain locker is vast, so no danger of the chain piling up.

- ◆ Successful, innovative design
- ◆ Dynamic qualities
- ⊕ ◆ Enjoyable to helm
- ◆ Comfortable to live on board
- ◆ Amazing natural ventilation

- ⊖ ◆ Rudder blades slightly over-balanced (only noticeable under motor)
- ◆ The position of the winch for the solent sheet and mainsheet could be improved
- ◆ Engine keys exposed
- ◆ Access hatch for the anchor a bit tight for attaching the bridle
- ◆ Getting out from the table requires care on the port side



↑
The large sliding front panel ensures efficient natural ventilation, and the dining area opens to the outside (aft and side faces) - a real innovation.



↑
A wide-screen version sunset...



↑
Amazing cabin volume for a 40 footer. Hervé Couedel's design is effective and the Catana woodwork to a very high standard.



↑
On the owner's version, the heads compartment is obviously very spacious, but also on the 4-cabin version the bathrooms remain comfortable.

The mast is stepped well aft (in the center of the coachroof), and this trend in rigs corresponds well with the program envisaged for this boat: providing satisfactory performance and being well-balanced under sail

Inside, Hervé Couedel's design and the top quality Catana cabinetry create a welcoming atmosphere.

The semi-flybridge helm station is fun to use and has a panoramic view. The feel of the mechanical linkage helm is one of the boat's highlights.

The comfortable lounger (with curved backrest), accessible via a separate stairway adjacent to the helm station makes a neat social area

Successful coachroof styling, cleverly carrying the sun visor forward



The base for the bowsprit allows for a decent mechanical fixing for this part which can be subject to substantial forces (bowsprit not fitted on this model). The lead for the anchor rode, and the windlass installation are well-designed and made, but the access hatch for the anchor itself could do with being bigger for attaching the bridle

The bows are very fine, with an elegant and effective step above the water-entry

The design elements of the topsides (proportions, upper edge, longitudinal reveal, step) are all well-mastered, giving an allure to the 4.0.

Having aroused some controversy, the dining area really fits in well with the concept of the 4.0

The coachroof of the 4.0 can be entirely opened using the sliding front window and the disappearing aft bulkhead: an on-board revolution!