

*In challenging conditions, the 450S has confirmed the same willingness that the flybridge version had shown in lighter weather.*



# Lagoon 450 S

## The SporTop helm option: A 100 mile test of this evolutionary design

**A**s a company which is consistently listening to their customers, Lagoon is offering the SporTop evolution on their 52 and 450 catamarans. They are aimed at cruising families who would rather have a helm station closer to the boat's main central living area. We took the opportunity to jump aboard during a delivery to the Mediterranean of this new 2015 model. From La Rochelle to Arcachon, we were set for a 117 mile expedition!

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### **FLYBRIDGE OR SEMI-FLYBRIDGE?** **YOUR CHOICE ACCORDING TO YOUR PROGRAM**

Visitors to the Cannes' International Festival of Yachting were able to see the world première of the new 52 S, and those who were at the La Rochelle boat show were the first to see the 450 S. These two new models incorporate the new SporTop helm station principal. This is a bigger development than you might think, because Lagoon have not been offering an alternative option to the flybridge since the 440 first appeared. But particularly because this new setup has demanded substantial technical and ergono-

mic modifications which influence the boat's behavior and use. The yard has also taken advantage of this new version to launch a partially re-styled interior for both the flybridge and SporTop versions.

### **THE SPORTOP: A TRADITIONAL HELM STATION REVISITED**

When in 2004 the 440 popularized the flybridge on medium-sized catamarans, it almost caused a revolution: its popularity with the public was established and encouraged Lagoon to standardize this feature on all its future models over 45 feet

*In light airs the SporTop benefits from a big overlapping Code 0 in D4 membrane. Very effective! Note the rib at the forward end of the hull created by the 2015 remodeling.* ↓



→ *On the SporTop version, the boom is 70cm lower, but the sail area remains the same.*

(the 560, 620, 52 and 450). Only the 420, the 400 and the 39 didn't have it. Even though the design was sought-after on big multihulls, this wasn't necessarily the case for owners of medium-sized boats. Yet somehow, Lagoon managed to establish the idea. The flybridge obviously created an additional living area, one with excellent panoramic views. Well-suited to summer cruising, this nautical terrace had the disadvantage of inhibiting communication between a family crew during watches on long passages, where the helmsman was effectively separated from the rest of the crew. Other objections which were raised concerned the higher position of the gooseneck which led to acrobatic skills being required to access the main halyard and the sail cover. Windage and extra weight aloft also caused reservations, and while these didn't mean the idea was unworkable, it did mean that it was going to be limited to pleasure craft users, charterers and XXL-sized models. The performance and reliability of electric winches combined with advances in fiber technology and deck hardware (captive winches for mainsail cars, for example!) have, however, rendered the design possible and even likeable. However, they have not done anything to rectify the

distance from the salon. This situation has led Lagoon to come up with the SporTop concept. Principally aimed at cruisers and globe-trotting families, this new design fits the bill.

#### **EASY ACCESS TO THE MAST AND MAINSAIL**

The new helm station is housed in a "bubble" suspended above the cockpit at the level of the hull deck. Separated from, yet very close to the cockpit, it offers direct access to the mast and to the upper sunbathing area via a solid staircase whose steps serve as a seat for trimming. The handrail extends toward the deck to make for easy movement. The design of the moveable external guard rail is debatable, especially its fixings, which feel temporary. The helm station is grouped around a large-diameter wheel (which is great!), the deck layout, the engine controls and panels as well as the navigation screen (which is undoubtedly not vertical enough, as raindrops obscure the menus!) Access to the top of the coachroof is via a safe flight of steps and numerous hand-holds, and is made easy by a sliding cover in the hardtop. At the mastfoot, everything is within reach of the crewman. The halyards have clear



↑ *Access to the mast via a flight of steps directly from the helm station is nice and safe, but the skeg keels are a lethal weapon in tidal areas or in coral.*



↑ *The first rays of light in the early autumn morning at the bar at the entrance to the Bay of Arcachon following a quick crossing from La Rochelle.*



leads and it is easy to control the (endless line) reefs, adjustments of the lazyjacks, or to help with flaking the main when getting it down. Closing the lazybag is done at a very comfortable height, though it does tend to flap a bit in the breeze and could do to be better secured. A heavier cloth would seem essential and would be more practical under sail.

### ***INTERIOR: FLATTERING RESTYLING AND QUALITY***

The partnership with Nauta Yacht continues to bear fruit: this very international Italian design team, which also works with Green Marine, Gunboat, Beneteau and dozens of yacht builders around the world, has contributed to a little style revolution on this generation of Lagoons. The spaces are distinct, the interior design contemporary but not dull. The furniture, which has many imaginative solutions and practical storage, does not saturate the space. The choice of Alpi reconstituted environmentally-friendly wood allows for a superb finish and grain. The contemporary style of the trim, decorative inlays and the blend of colors used create an attractive atmosphere which Lagoon fans are particularly attracted to. The standard of workmanship and finish inside these Lagoons gives a very positive feel. The absence of moldings left visible, the quality of the floor coverings, the (optional) carpeting in the passageways, the choice and taste of the décor all give a custom-made feel to these production models. The solidness of moving parts (drawers, flaps, doors, handles) is very reassuring. The galley has been completely redesigned, with the central island having been shifted toward the port companionway, creating a new U-shape which feels airy and puts the



↑ *The connections between the helm station, the cockpit and the top of the coachroof are flowing, and made safe by numerous handholds and a guardrail.*



↑ *Tested in lively conditions in an autumn gale, the new SporTop helm station shows itself to be practical and comfortable. Excellent feedback from the helm and efficient rudders.*

faucets out of range if one of the crew loses their balance. Part of the sliding door opens up to become a serving hatch between the salon and the cockpit table and enables the chef to be part of the crowd as well. A huge Corian worktop, very efficient refrigerator which opens fore-and-aft (thus avoiding anything falling out with any lateral movement of the boat), integrated oven, bottle rack and a double sink complete the culinary side to the 450 S. The large trash can is situated in one of the cabinets making up the salon-cockpit transition: easy to access and a neat solution for separating table and galley. The lines also benefit from the remodeling of the inner hulls, as does access to the bunks in the forward cabins. An elegant rib breaks up the perception of the vertical hull sides, lengthens the side panels and creates side access to the island-type bed.

### ***A SPORTY 117 MILE TEST FOR THE 450 S***

It's 117 miles from La Rochelle to Arcachon, which makes for a good test run. A seatrial will always be a bit limited aboard a brand new boat, but this account of our experience out on the water will allow the reader to share some of what was felt by the tester. In the case of the Lagoon 450, it's interesting to re-read the test of the flybridge version we carried out in lighter conditions, which showed average performance (Multihulls World No.115 January 2011). Our sail on the SporTop version was undertaken in stronger conditions, which provided an interesting comparison with the results from 2011.

We set out from La Rochelle the day after the boat show finished, following a night of squalls. The 25 knot west northwesterly wind picked up a short, breaking sea in the outbound channel. At 4.30pm conditions were good for a test under motor in a real situation if we were to get clear of the Pertuis d'Antioche strait before nightfall. Our route took us 2 miles north of La Pointe de Chassiron which marks the shores of the Ile d'Oléron and ushers you out into the open sea. So the first ten miles were covered into the wind and sea.

The two 57hp Yanmar motors coupled to three-bladed folding propellers proved surprisingly powerful and quiet. The engine



↑ The proximity of the helm station to the main living area will be appreciated by family crews.



↑ The new U-shaped galley works well. The 2015 restyling also includes fabric coatings on the ceilings, used to great effect.

mounts contribute to noise reduction and absence of vibration, but the 4JH57s aren't noisy anyway, and exhaust fumes and any smell were barely detectable. These 2.2 liter 4-cylinder blocks are coupled, forward facing, to saildrives. They use common-rail injection, and weigh in at 264kg including the transmission. At two thirds revs (around 2,500 rpm), boatspeed is over 8 knots and the push of these three-bladed folding props was remarkable in this stirred-up sea. The closer we got to clearing the strait, the bigger the swell became: once in open water, the sea was really up and down, in depths of 20 meters. With 900 liters of diesel on board, I was somewhat apprehensive about this first part, but my worries turned out to be unnecessary! The agility of the 450 at this speed surprised me: very little slamming under the bridgedeck, and very little noise reverberating under the bimini. You could talk without having to raise your voice. These new discreet motors are a real success. We hoisted the main with one reef, before bearing away. The absence of a preventer on the boom led us to be more vigilant during the start of the hoist: the first battens cleared the lazy-jacks, and then the powerful Harken electric winch could get going. The single-line reefing system is neat, and makes reducing sail easy (unfortunately chafe can occur where the lines exit the boom at the gooseneck end). The reefing stop is too light (it would soon give way, needing to be replaced with a lashing). Two small things which could really become a nuisance, yet could be so easily remedied. It would be a good idea to have some webbing sail ties to protect the reefed sail on long tacks.

As soon as the main is powered up, the boat accelerates and you need to ease back on the motors. Straight away it's more comfortable, and the catamaran better balanced. Unrolling the genoa is easy, thanks to the good alignment of the furling line (using the starboard winch to ease it out) and the power of the electric sheet winch to port (not forgetting to shift the car forward to suit the sheeting angle with reduced sail). We unrol-



← The remodeling of the forward inner hulls allows for great access to the side of the bunks.

led a fair amount of it (around  $\frac{3}{4}$ ) and this turned out to be just right, so we didn't alter it. This balance gave good power, moving the boat ahead nicely, with the main not making the helm too heavy.

There was a big cross-sea. When it shifted round to the Norwest, it didn't always stay there and sometimes came temporarily back round to the west. This gives two sets of swell: one on our starboard quarter (of over 3m in height) and



## COMPETITION

Model	Balance 451	Bali 4.5	Hélia 44	Leopard 44	Nautitech Open 46
Builders	Balance	Catana	Fountaine Pajot	Leopard	Nautitech
Upwind sail area in m2	90	111	116	112	124
Laden weight in tonnes	8.4	11.8	10.8	12.6	10.8
Basic price € ex-tax	US\$ 470.000	389.500	378.000	345.000	384.000

the other on the beam. The squalls were very wet, with gusts to 35 knots, but the 45 footer took it all in her stride. We really slipped along, and over a three hour period we averaged over 11 knots, with the log ranging between 9 and 14 knots! This decent wind had us across the mouth of the Gironde estuary at great speed, and thereafter the sea diminished. All the while, the helm was never heavy: its big diameter, the cable linkages, (all well-designed and adjusted), and the balance of the rudder blades all combined to give perfect directional balance. Conditions could have favored the autopilot losing control, but this was never the case for the excellent Brookes and Gatehouse, which is very logically installed away from where there is the possibility of any spray (which can occur under the cover of the engine compartment!) and directly linked to the rudders' tie-bar and not to the rudder stock where the effort required would be much greater. On a broad reach in a big sea (on the point of breaking) and with a force 7 wind, the result was worthy of note!

The second half of the night was more peaceful, but even so, we arrived at six in the morning off the entrance to the bay, meaning we had averaged almost 10 knots over the whole trip. There was now 12 knots of wind, and we crossed the bar, safely surfing the waves kicked up by the 6 meter depths. While crossing the bay, I made the most of the huge bathroom of our three-cabin version. Clear, practical, with solid and inoffensive fittings, numerous storage areas and large mirrors: perfect. Quality faucets and a warm slatted floor, good ventilation and plenty of space, creating a faultless design.

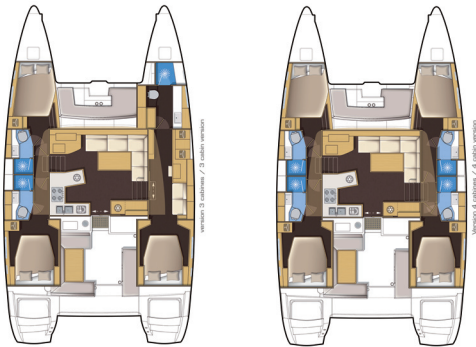
CONCLUSION

This full-scale test in a moderate gale had been very informative. The Lagoon 450 S had proved itself in serious conditions and showed real dynamic quality. The balance of the helm is good. Longitudinal trim and agility on the crossing felt safe despite having quite a bit of sail up and consistent good speeds. Throughout this trip I felt really happy with the helm station. The double seat is very ergonomic and you could spend hours there without getting tired. The positioning and power of the electric winches is remarkable, and well-suited to a catamaran with a powerful rig. The helm position is good. I reserve judgment on the hard-top, which doesn't allow for great visibility of the main from the helm. I would perhaps have preferred to have seen a windbreak in its place, with a fabric opening, but I'll leave that to the eventual owners. This passage in a big sea at these speeds demonstrated a reassuring stability and a comfortable motion. **Enjoy!**

The 57 hp common-rail Yanmars are quiet, clean, discreet and powerful. A superb mechanical setup, giving great performance with the three-bladed folding propellers. →

TECHNICAL SPECIFICATIONS

Naval Architect: VPLP
- Builder: Lagoon
- Interior design: Nautia
- Construction: Balsa sandwich/glass/polyester infusion. Anti-osmosis resin below waterline
- Length: 13.96 m
- Beam: 7.84 m
- Air draft: 22.33 m (as opposed to 23.05 m for the flybridge version)
- Draft: 1.30 m
- Light displacement: 15.5 t
- Upwind sail area: 134 m2
- Mainsail: 82.5 m2 (85 m2 square-topped option)
- Furling genoa: 51.8 m2
- Code 0: 93 m2
- Motors: 2 x 45 hp or 2 x 57 hp
- Diesel: 2 x 500 liters
- Water: 2 x 175 liters
Price in Euros ex-tax: €365,750 in owner's version 3 cabins/ €369,750 with 4 cabins
Price of the boat we tested ex-tax: €520,328
Principal options/ prices ex-tax in Euros
- Essential Pack (davits, extra tankage, cushions, additional batteries, pulpits with seats, 1 electric winch...): 22,306
- Carpeting in cabins: 1,800
- Salon floor mat: 586
- Leather upholstery: 1,430
- Rigging for spinnaker/Code 0 with bowsprit: 6,097
- Code 0 D4: 13,578
- Square-topped mainsail: 308
- Windlass remote control at the helm: 336
- 3 x 120W solar panels: 4,229
- Cockpit enclosure screens: 2,749
- All electric winches: 5,848
- 2x57 hp motors (additional): 1,147
- Three-bladed folding propellers: 2,252
- Gel batteries: 1,079
- 100 l/h watermaker: 11,388
- Electric heads: 1,695 or 2,269 depending on whether 3 or 4 cabin version
- 12/220 V 2000 W Inverter: 2,235
- Antifouling + epoxy primer: 2,348
- Launching / stepping mast: 11,256





*The mastfoot on the SporTop version is 70cm lower than on the flybridge version.*

*The hard-top bimini, a radical solution which partially obscures the view of the mainsail (despite the plexiglass panel)*

*The turning blocks give good leads for the halyards and reefing lines. The lines and their visual markings are easy to understand.*

*The well-shaped aft volumes of the 450 allow for good performance in strong winds. The generous hull sections tolerate high loads (but don't abuse this) for offshore cruising.*

*Lagoon offers high-tech light-air headsails (as an option). The big overlapping Code 0 of the 450 is made in D4 composite for light wind power.*



*Excellent position for using the Code 0 sheet winches, assuming a crewmember is available.*

*The moveable guardrail protects the crew at the helm station in rough weather, but the design of its fixings needs reviewing.*

*The new SporTop helm station is a real success: the panoramic view is excellent, the position of the wheel and the helm seat are very ergonomic. The deck layout with the winches is excellent.*

*Not so easy to see here, the remodeling of the inside hulls is an important part of this 2015 restyling. It really improves the aesthetic appearance of the hulls from ahead and on board, allows access to the island beds in the forward cabins.*

*The forward cockpit is a great spot, even when under way. It sits atop the third bow which efficiently breaks up the energy from the most aggressive waves.*



- ◆ Stability and safety in a big sea
- ◆ Rudder and autopilot efficiency
- ◆ Good helm position
- ◆ Clear and easy to use deck layout
- ◆ Powerful quality deck hardware (option electric winches)



- ◆ Reefing lines chafe where they exit the boom. Reefing strops undersized
- ◆ Areas of unprotected ply
- ◆ Still a bit of noise from interior fittings in a big sea
- ◆ Some options are expensive
- ◆ Design of the moveable guardrail at the helm