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WORLDWIDE PARAGLIDING AND PARAMOTORING MAGAZINE. FOR FREE.

THE TREKKING SENSO AND SENSO SPORT

PARAMOTOR AND PARAGLIDER

Full flight test plus video





The French manufacturer has succeeded in making this wing in Europe, no mean feat given the very tight financial constraints at the moment. The first wing, the Senso, came out in 2013. A year later the Senso Sport was launched with the same profile and geometry but a kilo lighter, and with other improvements.

By Sascha Burkhardt

Test pilots : Sascha Burkhardt, Cédric Nieddu

Translation by Ruth Jessop

Trekking was a very well known make in paragliding in the 1990s. Since then, following a long pause during which they were pretty much off the radar, Trekking have come out of hibernation. Trekking now has Nicolas Brenneur, who bought the company, at the helm.

Nicolas Brenneur is one of the pioneers of free flying and paragliding in France. In 1985 (30 years ago!) he made his first paragliders for his own brand "Brindazur" in Millau, which he had to give up a few years later.

In 2000, he set up a workshop to service paragliders. Once again, he pioneered a new activity which has continued to develop ever since.

During the years he spent in his workshop, Nicolas studied the wings on the market and how they had aged. This enabled him to establish an ethos on which to build his own brand. Wings must be easy to maintain and made from carefully chosen material. For example, Nicolas forbade nylon leading edge rods which, he worried, could cause problems as they aged.

Selling directly to the public has enabled the price to remain affordable in the current financial crisis: only 1,990 euros for a brand new Senso ordered from the manufacturer's site. Nicolas is a great believer in the idea of a 'low cost' paraglider.

A fairly classic design for the Senso Sport. The geometry is 100 % identical to the classic Senso, it is only the material used which differs, giving a difference of one kilo: 4.7 instead of 5.7 kg.



SENSO SPORT WITH MOTOR

Photos: Véronique Burkhardt, Pilot: Sascha Burkhardt



Senso Sport M with motor (PAP 1400 PA125)

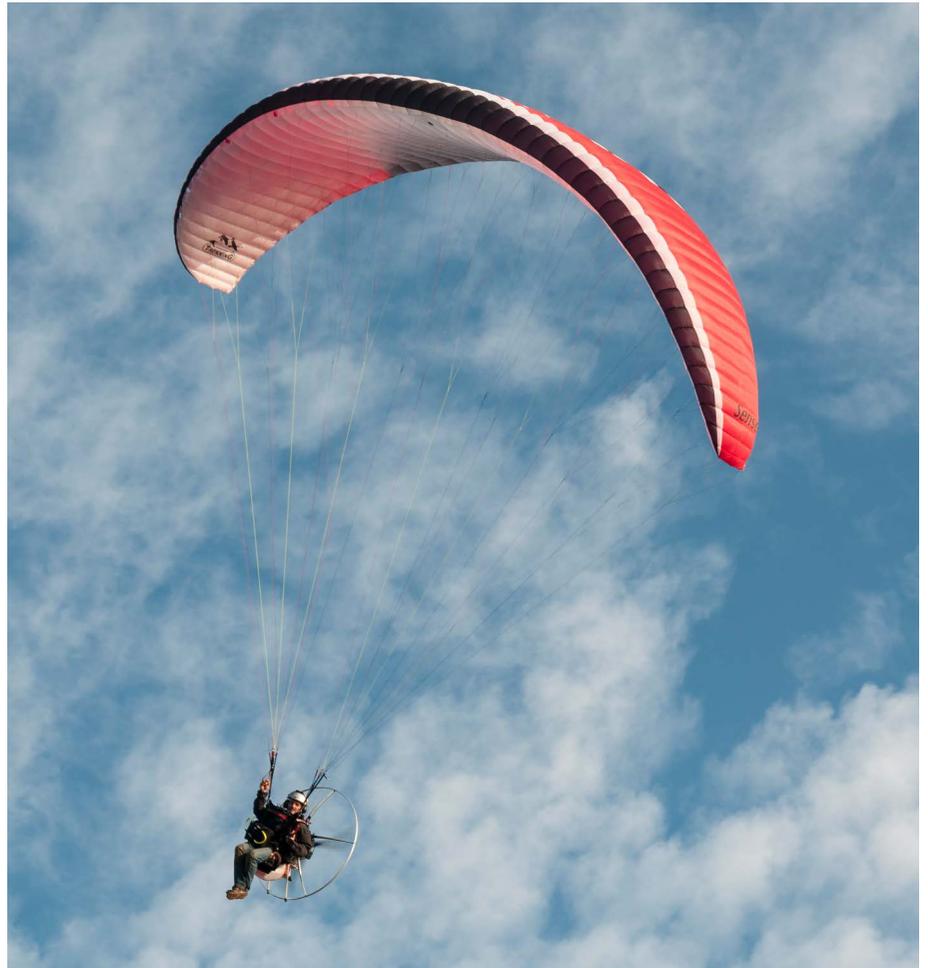
SENSO SPORT WITHOUT MOTOR



Senso Sport M without motor

A CLASSIC SENSO...

A classic Senso, size M, with a Nirvana NS 230 motor.



SPECIFICATIONS FROM THE MANUFACTURER

Here's what Trekking had to say about the Senso:

'The Senso is a versatile wing aimed equally at pilots who have just finished training as well as those doing little XC flights. It has been designed to be an easy wing, reassuring, enjoyable and long lasting.

The balance between the aspect ratio, the surface and the curve, has been optimised to give a wing which is both comfortable and precise in calm air and damped in more turbulent air during thermic flights.

Its performance allows long flights, both time and distance wise. It is easy to land, even in gnarly little spots.

The Senso, is built to last, allowing the pilot to progress over several years.

If you fly less than a 100 times a year, the Senso is made for you.'

And the Senso Sport:

'The Senso Sport has all the benefits of the Senso but has a weight advantage of a kilo on average.

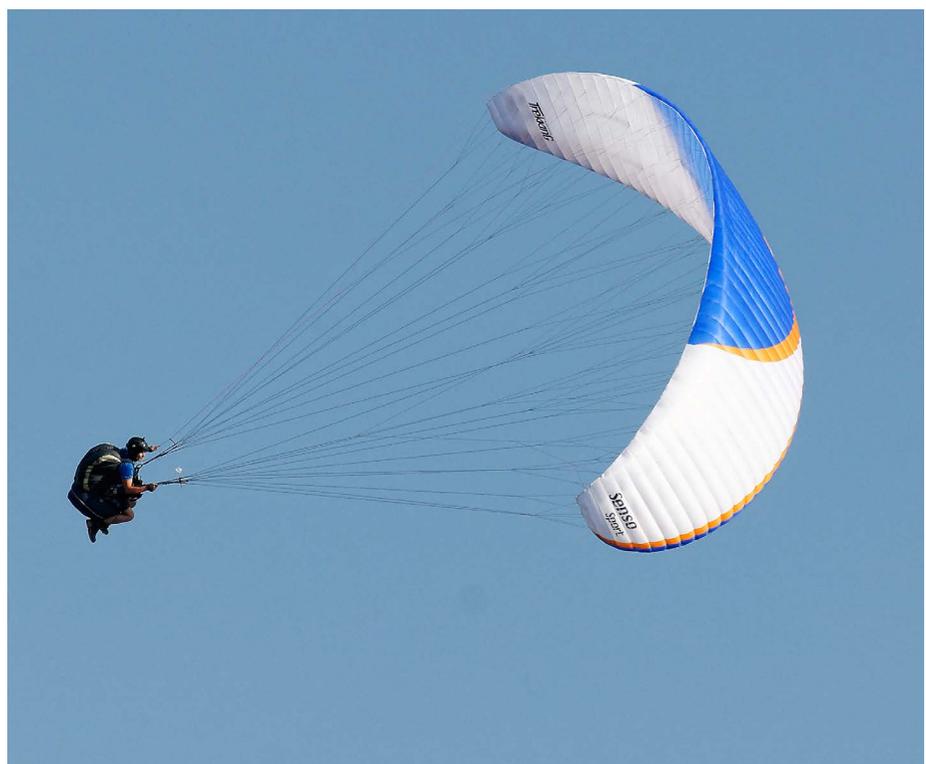
It has benefited from all the research that we have done to create the Trek range. It has slightly better performance than the Senso. Like the Senso, its performance allows long flights in both time and distance, with ease.

Lighter, the Senso Sport is easier to inflate and more reactive in flight. It is smaller when packed.'

Senso Sport size M just after take off: It inflates more easily. The handling is good for both versions classic and sport.



The Senso and the Senso Sport are well damped wings. Yet, if the rhythm is right, they are happy to play.





SENSU

However the materials used could in no way be considered as 'cheap'. Trekking are proud of their 'Made in Europe', label. The wings are put together in Croatia, the fabric used is 100% French made by Porcher Sport and the stainless steel maillons are made by Péguet in Savoie, France. The lines are made by Edelrid and the straps on the risers come from Güth & Wolf, both German manufacturers.

THE SENSO

At free.aero we tested the classic Senso and the Senso Sport, for both paramotor and free flight. According to Trekking, the profile and the geometry are absolutely identical; the only difference is that slightly lighter material has been used in some places, Porcher Skytex 32 instead of 38 at the back of the upper surface and Porcher Skytex 27 instead of 38 for the lower surface. The saving is impressive, dropping from 5.7 to 4.7 kg between the two models.

AT TAKE-OFF

The difference in weight can be felt right from take off. If the classic Senso comes up correctly, the Sport inflates with even less effort. In reality the weight of a wing plays a big part in how it inflates. 1 kg more or less, to lift up ten metres above the ground, makes a difference.

Looking through the wing, we can see the inside of this medium classic Senso. Nicolas Brenneur refused to use nylon leading edge rods and instead designed the wings based on a simple assembly format, thus making them easy to repair. Nevertheless, simple doesn't mean simplistic, as you can see by looking inside this wing.



The leading edge of the Senso Sport, without rods. Manufacturing is taken care of in Croatia.



The leading edge of the medium classic Senso. According to the manufacturer, the anchor points and the dimensions of the components are all exactly the same as those in the Senso Sport.





Big ears are easy to put in, the wing can be piloted pretty well by weight shift and it reopens immediately.

As Nicolas Brenneur doesn't use leading edge rods, the two wings are, at least in theory, doubly penalised at launch. The air intakes are not as well held open as in wings which do use leading edge rods, and secondly, the necessity to use a lot more Mylar instead of leading edge rods could increase its weight. It is therefore interesting to note that taking off in the mountains, even the classic Sensu inflates and comes up correctly, without hesitation. You just need to be on it a bit. On flat ground, taking off on a paramotor, especially in nil wind, isn't the same: taking off is a lot more physical, to the point where we hesitate to advise readers to use a classic Sensu with a paramotor... for an easy take off on flat ground, it is better to use the Sensu Sport weighing 4.7 kg which always comes up quicker, without a tendency to over fly.



Both the Senso and the Sport are very responsive whether in mountains or with a paramotor. You can feel it is an intermediate wing which performs well. Its aspect ratio of 5.3 however puts it in the middle of the intermediate category but, as we found out, the manufacturer perhaps wasn't wrong to class it as a wing for 'school leavers'.

Flying straight, the difference between the classic Senso and the Senso Sport is obvious: logically the lighter wing is the twitchiest. It gives more feedback. At the same time, this feedback isn't enormous as it is damped along all the axes giving a really safe wing.

The range of speeds of the Senso Sport is in the normal bracket: 24 km/h min, 39 km/h trim, 50 km/h with the speed bar. Unfortunately in the paraglider configuration we weren't able to test the risers specially equipped with the trimmers that Nicolas Brenneur has just finished. With the motor we were therefore using the 'free flight' configuration. It was even more of a shame for the classic Senso, which on the flat, by opening the trims a little, would have no doubt inflated better.

Turning, whether free flying or with the motor, the Senso Sport, as well as the classic Senso, needs a bit of travel in the brakes to turn steeply. With a little brake travel it turns quite flat, and efficiently enough to work with small thermals. It is happy enough to go into thermals and it cores pretty easily, but requires a bit more effort than some of its competitors.

The finish on sail of this Senso Sport is nice and clean.

The risers on the Senso Sport. Unfortunately, at the time of testing, the risers specifically made for use with a motor weren't ready yet.



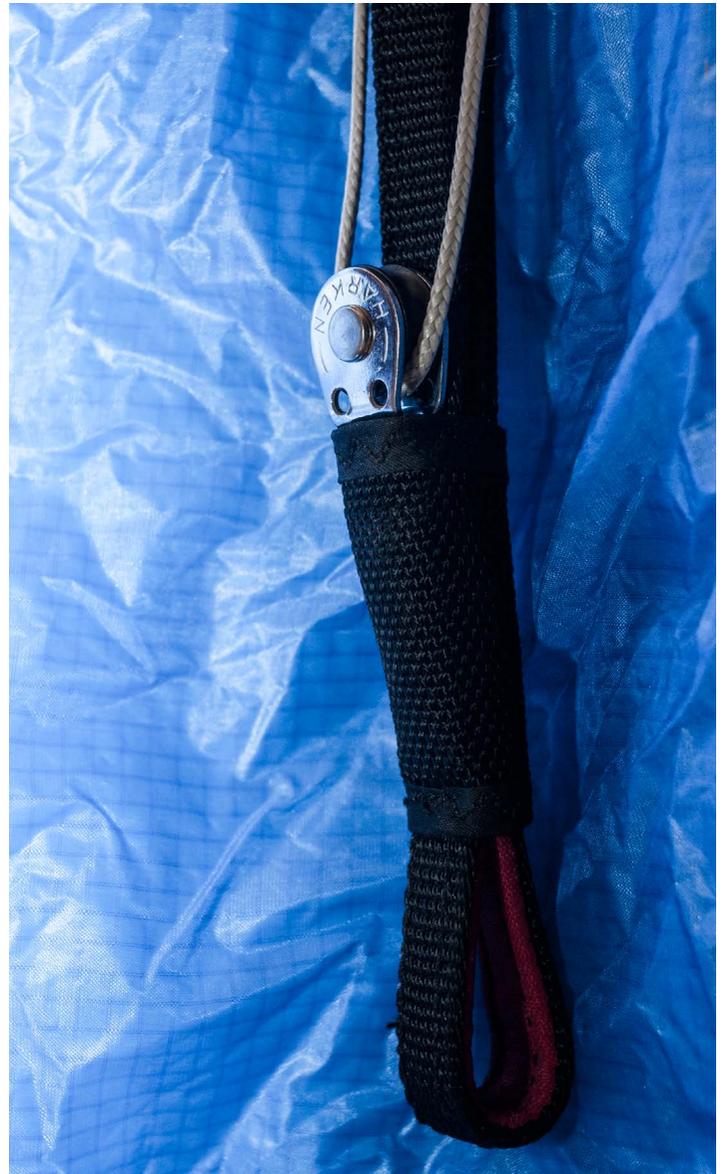
The classic: Mylar in the leading edge and reinforcement in the As. For Nicolas Brenneur, the absence of leading edge rods doesn't necessarily need to result in a significant gain in weight compared to a model with leading edge rods.



If the pilot really wants to tilt it, he needs to put in a bit more effort and/or allow a bit more time. What ever he chooses, it initiates easily enough and goes into a pronounced turn. If the pilot has a good rhythm, he can also do some nice wingovers.

On a paramotor, with the wing loading ratio being higher, it is even easier. However, the classic Senso has a fairly high tendency to pitch backwards coming out of a turn when the pilot is playing at slaloming near the ground, which is fairly logical for a wing which was mainly designed for free flying rather than for paramotoring. On the other hand, on the Senso Sport this behaviour is pleasantly attenuated; it pitches less and stays more above your head, no doubt a consequence of having less inertia. Once again, a little bonus point for the Sports version.

Harken pulleys for the accelerator. This is an extra little detail which shows that a cheap wing doesn't have to be cheaply made.



Turning: It is only at the beginning of the turn that the Senso hesitates a bit. Then it turns well giving a good rhythm for wingovers.



A system of fairly classic tensioners on the exterior of the wing helps it turn.



Certika's Cédric Nediú did a separate test flight on the Senso Sport for free.aero and confirmed that the lighter version is even gentler than the classic version which is already very well behaved.

As you can see in the video at the end of this article, the Senso Sport opens very quickly and in a very stable fashion, as it also does after asymmetric and front collapses. After a B line stall, it is a bit quicker to reflly again normally.

Moreover, according to Cédric, the Senso goes into SATs and helicopters very well. Despite lacking a tiny bit of manoeuvrability when using just a little bit of brake, it will still be an ideal wing for acro beginners.

Both the medium classic Senso and the medium Senso Sport are certified with the DGAC for use with a motor. The limits according to the specification sheet are: weight 80-135 kg, maximum motor 30 kW.



SUMMARY

The Senso range offers pretty versatile wings. Both the classic and the Sport cover a large range of uses. Thanks to its damping, its position by the manufacturer as a school leaver's wing seems justified, despite its aspect ratio of 5.3.

In free flight, its performance in thermals as in weak dynamic lift is good enough that the pilot will want to keep it for several years and go XC on it. As Cédric from Certika said, it even allows the pilot to gain his first acro stripes.

If you have to choose between the classic Senso and the Senso Sport, for free flight use, the difference in price of 500 euros justifies the purchase of the classic at 1,900 euros, it is a very appealing price for a new glider of this calibre! In addition, inevitably, the material used in the heavier version will have a longer life. On the other hand, the Sport version is better adapted to hike and fly (1kg is an enormous difference!) It is also slightly nicer and better damped. In addition, it has marginally better performance, no doubt because when it pitches, it loses less time getting back to normal. It's the same with a roll.

If using it with a motor, we advise the lighter version, if for no other reason than its behaviour at take-off.

Moreover, Trekking have successfully registered the classic Senso medium and the Senso Sport with the DGAC (The French Civil Aviation Authority - Direction générale de l'aviation civile).

Playing with the classic Senso with a motor, here with the Nirvana Instinct NS 230. Nevertheless, to us, the Sport seemed better adapted: It came up a lot better, pitched backwards less coming out of a turn and behaved altogether better with the motor.



In conjunction with the CERTIKA laboratory, free.aero produced a test video of the medium Senso Sport in which amongst other things, Cédric Nieddu tried some different manoeuvres, over and above those normally carried out, to gauge the wing's reaction...

Video: <http://www.free.aero/videos/senso-E/>



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