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WORLDWIDE PARAGLIDING AND PARAMOTORING MAGAZINE FOR FREE

2020  
#trends  
1/2







A stroll in the  
Dolomites with  
Jérôme Maupoint

*Trends 2020 1/2: here is the first part of our review of this year's new products. As always, we are publishing all the new trends in two parts.*

*In this edition, we also test some of the older trends like the Buteo, to check what has become of them...*

Translation by Ruth Jessop

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NIVIUK.COM > HIKE & FLY

EN/LTF B

# SKIN 3

## The next paragliding experience

Forget everything you've seen and heard about single-surface gliders. The new Skin 3 brings together the best of two worlds, and for the first time a single-surface glider offers the characteristics and flying comfort comparable to a conventional paraglider. Comfortable, stable, efficient and although it may not seem possible, single-surface.

*Also available in its light version SKIN 3 P.*

Discover the most Amazing Adventures on our Facebook and Instagram:



[facebook.com/Niviuk](https://facebook.com/Niviuk)



[instagram.com/Niviukparagliders](https://instagram.com/Niviukparagliders)





Photo: Thermikmesse

## THERMIKMESSE 2020

### RENEWED INTEREST, RESERVE ALL UP WEIGHT

The Thermikmesse trade show which traditionally took place in an urban environment, (Sindelfingen, then Stuttgart) in January, had been written off by numerous exhibitors and also by part of the general public. However, visibly, despite there being fewer manufacturers present (40 instead of 60), the exhibition on the 18th of January 2020 was a success both for the exhibitors and for the public.

We'll talk in more detail about some of the new products in the next issue of '#trends 2020 part 2/2'.

As always, the conferences (unfortunately in German only) revealed some interesting trends.

One of which was about safety. Karl Slezak, the German Federation's Mr Safety and also one of the pioneers who set up the database for paragliding accidents in Europe, presented the conclusions from a study of more than 6,000 accidents. It once again revealed that landings under reserves loaded to the maximum all-up weight very often lead to serious injuries, whilst a limitation to a maximum loading of 15-25 % below the maximum all-up weight leaves the pilot, in the over whelming majority of cases, almost unharmed on the ground.

Karl Slezak particularly emphasised the fact that even the EN norm, with its

5.5 m/s max with a maximum load, was therefore not, in any way, a guarantee of a safe landing. As a consequence, you must therefore stay well under and it is better to choose a bigger reserve. Too bad for the volume and the weight.

Ironically, for a very long time, the German Federation certified reserves with the old LTF norm, authorising 6.8 m/s at the maximum all-up weight whilst, in France, they were already testing with 5.5 m/s as the maximum...

All the conferences can be watched on video on the Thermikmesse YouTube channel:

<https://www.youtube.com/channel/UCSi mL5VLb-cF1wRbg00NvAQ>

A little tip: if you are interested in a subject, but you don't speak German, open the tab 'Transcription' of the Youtube video (in the three points menu at the bottom on the right of the video), copy this automatic transcription and paste it into the automatic translator [www.deepl.com](http://www.deepl.com), which works for free using artificial intelligence and gives better results than Google Translate. The only drawback: YouTube's voice recognition slips quite a few errors into the transcript in the original language.

You can read additional thoughts and information about the Thermikmesse exhibition on the organisation's official website: <https://thermikmesse.de/> 





## HYBRID: SETTING FUTURE STANDARDS!

School to Intermediate  
EN-B\*



A revolutionary design - combining classic double surface profile with single surface concept, resulting in a unique hybrid profile - the best of both worlds.

The Hybrid is redefining our sport with its light weight, ease of use and ultra-stable behavior.

The Hybrid is equally impressive in both free flying and paramotor, offering inspiring advantages in each discipline.

Schools interested in demo flight - contact APCO

[www.apcoaviation.com](http://www.apcoaviation.com)  
Setting Future Standards since 1974

\*Load test pending

free.aero  
MAGAZINE  
[www.free.aero](http://www.free.aero)

## STUBAI-CUP 2020

### THE COMEBACK

After a year's absence, due to administrative restrictions, the Stubai-Cup is back. It is one of the biggest trade fairs in the free flying World after the Coupe Icare. Its unique situation in a micro-climate in the Austrian Alps very often allows pilots to spend all day long testing the wings exhibited, by making fast rotations, thanks to the mechanical uplift available.

This year the Stubai-Cup will take place from the 6th to 8th of March.

For further information:

<https://www.parafly.at/stubai-cup/>



Photos: Armin Kuprian Photography







Col Des Fretes

## BORNES TO FLY

**T**he Borne to Fly is a race which combines paragliding and walking in the same vein as the famous X-Alps. The pilots follow a route over the course of three days punctuated by two bivouacs in the great outdoors. The route (between 100 and 250 km) will be chosen by the Meet Director taking into consideration the weather conditions. It will take the pilots on a route traversing the most beautiful scenery in the Haute-Savoie. The only thing that is certain: the pilots will set off on foot from the stunning beach in Talloires (on the shores of Lake Annecy) and return there three days later.

Each participant will go at their own speed depending on their physical capacity and their technical ability, or simply to suit themselves.

Registration starts on the 14th of February 2020 on the website:  
<http://www.bornestofly.fr/en/> 



**World of XC paragliding**





Antoine Girard in an F-Race, close to the final version. 1.5 kg...  
It is based on the F\*Lite. We tested one of the first pre-series in 2015 (photos below)

## HARNESSES

### IN THE NEXT ISSUE

Since the Coupe Icare, there have been numerous new developments amongst the harnesses: we'll dedicate a large part of the next edition to this subject.

At the Coupe Icare, Ozone launched the F-Race, which has undergone a few more small modifications, amongst other things, thanks to the return of Antoine Girard.

The F-Race weighs about 1.5 kg with an inflatable protector. It inflates thanks to a carrying bag, but contrary to the pioneer harness of this type, the Skywalk Range X-Alps 2, the F-Race inflates itself in one go by filling the bag.

Another difference: it has two separate thigh straps and no flexible plate like the Skywalk. The F-Race is based on the F\*lite, which represents the lightest harness ever made: 99 g...

As a comparison, the Skywalk Range X-Alps 2 ([read our test here](#)). At the moment it is one of the more refined of the supine cocoon harnesses, and only weighs 1.8 kg with its inflatable protection.





In time for the Thermik-Messe, Skyman received the first examples of a new version 2 of the Cocone, which comes into play in the same category as the two previous harnesses. Interesting: there is a choice of inflatable or foam protection, and so it comes in at 2.2 kg or 2.6 kg.

From the Coupe Icare onwards we have been waiting for the launch of the Advance Impress 4. As far as weight and comfort are concerned, it plays in a different sector (deflector, weight around 6 kg), but it folds up into a very small volume.

Rear fairing in harnesses is visibly spreading, but it's understandable: you can improve the glide ratio by up to one point. Reread about this subject in [the article below](#)... 🦋





# TRAVEL LIGHT, FLY FAR

The Calypso is a light easy intermediate ("low B") wing for beginning and leisure pilots who want a confidence-inspiring wing that is easy to travel and fly with, whilst still offering great XC possibilities.

The Calypso has been developed from the ground up. Handling is reassuring but fun — a little more dynamic than a typical glider in its class, but without surprises.

EN B // 5 sizes // 55-120 kg

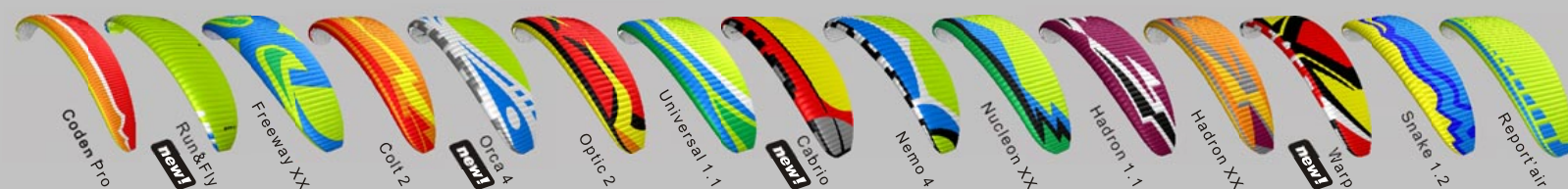


**Calypso**  
[www.gingliders.com](http://www.gingliders.com)





full range of freeflying & paramotor wings



[www.dudek.eu](http://www.dudek.eu)

## PARAGLIDER DATABASE

A third database listing models of paragliders has been launched. Set up in the spirit of Open Source, it is particularly promising!

### OPEN SOURCE

The new database is maintained by a team led by Geneva based pilot, Antoine Melo, who wants to keep this database open, whilst being non-profit making, "working modestly and independently, using reliable information, non-biased, on paragliding, paramotor and speedriding equipment."

Developed over several years, more intensively since the end of Para2000, this database, which seems to be particularly up to date (it already had 27 new models for 2020 by mid-January!) is available in German, English and French and also contains a search engine for equipment (reserves, harnesses and wings). All the information (year of certification, category, price, weight, fabric, aspect ratio, glide angle, speed, size and all up weight) are available on open source with a CC-BY-NO-SA licence; anyone can download the entire database in CSV format.

Free.aero magazine is extremely happy to be associated with this project.

<https://cdv.li/bre/matos.html?pilote=&l=en>  
Short cut to the equipment list: <https://cdv.li/stes>

**PARAPENTES**  
Voiles (27)  
recherche ...

**Niveau**  
0 - 10  
sans classification

**Poids**  
0.5 à 9 kg

**Années**  
cette année (2020)

**Marques**  
☒ Tous  
☒ ACIS (0)  
☒ ADG (0)  
☒ Adrenaline (0)  
☒ ADV (0)  
☒ Advance (2)  
☒ Adventure (0)  
☒ Aerodyne (0)  
☒ Aeros (0)  
☒ Aerostudi (0)

**Alpha 7 - Ecole EN A**  
ADVANCE  
Homologation / Sortie 2020  
Occasion / voile neuve ~ € 100.- / 1.-

**Sigma 11 - Sportive EN C**  
ADVANCE  
Homologation / Sortie 2020  
Occasion / voile neuve ~ € 4'150.- / 2'760.-

**Point - Ecole EN A**  
DAVINCI  
Homologation / Sortie 2020  
Occasion / voile neuve ~ € 4'800.- / 3'200.-

**Tango - Cross EN C**  
DAVINCI  
Homologation / Sortie 2020  
Occasion / voile neuve ~ € 5'650.- / 3'750.-

**ACE 2**  
FLOW  
Homologation / Sortie 2020  
Occasion / voile neuve ~ € 4'150.- / 2'760.-

**Go - Ecole EN A**  
GRADIENT  
Homologation / Sortie 2020  
Occasion / voile neuve ~ € 100.- / 1.-

**Kagoo 2 - Marche et vol**  
LITTLECLOUD  
Homologation / Sortie 2020  
Occasion / voile neuve ~ € 100.- / 1.-

**Magus 9 - EN D**  
MACPARA  
Homologation / Sortie 2020  
Occasion / voile neuve ~ € 100.- / 1.-

**Whizz 2 - Montagne EN A > C**  
NERVURES  
Homologation / Sortie 2020  
Occasion / voile neuve ~ € 100.- / 1.-

Niviuk

### RÉCAP.

	occas. > neuf	kg médian	g/m²	allongement	finesse	km/h
SkinP 3 (B de 2019)	~ 2'480 - 2'700.-	1.8	27	5.5		

### DÉTAILS

#### SkinP 3

Homologation 2019 - Monosurface EN B  
 Prix neuf / occasion € 2'700.- / € 2'250 à 2'700.-  
 Poids médian\* 1.8 kg (4.0 lbs)  
 Matériel (extra/intrados) 27 g/m²  
 Allongement 5.5

40--50--60--70--80--90--100--110--120--130--140  
 16 (16m² / 1.7kg) |-----XXXXXXXXXXXXX-----|  
 18 (18m² / 1.8kg) |-----XXXXXXXXXXXXX-----|  
 20 (20m² / 2kg) |-----XXXXXXXXXXXXX-----|  
 \* Marge d'erreur sur les poids = ± 10%

Légende: X = PTV conseillé et \* = plage de poids étendue



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DE  
VOL LIBRE



New colours, new design. With the brand new DOUBLESKIN, NOVA presents the new wing design for the first time.

# DOUBLESKIN - Minimalist hike & fly

The DOUBLESKIN weighs only 2.1 kg (size 17) and is therefore the lightest paraglider in the world\* with top and under surface. It has an incredibly small pack size and is a delight in the air, thanks to better aerodynamics compared to a single-skin. With the DOUBLESKIN walking up is as enjoyable as flying and landing

Three-Liner | Cells: 33 | Aspect Ratio: 4.4 | EN/LTF A  
Weight: 2.1 kg - Size 17 (55 - 90 kg Take-off Weight)  
Available in the sizes 17/20/23.

**NOVA**  
Performance Paragliders

[www.nova.eu/doubleskin](http://www.nova.eu/doubleskin)

\* by same flat surface area, with EN-certification, equipped with the Ultralight Risers and without taking single-skin wings into account. As: 06/19

A reminder of the two other significant databases which exist:

## PARATROC'S PARABIBLE

Michel Falzone, the owner of the online shop, Paratroc, is behind this site. He knows the second-hand market inside out and also has an online valuation service on his page.

*Marque							*Modele							
Gin Gliders							BONANZA 2							
marque	modele	taille	annee	Valeur neuf €	surface à plat M²	envergure à plat	Allong	surface projetée	envergure projetée	poids de l'aile	Pratique – Parapente	Catégorie – Parapente	ptv min kg	ptv max kg
Gin Gliders	BONANZA 2	L	2018	-	26.50	13.06 m	6.44	22.72	10.57	5.7	Performance	.EN C	95	115
Gin Gliders	BONANZA 2	M	2018	-	24.50	12.56 m	6.44	21.01	10.16	5.3	Performance	.EN C	85	105
Gin Gliders	BONANZA 2	S	2018	-	22.60	12.06 m	6.44	19.38	9.76	5.2	Performance	.EN C	75	95
Gin Gliders	BONANZA 2	XL	2018	-	28.60	13.57 m	6.44	24.52	10.98	-	Performance	.EN C	105	130
Gin Gliders	BONANZA 2	XS	2018	-	20.70	11.54 m	6.44	17.75	9.34	-	Performance	.EN C	65	85
Gin Gliders	BONANZA 2	XXS	2018	-	19.40	11.18 m	6.44	16.63	9.04	-	Performance	.EN C	60	75

## GLIDERBASE

Without a doubt the nicest online database, but at the moment, lagging a bit behind with the latest news: [www.gliderbase.com](http://www.gliderbase.com)



# DISCOVER NEW PATHS

With ultra-light equipment by SKYMAN

Like the unique single skin Sir Edmund RACE,  
EN /LTF B - 1,75 kg (at size 17)



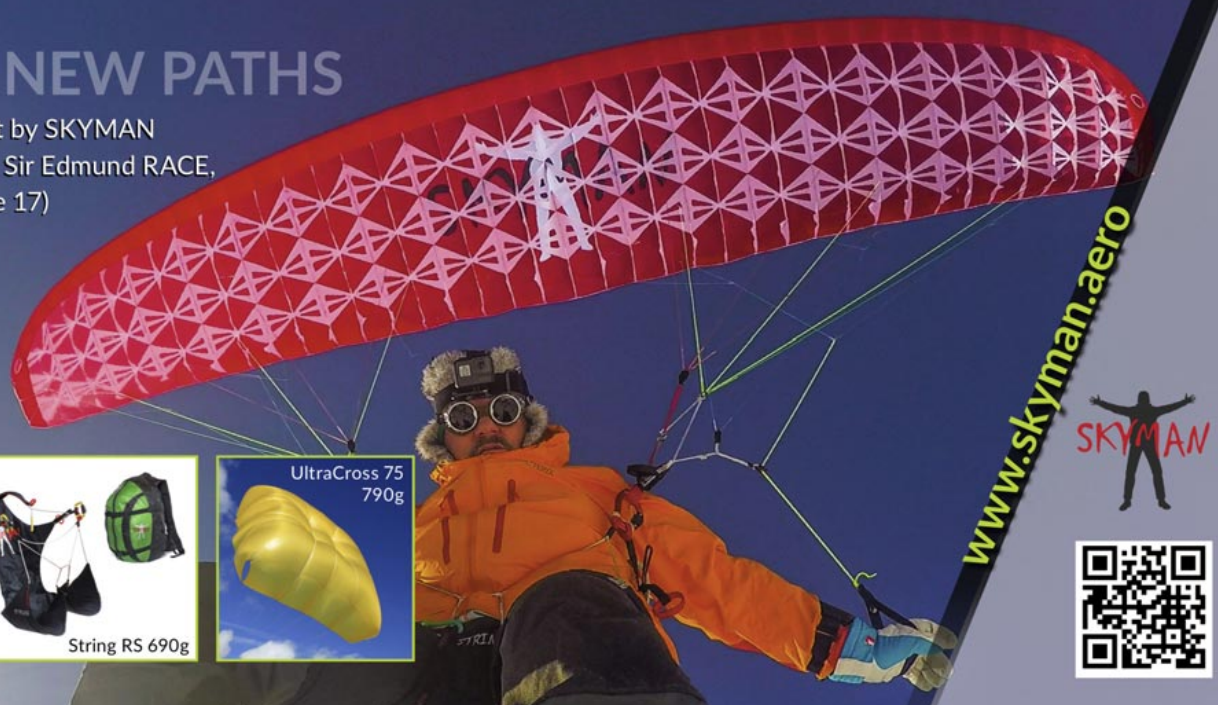
X-Alps 2,3kg



String RS 690g



UltraCross 75  
790g



## FOLDING LINES FOR EN C?

### ONGOING DISCUSSIONS

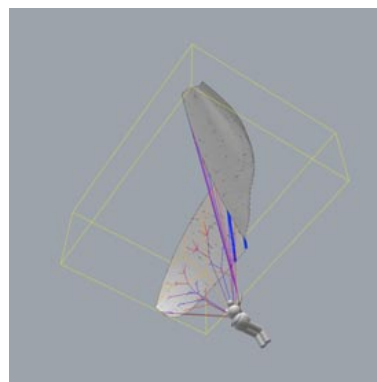
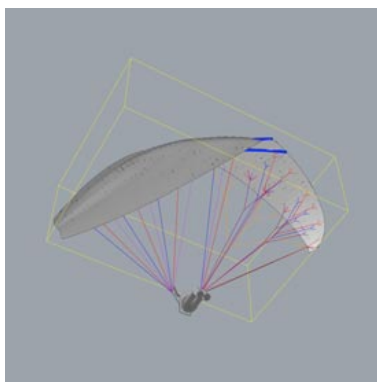
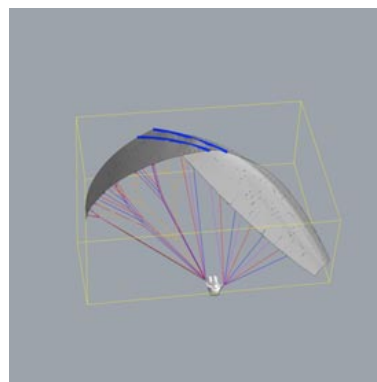
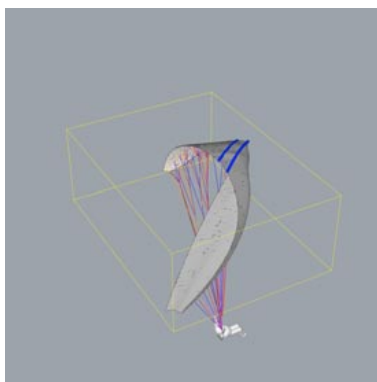
The WG6 working group for EN certification norms has examined, amongst other things, the possibility of authorising folding lines for EN C as well. At the moment, even an EN A, whose leading edge the test pilot can't collapse without folding lines, automatically becomes an EN D. From this summer onwards, an EN C certification may be possible.

Several manufacturers, such as Ozone and Niviuk, are very favourable to such a possibility. The members of the group have agreed that it isn't the manner which you provoke the collapse which matters, but the geometry of the collapse: the result, with or without folding lines, will be the same. Moreover, the geometry of the collapse being visibly difficult to judge correctly, the WG6 have also discussed the position of the GoPro which documents the tests, as well as a modification of the marks indicating the depth of the collapse. The new marks were able to be tested in flight by the test pilots present: Fred Pieri, Harry Buntz, Sebastian Mackrodt, Russel Odgen, Ferdinand Vogel, Tim Rochas, Alain Zoller, Patrick von Känel and Didier Exiga.

There will be more information after the next meeting...



The model made by Fred Pieri from Ozone lets us visualise more easily the geometry of asymmetric collapses and their aspect as a function of the perspective.







# INSPIRED BY NATURE

Ozone Paragliders supports the world's leading pilots, boldest adventurers, and you. Visit **[flyozone.com](http://flyozone.com)** to choose your adventure from our comprehensive range of wings & harnesses.

Mike Längel approaching his home for the night, deep in the Indian Himalaya  
Glider: Zeolite | Photo: Jorge Atramiz





Photo: GRUCHRI

Allegro: the first EN C by Phi...

## PHI

### RHYTHM MAINTAINED...

Phi have brought these models out even faster: after all the work done in the different 'subcategories' in EN A and EN B, there is now the first EN C which comes straight from the hands of Hannes Papesh, Mike Küng, Benni Hörburger... In keeping with Phi's musical nomenclature, it is called the Allegro. We can look forward to an EN C with all the Papesh hallmarks: compact, with a reasonable aspect ratio and accessible performance.

It's worth bearing in mind that we have rarely seen test pilot Mike Küng in a cocoon, as in the photo on the right: this acro addict normally flies standing up straight like a pole... Phi have also brought out the Fantasia, a low EN A...

Below: the Phi team at the Thermikmesse trade show on the 18th of January 2019.



Photo: GRUCHRI



Photo: Sascha Burkhardt





Photo: GRUCHRI



Photo: GRUCHRI

FANTASIA					
MANUFACTURER DATA					
MANUFACTURER: PHI					
Web : <a href="https://phi-air.com/fr/">https://phi-air.com/fr/</a>					
YEAR					
SIZE	XS	S	M	L	XL
CELLS	36	36	36	36	36
FLAT SURFACE [M <sup>2</sup> ]	21.41	23.68	26.07	28.29	30.77
FLAT WINGSPAN [M]	10.03	10.55	11.06	11.52	12.02
FLAT ASPECT RATIO	4.69	4.69	4.69	4.69	4.69
ALL UP WEIGHT [KG]	50-75	65-85	75-95	90-110	105-130
WEIGHT OF THE WING [KG]	4.2	4.5	4.75	5	5.3
CERTIFICATION	A	A	A	A	A
CERTIFICATION LABORATORY					
CERTIFICATION MOTOR					
PRICE [€]	2 790	2 790	2 790	2 790	2 790
Material: Dominico 30 D, 20D					

ALLEGRO					
MANUFACTURER DATA					
MANUFACTURER: PHI					
Web : <a href="https://phi-air.com/fr/">https://phi-air.com/fr/</a>					
YEAR					
SIZE	S	M	ML	L	XL
CELLS	72	72	72	72	72
FLAT SURFACE [M <sup>2</sup> ]	21.58	23.85	25.02	26.23	28.62
FLAT WINGSPAN [M]	11.41	12	12.29	12.58	13.14
FLAT ASPECT RATIO	6.03	6.03	6.03	6.03	6.03
ALL UP WEIGHT [KG]	65-85	75-95	83-103	90-110	105-130
WEIGHT OF THE WING [KG]	4.3	4.6	4.75	4.9	5.2
CERTIFICATION	C	C	C	C	C
CERTIFICATION LABORATORY					
CERTIFICATION MOTOR					
PRICE [€]	4 350	4 350	4 350	4 350	4 350
Material: Porcher Skytex 32					





## HEAD OVER FROM 7100M

### JUMP WITH AN EN C

On the 21st of January 2020, Mike Küng jumped from a balloon at 7,100m altitude above Achensee in Austria.

This is a world record, because other jumps of this type are normally done with a D-bag (deployment bag with the pilot already sitting under the wing whilst they go up), and not a 'head over', which leaves the wing hanging below the balloon and a jump from above.

An interesting choice of wing: the new Phi Allegro, an EN C. As gentle and all as it is, an EN C of course represents, thanks to its high aspect ratio, an extra risk for this type of exploit (cravat...).

For this reason, Mike said he considered, right up until the last minute before getting in the basket, whether he should take the Sonata, a much more compact wing...

Equally interesting, the role of the balloon pilot: he had to climb at about 0.3-0.4 m/s to keep the wing more stable, in the air-flow of the climb. This also prevented it from rotating, which would have complicated the jump.

Then, after the jump, the balloon descen-

ded with a sink rate of about -5 to -10 m/s so that it could remain at about the same level as Mike to take photos.

(See also the video on the following page). In addition, Mike decided not to take oxygen. He is apparently therefore still very

used to being at high altitudes, as with his jump from 10,100 m (D-Bag) in 2004 or his glide across the Channel on a paraglider after a jump from a helicopter (5,000m approx.)



Mike Küng, 51 years old, is used to this type of activity. He is now part of the Phi team. See also our [previous portfolio](#) about him.







The Allegro played its part perfectly, accompanying Mike Küng in his celestial dance, as you can see in this video:


[https://youtu.be/rj9UuTiez\\_g](https://youtu.be/rj9UuTiez_g)







The Cure 2 was certified in December 2019.



The Cure 2 has a slightly reduced aspect ratio of 6.4, instead of 6.8 for the Cure 1.

## NEWS BGD

In December 2019, the first sizes of the Cure 2 were certified. This new version of the EN C by BGD has undergone several medium sized changes: the number of cells has moved to 74, the projected aspect ratio of the Cure 1 has been maintained, but thanks to a flatter arc, the flat aspect ratio has been reduced to 6.4. The Cure 2's maximum speed is around 60 km/h. The fabrics used are Skytex 27 g/m<sup>2</sup>, 32 g/m<sup>2</sup> and 38 g/m<sup>2</sup>.

The Dual tandem is now available in three different sizes: 37.8, 39.8 and 41.8, covering more comprehensively the different needs of tandem pilots depending on the site they normally use and the conditions; the all up weight of the three sizes are 100-200 kg, 110-210 kg and 120-220 kg.

[www.flybgd.com](http://www.flybgd.com)



The Dual 2, a tandem in three sizes.



# GIN LIGHT FOR XC

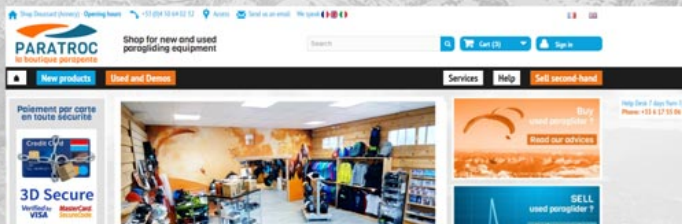
## CAMINO AND GENIE LITE

An example of two trends in one photo: the Camino and the Genie Lite version 3, presented at the Coupe Icare and which were launched at the beginning of January 2020. The EN C Camino is supposed to bring together the easy handling of the EN B Explorer with the great potential for performance from the EN D Leopard in a lightweight machine derived from the Bonanza 2. In size M, it weighs only 4.15 kg: we've known for a while that this relatively light weight typically leads to a quicker and easier launch with, nonetheless, less tendency to overfly due to having less inertia. When flying, the lighter wings are typically more damped in large magnitude pitch, principally thanks to having less inertia too. This allows wings to be made which are roll manoeuvrable and remain, nonetheless, pitch stable. They are, as a general rule, also gentler through the controls.

In addition, you can do hike&fly with it, therefore it's beneficial all round...







CAMINO					
MANUFACTURER DATA					
MANUFACTURER:GIN					
Web: <a href="https://www.gingliders.com/en/paragliders/camino/">https://www.gingliders.com/en/paragliders/camino/</a>					
YEAR					
SIZE	XXS	XS	S	M	L
CELLS	71	71	71	71	71
FLAT SURFACE [M <sup>2</sup> ]	19.4	20.7	22.6	24.5	26.5
FLAT WINGSPAN [M]	11.18	11.54	12.06	12.56	13.06
FLAT ASPECT RATIO	6.44	6.44	6.44	6.44	6.44
ALL UP WEIGHT [KG]	55-75	65-85	75-95	85-105	95-120
WEIGHT OF THE WING [KG]	3.55*	3.70*	3.90*	4.15*	4.45*
CERTIFICATION	EN C	EN C	EN C	EN C	EN C

\*Weight shown with lightweight Dyneema risers as an option.

**Material:**

Leading edge, upper surface: Porcher Skytex, 34 g/m<sup>2</sup>

Principal upper surface: Porcher Skytex, 27 g/m<sup>2</sup>

Principal lower surface: Porcher Skytex, 27 g/m<sup>2</sup>






### GIN GENIE LITE 3

In trends in harnesses, which we'll talk more about in the next issue, it is worth noting that more and more intermediate pilots, not necessarily those who clock up the kilometres, are flying in cocoon harnesses.

In cocoons, the semi lightweight ones, which are very comfortable, are gaining ground, such as this Gin Genie lite 3, which Gin launched at the Coupe Icare and is now available.

According to the first concrete information we have received, the feeling in flight is already very close to the competition harness, the Genie Race 4. And this whilst weighing only 4.4 kg, 4.8 kg and 5.0 kg (S/M/L)

The back protection is the Koroyd by Eric Roussel/Neo. 

For more information:  
[www.gingliders.com](http://www.gingliders.com)







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As a light and compact Performance-Intermediate from 3.4 kg the XI satisfies the most diverse pilots' needs; and does it in style. Whether near or far, difficult flying or exciting adventure. The light high-end B goes with you for bivouac flying, Hike & XC-fly tours, traveling or discovering new routes in remote regions. What will be your XI story?

[www.advance.ch/xi](http://www.advance.ch/xi)

ADVANCE XI



Picture: Adi Geisegger

## XC TRACER MAXX WITH SCREEN

### VERSION WITH SCREEN

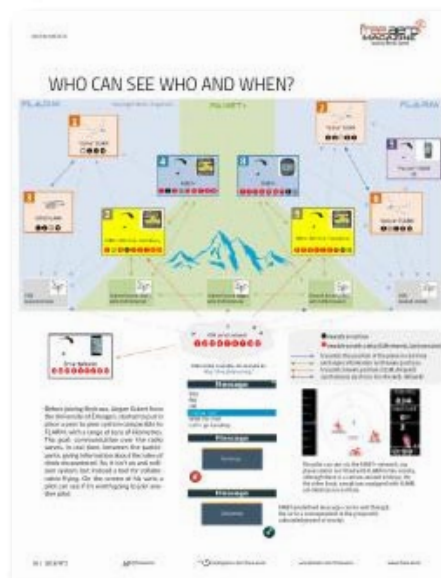
The XC-Tracer vario, known for its reactivity boosted by the integration of an AHRM system, which, amongst other things, takes into account the values of a gyrometer and an accelerometer, will be available at the end of February in a version with a screen...

In addition, the XC Tracer Maxx doesn't just send FLARM warnings to other aircraft, it also receives them, contrary to other FLARM free flying instruments. On the screen, you can even display other FLARM 'buddies'.

The instrument is made in Switzerland, weighs 120 g and measures 92 x 68 x 18 mm. It records flights in valid IGC and KML format and it has 60 hours battery life. It can be connected to a tablet via Bluetooth LE.

Price: 625 €

<https://www.xctracer.com/en/76/?oid=1905&lang=en>



Our dossier explaining the FLARM system:  
<http://www.free.aero/contents/EN/instruments2018/index.html#issue/36>





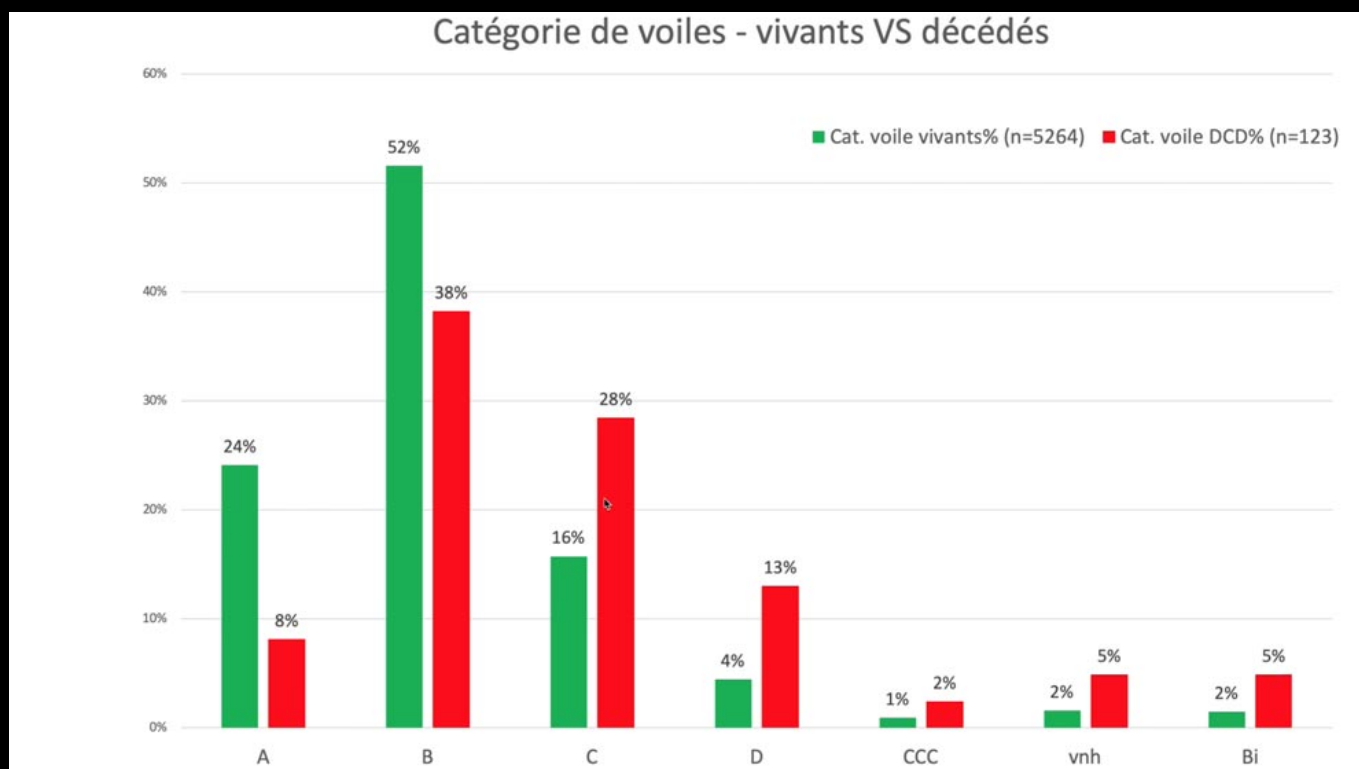
LEAF2  
EN-B



evo  
lite

PROGRESSION HARNESS





## NEWS

# FATAL ACCIDENTS OF FRENCH LICENCE-HOLDERS: SURPRISES, STATISTICS...

**J**ean Marc Galan, the FFVL's Mr Safety, presented to the FFVL the first in depth study covering twelve years of fatal paragliding accidents. This was a joint study by the FFVL, SecuParapente and the free flight physiology project. This first video covers the profile of pilots who have accidents.

This study contradicts preconceived ideas: the majority of those who die are not young, but instead experienced pilots, with the average age being 52 years old, flying EN C wings.

	pilotes vivants (n moyen = 19855/an)	pilotes décédés (n=133)
Age moyen (années)	41,1 ans	51,7 ans
% d'hommes	86%	95%
Nb moyen de licence	4,7 années	8,3 années
Volume de pratique annuel moyen (heures)	57,9 h	88,2 h
% de qualification >= BPC	28,1%	38,4%
% de voile >= EN-C	25%	53%

<https://vimeo.com/382900263>







Photo: Neo

Neo have moved to bigger premises, but are still in France, of course. Several TV channels have carried reports on this thoroughly modern company: BFM Business and 8 Mont-blanc. <https://www.facebook.com/tv8infos/videos/2460816070678210?sfns=mo>

## NEO

Neo continue their expansion, which from now on will take place in their new premises, still in France. The main focus of their products is still lightweight flying and speedriding.

The new Shorty harness integrates a non-reversible carrying bag. The harness part cleverly disappears into a pocket when it is being carried. This harness can, as an additional option, take an airbag, which is added to the integrated back protection, in Koroyd 13 mm.

Weight of the M harness: 1.55 kg, including the Koroyd protection. Optional airbag protection: 310 g

For more information:

<http://www.flyneo.com/>



Video: bag/harness Neo Shorty



Koroyd protection



Optional airbag protection



# ARRIBA

lightweight intermediate

LTF09: B | EN: B



Pure enjoyment! -  
Light in the rucksack,  
Stress-free in the air.  
Perfect for my first XC flights.

Elise Deutschmann,  
Hike&Fly Addict, sports fan



Photo: Tristan Shiu

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www.skywalk.info

SKYWALK

On display at St Hilaire: Neo paraglider carrying bags, in different styles for boys and girls. Is stereotypical colour and fashion unnecessary? No. Specific adaptation in the cut and the materials suits different morphologies.





# FLYING WITH SKIS

*Taking off on skis, not just for speedriding! But that changes the game, especially taking off...*

**D**uring the winter holidays, numerous pilots are tempted to take off with skis on their feet. For numerous sites, this is the only possibility because you have to take a ski tow to get to take-off.

## SURPRISING OBSERVATIONS

However, those who try it for the first time are often surprised by the difference between a foot and a ski launch.

There are several reasons for this. On one hand, taking off on skis, the katabatic wind blows downhill over slopes covered in snow, therefore giving a back wind.

Exhilarating both on a paraglider and speedriding: following the curves of the mountain doing 'touch and go.'







new! even lighter!  
**Wani light, 2.6 kg (L)**  
[www.woodyvalley.eu](http://www.woodyvalley.eu)



Photo: Jerome Maupoint

Neo have developed along with their partner ARVA, who are well known in the skiing world, a bag specifically designed for speedriding. It has a capacity of 32 l, allowing space to fit in a speed riding wing. This Reactor 32 bag, which integrates an airbag system, allows you to float above the snow in an avalanche. There is also a pocket for a shovel and a probe. <http://www.flyneo.com>.



This video shows how an airbag works.



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[NEW instagram.com/free.aero](https://www.instagram.com/free.aero)

[facebook.com/freeaero](https://facebook.com/freeaero)

[www.free.aero](http://www.free.aero)





Photo: Jerome Maupoint

When speedriding, as with paragliding with skis, the pistes remain taboo. More and more communes are forbidding flying with skis as a result of pilots landing on the green runs at the bottom of stations amongst the kids.

This isn't a problem in itself, because on skis, you can, with very little effort, gather speed and keep it for a long time. But you have to be ready for how different this feels: on skis, you have very little feeling of the wing, and it often takes time to bring it up. On the other hand, with the wind in your face, it is even worse: you are pushed backwards as it is very difficult to resist the wind by pushing forwards.

Surprisingly enough, despite the totally different character of the wings twenty five years ago, the behaviour and possible bugs have hardly changed today. Shown below, a wing hesitating to come up straight: the lack of force when taking off still remains a problem.



Photo: Sascha Burkhardt





NIVIUK.COM > PROGRESSION

EN/LTF B


# HOOK 5


## Progress in every level

The classic Niviuk's Hook is reinvented in a fifth version, offering maximum accessibility and safety along with the highest performance in its category. A glider designed to leave your usual flight routine and accompany you on new routes.

*Also available in its light version HOOK 5 P (EN/LTF A+)*

Discover the most Amazing Adventures on our Facebook and Instagram:

 [facebook.com/Niviuk](https://facebook.com/Niviuk)

 [instagram.com/Niviukparagliders](https://instagram.com/Niviukparagliders)



### THE IDEAL PLATFORM

Often, the katabatic wind (1) on the snow makes the wing slide during, or just after preparation, pushing it into the pilot's skis. For that reason alone, it can be useful to have a platform the size of your wing, dug (2) in the snow (often by the station's piste-bashers who look after their tandem pilots). It is therefore easy to spread the wing out, sheltered from the breeze blowing down the hill.

Then, just below, there is a little platform which lets you place your skis, with the tips often extending over the edge, in the direction you will be taking off. It is often partially dug in the snow (3), with a little extra space below, to help you push off (4), which lets you gather speed before the lines take up the tension. The 'runway' (5) must be chosen in such a way that it doesn't cross the pistes, even far away because, depending on the wind, the distance you cover before taking off, can be quite substantial.

The ideal situation, whether the wind is behind you or in your face, is to have a little 'ramp', a slope which is a little bit steeper, just below the take off platform, so that you can build up a bit of speed before the lines become taut.

This ideal launch site also lets you take off with your skis already in the direction of take-off. Of course, it is possible to get ready with your skis parallel to the slope, then to inflate your wing turning your skis downhill, but the risk of the wing coming up asymmetrically is greater, and of the force as you take off being insufficient.

The drawing above is a sketch of an optimal take off platform like those professional tandem pilots in a station prepare so that they can rotate continuously throughout the day without a hitch.

If you find this type of launch for your take offs on a solo wing, you'll quickly learn the technique.



Graphisme: Meica



Photo: Jerome Maupoint





MAESTRO

High B  
the comeback

PHI-AIR.COM



Photo: Jérôme Maupoint

At take-off, especially during preparation and if you mess it up, as well as when landing, or after landing on a slope, skis are horrendous for cutting lines: you have to stop cleanly before the wing falls backwards or onto the pilot, especially since the katabatic wind will rapidly blow it into the pilot's legs. Photos: Jérôme Maupoint for GIN and for Néo



Photo: Jérôme Maupoint



# STOCK CLEARANCE COUPE ICARE RECORD GLIDER EN B



LTF/EN B

The **NEW** Benchmark  
of its category!

Independent Blogger Ziad Bassil tested the U-Cruise:

"... In Alpine conditions I can imagine many pilots on the U-Cruise getting some serious XC distances with the extra comfort this glider delivers. The overall usability and especially the top speed are really good for the B category."

[www.aircross.eu](http://www.aircross.eu)



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OVER HELMET



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VERSION

XC\*SLIP  
DORNHÖSCHEN  
EASY FOR URINAL CONDOMS



Photo: Sascha Burkhardt

Make sure that your bindings are securely fastened before taking off and that they fit properly. A ski which comes off in the air can be very dangerous for the skiers below you. Ideal: A ski binding with a leash.



Photo: Stefcande.com/Red Bull Content Pool





Photo: Jerome Maupoint

At Neo the X-Ride 2.0 is the expert wing, it comes in sizes: 8-9-10. Weight: 1.8 to 2.3 kg. Note that it also comes in a lightweight version, between 1.35 and 1.65 kg depending on the size.<http://www.flyneo.com/en/>



Photo: Jerome Maupoint



## LEVEL WINGS

Neo, Swing, ITV, Gin and Ozone are amongst the manufacturers of speed riding wings. There is also the company Levelwings, founded by one of the pioneers of the sport, François Bon.

The Fury in the photos is the range's 'expert' wing. It comes in 8, 9 and 10 m<sup>2</sup>.

The company also offer a beginner to intermediate wing, the Fizz.

For more information:

[www.levelwings.com](http://www.levelwings.com)



Photo: Levelwings





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## ON A PARAMOTOR

Taking off with skis on your feet is fairly easy on a paramotor. All you have to do is step backwards a bit towards the trailing edge, so that you can gain a bit of speed before the lines become tensioned. Then it is a lot easier than on grass: throttle, and wait patiently for the load take up... Then it feels like taking off on a buggy...

Skis under a Kangook buggy: taking off is easy. For a pilot relatively used to a buggy, there are no surprises.



Photo:

When taking off with skis on your feet, on the other hand, the extra inertia in the turns can be a surprise.



Photo: V. Burkhardt





## SNOWFEET: TO TAKE-OFF WITH SKI FEET

### MINIMALIST BIGFOOT

We all know Bigfoot mini-skis, which allow you to take the tow and ski a few pistes to get to take off and then be put in a normal backpack. Disadvantage: you have to have ski boots to fix them onto your feet.

However, recently, a Czech invention has invaded the pistes: 'Snowfeet' are mini-skis adaptable to any shoe (preferably suitable for mountain use), thanks to buckles similar to those on snow boards.

With these, you can therefore take any uplift and ski on more or less groomed pistes. During our tests, we found they also coped with off piste snow, as long as they were worn correctly.

These Snowfoot skis come with real metal edges, allowing them to dig into turns and

stop well. After we tried them, we noted: As they are even shorter than 'Bigfoots', they 'swim' a bit more when going in a straight line. It is important to take the time to practice a bit with them. Once you get used to them, you will start to enjoy doing some really nice turns.

To stop, you can try snow ploughing or push on the edges with your legs parallel, but the manoeuvres are obviously a lot less effective than with longer skis.

On steeper slopes, being less stable is a bit disconcerting and requires even more training. Taking the ski tow is relatively easy, because it pulls you upwards.

What is particularly noticeable, is the great slide on these mini-skis, and they quickly gather speed. It's disconcerting, but also pleasant once you dare to let yourself go a bit. In summary, for taking the uplifts and skiing on blue pistes, it's very practical and you will quickly find your feet.

When flying, the pair disappear very easily into your backpack and weigh less than 1.4 kg.

Bearing in mind how solid the plastic and the bindings are (on which significant pressure is put), as well as having real edges which you can sharpen, the price of 139 € doesn't seem excessive.

One size, adaptable to shoes of 37-47.

For more information:

<https://snowfeetstore.com/>







Photo: Snowfeet

A solid system for the bindings, real metal edges which can be sharpened... essential for using the pistes.



Photo: Sascha Burkhardt



Photo: Sascha Burkhardt



# OZONE MOJO 6

Photo: Ozone





Photo: Ozone

### IMPRESSIVE GAIN IN GLIDE RATIO

With the new version 6 of the Mojo, the team at Ozone tell us they have gained more than one point in glide angle. This is massive, when you consider that with the performance of current wings, each point of glide angle is more and more difficult to gain. Normally we talk about improvements of a maximum of several tenths of a point of glide angle... A big part of the gain is due to reducing the line drag. We are waiting to test one...

An interesting point: the return, with greater visibility, of the FFVL laboratory, Aéro-test, which will be taking care of the certification.

<b>MOJO 6</b> MANUFACTURER DATA					
<b>MANUFACTURER: OZONE</b> Web: <a href="https://www.flyozone.com/paragliders/fr/">https://www.flyozone.com/paragliders/fr/</a>					
YEAR	2020	2020	2020	2020	2020
SIZE	XS	S	M	L	XL
CELLS	40	40	40	40	40
FLAT SURFACE [M <sup>2</sup> ]	22.4	24.3	26.4	28.7	31.2
FLAT WINGSPAN [M]	10.48	10.92	11.39	11.88	12.48
FLAT ASPECT RATIO	4.91	4.91	4.91	4.91	4.91
ALL UP WEIGHT [KG]	55-70	65-85	80-100	95-115	110-130
WEIGHT OF THE WING [KG]	4.29	4.66	4.9	5.32	5.75
CERTIFICATION	Ongoing	A	A	A	Ongoing

#### Material

Fabric for the upper and lower surfaces and cell walls:  
 Dominico 30D, N20D, Porcher 9017 E29 hard  
 Lines: Edelrid 8000U, Liros PPSL serie





# Paragliding Map

Paragliding sites mashed up with live weather & forecasts.

See where it's flyable right now. Worldwide!



## OZONE ZEOLITE/ZEOLITE GT

### FOR 700G EXTRA...

Ozone's X-Alps wing, the Zeolite, which came out in 2019, will soon be available in a 'Grand Touring' version, less radical as far as the choice of the fabric is concerned, and not much heavier, 700g...

ZEOLITE/ZEOLITE GT MANUFACTURER DATA			
MANUFACTURER:OZONE			
Web:flyozone.com/paragliders/fr/products/gliders/zeolite			
YEAR	2019/2020	2019/2020	2019/2020
SIZE	S	MS	L
CELLS	64	64	64
FLAT SURFACE [M²]	20.7	22.1	23.6
FLAT WINGSPAN [M]	11.8	12.2	12.6
FLAT ASPECT RATIO	6.7	6.7	6.7
ALL UP WEIGHT [KG]	65-85	80-95	90-105
WEIGHT OF THE WING [KG]	2.85/3.54	2.99/3.72	3.17/3.93
CERTIFICATION	D	D	D

#### Material

Fabric on the upper and lower surfaces:

Skytex 27 Classic/Dominico 30D & Skytex 27 Classic

Lines: Edelrid 8000U



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# SWING HELIOS RS

## RS EVERYWHERE

Now the Swing RAST system is also integrated in another EN C wing, the Helios. The Helios is a lighter and easier to handle version of the Agera RS, which was the first EN C to be made with this reassuring damping system.

We will publish the test of the Swing Helios RS in the next edition.



The owner of Swing, Günter Wörl, with an illustration explaining RAST in a Swing Helios RS.

In the meantime, you can read all the explanations about the RAST system which, in our eyes, represents both cutting-edge and high-performance technology, as well as our test of the Agera RS, here:

<http://www.free.aero/contents/EN/autumn2019/index.html#issue/28>



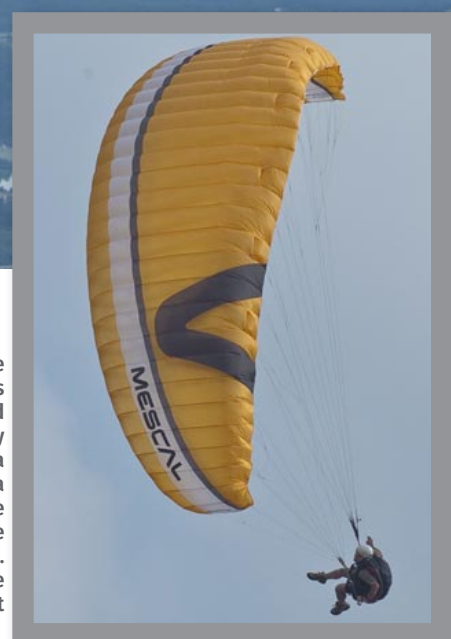
Max Poehlmann from Swing shows the part of the wing which fills and empties, with well calculated inertia, thanks to the effect of the RAST valve (in red)







Skywalk Arriba 4: Jetflaps (the six slits in the trailing edge) and mini ribs with internal stitching (here in the form of a 'J') Photo: Skywalk



Our first test of the Mescal in 2003: Jet Flaps clearly present and efficient (very healthy low speed, reduced by a few km/h), but what a difference in the shape of the trailing edge compared with today...

Photo: Véronique Burkhardt

## SKYWALK ARRIBA 4

### MIX TECHNOLOGY

The Arriba 4 is the lightweight version of the EN B Tequila 5. It saves 1.2 kg in size M compared to the heavier version; it is therefore absolutely in keeping with the current trends.

It integrates tried and tested techniques, such as the Jet-Flaps, the advantages of which were obvious back in 2003 on the first Mescal. At the same time, it also integrates mini-ribs with internal stitching, which is very recent technology. On the photo above, you can see these reinforcements in the form of a 'J'. They could also be manufactured in a 'T', but that would require extra sewing and fabric. With a 'J', you are linked to at least one cell wall, whilst remaining light.



ARRIBA 4					
MANUFACTURER DATA					
MANUFACTURER: SKYWALK					
Web: <a href="https://skywalk.info/project/arriba4/">https://skywalk.info/project/arriba4/</a>					
YEAR	2019	2019	2019	2019	2019
SIZE	XXS	XS	S	M	L
CELLS	-				
FLAT SURFACE [M²]	20.50	22.90	25.20	27.10	29
FLAT WINGSPAN [M]					
FLAT ASPECT RATIO	5.29	5.29	5.29	5.29	5.29
ALL UP WEIGHT [KG]	50-75	55-82	70-95	85-105	95-115
WEIGHT OF THE WING [KG]	3.3	3.6	3.9	4.1	4.4
CERTIFICATION	EN A	EN A	EN A	EN A	EN A
CERTIFICATION LAB					
PRICE [€]	3 900	3 900	3 900	3 900	3 900



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## SKYWALK CAYENNE 6

### THE EN C FOR FLYING CROSS COUNTRY

The Cayenne 6 is due out soon: the 'sport' wing for XC obviously keeps its Jetflaps, even in its sixth version, because they allow an increase in the speed range at the lower end, almost without penalising the maximum speed which, obviously, you don't want to see reduced on a wing designed for flying distance.

### MESCAL 6, TONIC

Other new wings will be out soon too: the Mescal 6 as well as the Tonic 2. We'll talk about them in a later edition...

<https://skywalk.info/products/>





A Skin 3 taking off. The leading edge sports a real sausage supported by strong Nitinol rods.



# NIVIUK SKIN 3 AND SKIN 3 P

*The Niviuk Skin was, in its first version, a single skin and at the same time, almost a real little paraglider. Now, it is available in its third version. First quick tests...*



**1**, 2, 3: Niviuk are on their third version of the Skin. The Catalan manufacturer is one of the pioneers of this type of wing, the 1 really impressed us by its behaviour which was much more like a 'real paraglider' than the competition at the time.

The successive modifications are especially noticeable on the leading edge, including on the three, by the total absence of central cells, which were still visible during our tests of the 2015 and 2017 below.

SKIN 3

SKIN 1

Photo: Véronique Burkhardt

SKIN 2 P

Photo: Sascha Burkhardt

Photo: Luch Hentsch





The Skin 3 is, just like the previous models, available in a very lightweight Skin 3P version and a classic Skin 3 version. The little symbols in the form of a coma, symbolising feathers, allows you to differentiate from afar the P from the classic. In the next edition, we'll do a close-up comparison of the two versions.

The leading edge has been progressively closed to end up with a relatively voluminous sausage. The central cells have disappeared, leaving only the little cells in the stabilos, as we have already seen on other wings, such as the Sir Edmund, for example. The stabilos help to further rigidify the wing across the wingspan, thus giving increased stability. The more voluminous leading edge stabilises the micromovements which are typical of a single skin: the 3 is therefore even more homogenous. However, the first versions were already exemplary, as far as this was concerned...

This rigidification lets it penetrate better in thermals as well, with its behaviour becoming even closer to that of a classic double surface wing. Surprising: despite the bulkier leading edge, appearing more complex including Nitinol rods, the weight has been slightly reduced: the 18 weighs less than 2.4 kg, instead of 2.5 in the classic version, and 1.8 kg, instead of 2.1, in the Plume version.

In addition, the net reduction in the lines has visibly improved the glide: in the next edition, we will give you the measurements and go into more depth about our impressions which show a clear improvement, much greater between the 2 and the 3 compared to the progress made between the 1 and the 2.

Obviously the Skin 3 is back to being an EN B. This opens it up to a larger audience, who will benefit from its ease, its light weight, it's perfect take off (the inflation is slightly damped compared to the version 2) and its flexibility which has been further increased. Its performance takes it up to the same level as the double surface mountain wings, except in acceleration, where it loses a little bit more: read Philippe Lami's observations over the following pages:







## PHILIPPE LAMI ON THE NIVIUK SKIN 3P

A few flights in Corsica on the all new Niviuk Skin 3P, ultralight version (1.8 kg for 18 m<sup>2</sup>, EN B) of the latest generation of the Spanish single skin. The R&D team have worked really hard and the wing, with an aspect ratio of 5.5, appears to have been smoothed by an amazing lace pyramid, with a thick sausage style leading edge, held in shape by nitinol rods along the whole wingspan. The inflated cells along the chord are no more. Just two stabilo cells complete the leading edge. The line drag has been reduced by more than 45%! Take off is purely and simply child's play, without taking the risers, at any point, on impulse. Amazing! Be careful when adjusting the trimmers: it is recommended that when taking off and in flight, the wing should be fully trimmed to take advantage of the better glide. The trimmers off gives a speed advantage of some 6km/h, but significantly degrades the glide! In the air, the feeling is clearly now 'classic,' gentler and more filtered, compared to the previous versions. In thermals, the Skin 3 excels, with a precise turn, great handling and, above all, a slow low speed, which is very easy to use. Lastly, the landing doesn't require any mental input, but if you prefer a good flare, detrim before landing. I concluded after several nice flights and demanding take-offs: the Skin 3 is, in my eyes, the best single skin of its generation, erasing the faults of the previous versions. It is compact in the bag. It has an extraordinary capacity to inflate, even with a back wind. It feels normal and has good performance when trimmed to maximum. It's simple: I want one for all my mountain flying and I'd store it in a little drawer.



### OUR TEST PILOT: PHILIPPE LAMI

Philippe has been a partner for more than 30 years in the [French paragliding school Aérogliss](#). He is also one of the most experienced test pilots and journalists specialising in paragliding. Another string to his bow is his company, [Windsriders](#), which produces down jackets optimised for our sport.





The inflation is child's play and the very good load take up is a valuable bonus on any type of take-off.

<b>SKIN 3/SKIN 3P</b> TECHNICAL DATA				
MANUFACTURER <b>NIVIUK</b> Web : <a href="http://niviuk.com/en/hikefly/skin3">http://niviuk.com/en/hikefly/skin3</a>				
DATE	2019	2019	2019	
SIZE	16	18	20	
CELLS	45	45	45	
FLAT SURFACE AREA [m²]	16	18	20	
FLAT WINGSPAN [m]	9,38	9,95	10,49	
FLAT ASPECT RATIO	5,5	5,5	5,5	
ALL UP WEIGHT [kg]	60-85	70-90	85-110	
WEIGHT OF THE WING [kg]	2,2/ <b>1,6</b>	2,4/ <b>1,8</b>	2,6/ <b>2</b>	
FREE FLIGHT CERTIFICATION	926-1	B	B	
PRICE [€]	2700	2700	2700	



When taking off in winter with the single skin, Skin 3 P 18, the enormous advantage of being a mountain wing plays a part.

It isn't even necessary to take the As in your hands.

On the other hand, if you pointlessly insist on using the As, this can pull in big ears like any other single skin.

You have to just simply let go, it climbs all on its own, in any situation!



Photo: Sascha Burkhardt





Made in Chartreuse  
with

TOP SECRET





There will be more information on the other new items from Niviuk, such as the Peak 5 (above) and the Kougar 3 (right), in our next edition...







## KORTEL KONNECT T-BONE-LINK

### THE FAST SOFTLINK

It has been a while since KorteL started advertising them, and now they are finally available: a softlink which closes and opens almost as quickly as a carabiner. It weighs barely 10g, with a breaking strain of more than 2400 daN, so you can use it on a tandem as well.

Price: 45 € the pair.

Remember that the advantage of softlinks isn't just their weight. They are also better adapted to harnesses and lightweight risers, because there is no risk of them twisting round as in the photo on the right. When using Dyneema straps, it's better to use softlinks or appropriate maillons rather than carabiners.

<https://www.korteldesign.com/en/produits/connecteurs/>



Reread: our 2017 article on carabiners



Photo: Sascha Burkhardt





# HELIOS RS

... THE SPIRIT OF CROSS COUNTRY !

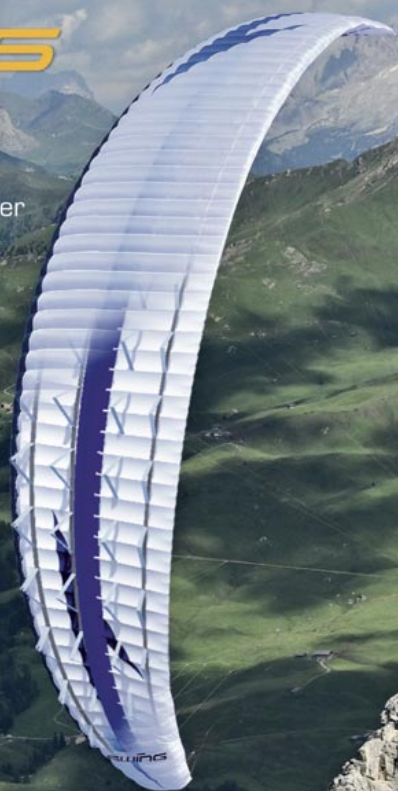
The lightweight design and low pack size of our new XC all-rounder will encourage you to experiment with alternative launch sites and new routes away from the beaten track.

And should conditions ever become more demanding, the HELIOS RS is very easy to control for a glider in the C-class, thanks to the RAST system.

ROCK SOLID **RAST**  
FLIGHT WITH **+6**

- +1 STRESS-FREE LAUNCH
- +2 UNIQUE HANDLING
- +3 COMPLETE CONTROL
- +4 TAMED COLLAPSES
- +5 FULLY REALISED PERFORMANCE
- +6 UNPARALLELED STABILITY

READY TO TRY IT?



SWING

SWING HELIOS RS | LIGHT PERFORMANCE LTF/EN-C | [www.swing.de/helios-rs.html](http://www.swing.de/helios-rs.html)

## ICARO GRAVIS 2 - THE NEW "GENERATION"

**T**he new EN-B paraglider GRAVIS2 is a symbiosis between safety, performance and dynamics, making it ideal for stress-free flying.

A slightly higher number of cells than the "original" Gravis, Shark Nose, a new profile, a changed cell structure and sail tension ensure a constant internal pressure over the entire angle range. As a result, the GRAVIS2 is even more stable in the air than its predecessor, even in turbulent conditions. Brake line inputs are implemented directly and precisely, making it easier to center the glider in thermals. The built-in material and the optimized interior structure reduce the weight and dimensions for "walk and fly". The new GRAVIS2 is therefore designed for a wide group of pilots who want to have the combination of performance and safety. Further information:

<https://icaro-paragliders.com/en>







Markus Gründhammer from Skyman, one of the pioneers of single surfaces, on a special version of the Sir Edmund Race 6.01.

## SINGLE OR DOUBLE SKIN?

### A DIFFICULT CHOICE?

One trend which remains clear is the increase in single surfaces. Several manufacturers such as Skyman, Independence and Dudek even give a choice of several different models in their catalogues.

The advantages aren't necessarily just about weight: certain classic wings like the Ozone UL 4, with its weight of 2 to 2.5 kg, often do just as well as the single surfaces which are becoming more complex so that they can penetrate the wind better, amongst other things...


The advantages of the single skins remains their reduced volume, take off and ultra-easy folding, an inflation which is even simpler than the best double skin mountain wings (even if the difference is decreasing, because the double skins are becoming easier to inflate too).

In the air, in general, the single surfaces (but not all) have even greater passive safety, and the rare collapses reopen fully and immediately, including the very low amplitude 'shoot' movements in pitch in the normal sizes.

On the other hand, their into-wind penetration, which isn't as good, perhaps reduces their passive safety.

The landings are certainly often a little bit more technical due to poorer flare. However, with good timing, they can pretty much land on eggshells as well. On the other hand, the recent single skin models are improving at this level too.

On the other hand, you need to change your take off technique: some pilots, including the pros, judge that a wing like the Dudek Run&Fly is difficult to take off because the leading edge remains closed at take-off. But this is because, out of habit, they use the front risers. However, on certain single skins, such as the Grasshopper, you should hardly use the As to inflate, indeed not at all, as on the Dudek Run&Fly...

In this edition, we will publish the first test of the Niviuk Skin 3. In the next edition, you will find, amongst other things, the Dudek Run&Fly compared to the Dudek Viking... 



Reminder, all one [history of the first single skins](#) in our *Light* edition in 2015





We'll show the difference between the Dudek Run&Fly (right), a minimalist 1 kg single skin, and the Dudek Viking which is more of a 'real' paraglider (above), in the next edition. Neither wing requires use of the front risers. On the Run&Fly, using the As as you take off is strongly discouraged, it inflates just by using the brakes or with nothing at all in your hands.

All the last generation single surfaces have a 'sausage' at the leading edge which is more or less closed.



Photos: Valentin Burkhardt





Markus Gründhammer on the latest prototype of the Hyper 7.01: 7.01 aspect ratio, 41 km/h hands up and about 53 km/h accelerated. Even at maximum speed, the wing behaves like a paraglider with normal performance, without any parasitic movement, according to Markus.



Photos: Markus Gründhammer





Even Skyman nonetheless make double surface mountain wings such as this Blizzard, 16 m², all up weight 60-90 kg, EN/LTF C...

Three years after its launch, Independence's EN A Grasshopper is being used more and more in schools, particularly in Germany. In the next edition, we will explain why, after having interviewed the instructors and thoroughly tested the wing.



Photo: Sascha Burkhardt





## NOVA DOUBLESKIN

Nova are part of the group of manufacturers who started to work on single skins, and finally ended up making a classic mountain wing, with a lot of the advantages of a single skin.

It's an EN A available in 17/20/23 and only weighs 2.1/2.6/2.8 kg, almost as light as some of the single skins. We are currently doing a detailed test of it and can give you our initial impression:

In fact, setting up is very easy, if you have properly untangled the lines after the previous flight, otherwise there can be little knots. Taking off is close to that of a single skin: obviously a double surface takes a bit longer to inflate, but here you will find what makes this type of classic wing better. Moreover, it's comparable with a single skin, you mustn't force the As or you will end up with the ears closed.





In the air, even the 20 is pleasantly dynamic - it's nice to be able to do a wing-over with a wing which is, nonetheless, certified A, and therefore, in principal, also aimed at beginners. But Nova have clearly said that it isn't designed to be a school wing. It's true that its dynamic nature could take a student by surprise.

As far as performance is concerned, it is very surprising how it lets you hook into even weak thermals: here its behaviour is very reminiscent of a good single skin. Remember that these wings often have a clear advantage in weak conditions. Another parallel with the single skins: from time to time, the Doubleskin transmits micro movements to the pilot, but it is absolutely nothing to worry about. On the contrary, the feeling you get in the air is very reassuring and comfortable.

We'll have more information about this lovely universal wing which folds down into a very reduced volume in the next edition.

The Double Skin comes with both classic and Dyneema risers. The later aren't appreciated by all pilots, because they require more attention whilst setting up.







## NOVA BANTAM

Some question whether the mini-wings still have a place in the market. The mountain wings are almost as light and have very reduced volume, but contrary to the mini-wings, you can thermal with them.

But Nova's first mini-wing shows that yes, they have a different use.

The Bantam, certified EN D in sizes 12 and 14, only weighs 1.65 kg in size 12. It is, above all, the length of the line cone which makes the difference: only 3.95 m, which was possible, thanks to a different distribution of tension in the wing.

According to the designer Philipp Medicus, who uses it very often in the mountains, this lets you use complicated take offs, which would be impossible on a normal wing. And of course, during the descent, it's a bit more exhilarating...





## NOVA AONIC FIRST QUICK TEST



### THE EDITOR'S OPINION

The Nova Aonic is in a complementary position, with higher performance and, above all, it's more fun than the Prion, both are situated in category A: an interesting trend. It looks nice, in three colours, with an aspect ratio of 5.17 for a very arched wing, and above all, it has two levels of three thin lines. Inflation is elementary with a clear slowing to 80%, a few steps and you're off! The Aonic is fairly direct through the controls, despite a large brake travel which is very tolerant. The handling is fun and frank, without any unintentional roll (contrary to its little sister at the top of its weight range) and it has groups of three cells of variable sizes. The glide and speed are clearly excellent, at the top of its EN A classification, even encroaching on some of the little Bs! However, there is, all the same, a 'but'... The price is, as a result... 3,600 euros.

*Philippe Lami*





# TEST ICARO BUTEO XC

*A less expensive  
“Phantom”? The Buteo  
is very homogenous,  
comfortable, powerful  
and also, a lot of fun...*



Photo: Valentin Burkhardt. Pilot: Sascha Burkhardt





Buteo is the Latin name for a buzzard... a nice metaphor, even if a buzzard doesn't have a particularly high performance when gliding compared to other raptors. The Buteo XC does however do well compared to other EN Bs...

In 2016, Nova launched the Phantom. An advertised trend: give EN B wings, by multiplying the cells and improving the glide ratio, the look of an EN C wing, or even that of an EN D, with the performance of, at a minimum, an EN C. 99 cells, making it the “Rolls Royce” of paragliders: costing 6,400 € to fly away with. The result matched the hopes: The Phantom’s behaviour is exemplary for an

EN B wing, well rounded, smooth, easy, whilst at the same time, offering very good performance.

With the development of the Buteo XC, Icaro have bravely committed themselves to the same niche. 82 cells, which themselves are divided into two, it’s a remarkable bit of sail craftsmanship and very beautiful.



As a comparison: our tests of the Nova Phantom with its 99 cells.

Here, the Nova Phantom can also be used with a paramotor.





However, there is a big difference in the price: 4,500 for the Buteo instead of 6,400 for the Phantom.

We were able to do some really nice flights with the Buteo XS before validating the concept of 'looks like an EN B and flies like an EN C.'

The first thing we noticed on the ground, obviously, with such an amount of work on the sail, is that it makes you think it is a wing from a much higher category. The aspect ratio, fortunately, didn't reach the same level: 5.8 for the Buteo, compared to 6-7 for the real racing machines. However, the aspect ratio of the Buteo XC is far superior to that of the Phantom: Buteo 5.8 (4.2 projected) compared to the Phantom 5.19 (3.82 projected).

With nearly sixteen cells less, we were, all the same, amazed that Icaro managed to bring out a wing like this at a relatively reasonable price, given the undeniable quality of the sail. The weight of the wing also remains pretty low and even compatible with hike&fly: 4.9 kg for an XS, 5.1 for an S, and this is despite using Skytex 32 and not 27...

At take-off, preparation is extremely simple: the colours clearly distinguish it along with the smoothness of the lines, which have been substantially reduced in the lower part, allowing easy pre-flight checks, even in poor conditions.

The inflation is surprisingly easy for a wing with this aspect ratio and given the high number of little cells. The weight of the wing plays a part too. The Buteo only requires a little bit of brake when it pitches after inflation. On the other hand, when inflating facing the wing and for ground handling, the XS, in particular, doesn't like sharp use of the brakes and stalls quickly. We'll come back to this further on...

The load take-up is very good. The stability hands up is just as good in roll as in pitch. However, this wing is surprisingly manoeuvrable for a paraglider which looks like a racing car: it reacts very quickly and equally well through both the controls and the harness. It likes Wing-Overs and executes them smoothly and cleanly! Therefore, the Buteo XC offers, in addition to its vocation as a cross country machine, a paraglider to enjoy locally too.

Amazing sail work for  
an EN B+...



Photo: Sascha Burkhardt





The riser system is particularly well organised, you can find everything straightaway, at take off as well as in the air. The C handles obviously make it nice to pilot and efficient during transitions, and indeed in thermals: Photo: Sascha Burkhardt

### A SMALL PROBLEM WITH THE XS

On the other hand, the size XS has a small fault when it isn't fully loaded: it has a clear tendency to go negative if the pilot is too heavy handed on the controls. This was also confirmed by other pilots who flew the XS.

The acro champion Claire Mercuriot, who has also used a Buteo XC XS for her (fairly rare) cross country flights, told us that this problem disappears if you load the XS to the top end of the weight range.

Nonetheless, clearly the DHV weren't happy about this behaviour: the three larger sizes are certified EN B by the DHV, the XS was certified EN B by the EAPR.

To our knowledge, the differences between the manufacturer and the DHV appeared during certification of the XS, precisely over the subject of low speeds with a low wing loading.



However, even the XS is still very reassuring in turbulence as well, and it also remains very comfortable, whether trimmed or accelerated. But it is particularly in accelerated flight that this wing shows its qualities: you can stay on the bar without hesitation, the wing advances very solidly through the air, and it offers precisely this sort of comfort, this sort of homogeneity, that you won't find on a wing with 40-50 cells. The Buteo therefore has the same qualities as the Phantom as far as feedback is concerned, and it gives a real feeling of safety, although it requires, despite its comfort and relative ease, a little bit more input from the pilot. This is understandable, because the Buteo has a higher aspect ratio than the Phantom (5.8 vs 5.19).

In thermals, it performs well, no matter what type of turn you prefer: flat or more inclined, it obeys perfectly. On the other hand, going into a thermal, the Buteo XC can pitch a little bit more than the Phantom, but this may have perhaps been due to the load being in the middle of the weight range during our tests.

In the end, the result remained an efficient use of thermals and comfortable and powerful in transitions. It loves high speeds and cuts the air like the smoothest of blades. In absolute values, it didn't exceed 50 km/h, but the glide was correct, even at maximum speed. Like the Phantom, the Buteo offers a level of performance which you normally only find in the more advanced classifications. At the same time, more and more EN B+ wings offer a certain upgrade, without requiring almost 100 cells, with the consequent increase in price.

It isn't perhaps really in pure performance that you find the main difference between a very good EN B+ classic and the Buteo, but in its homogeneity and the comfort offered by the Buteo at the top speeds. This is logical, as the shape of the wing is maintained by an impressive number of cell walls and mini ribs.

Photo: Valentin Burkhardt. Pilot: Sascha Burkhardt





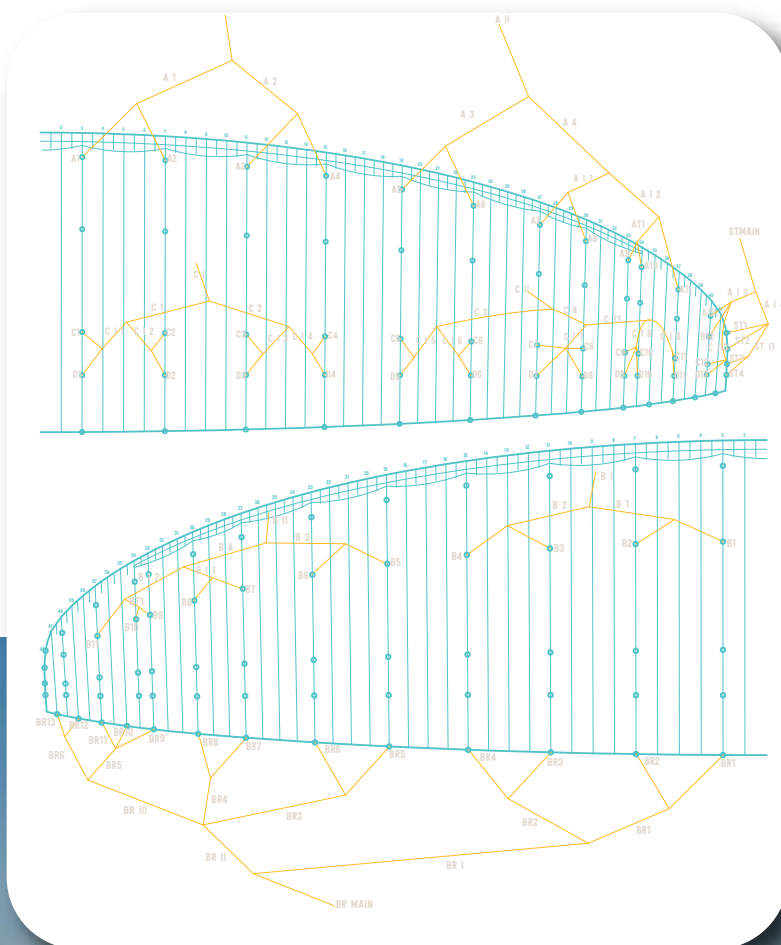


## A SUCCESSFUL TREND

Compared to a Phantom: given that the price of the Buteo XS remains relatively low compared to that of the Phantom, it's a very interesting alternative, whilst being aimed at pilots who are a bit more experienced than those flying the Phantom, at least for the XS when loaded in the middle of the weight range. The Buteo is a very nice wing for thermalling and for setting off comfortably on a cross country flight, whilst proving to be a lot of fun when flown locally. Yes, it's a trend which has proved to be a success!

Sascha Burkhardt

**The line plan shows the complexity...**





# FOLDING BAG ICARO

The type of folding bag we'd like to see more often: it comes with the wing and is perfectly suited for folding the Buteo safely and correctly. The compression strap is sewn in the right place. Very practical as you can see in this folding sequence!







The Buteo's strengths according to the manufacturer:



FLAT AREA	WEIGHT RANGE	FLAT SPAN	WEIGHT
28 <sup>m²</sup> ①	100 - 125	12,7	5,9 <sub>kg</sub>
25,75 <sup>m²</sup> ②	90 - 110	12,2	5,4 <sub>kg</sub>
23,50 <sup>m²</sup> ③	80 - 100	11,7	5,1 <sub>kg</sub>
21,25 <sup>m²</sup> ④	70 - 90	11,1	4,8 <sub>kg</sub>

## BUTEO -XC

TECHNICAL DATA

MANUFACTURER ICARO

Web : [icaro-paragliders.com/en/products/gliders/buteo-xc/](http://icaro-paragliders.com/en/products/gliders/buteo-xc/)

DATE				
SIZE	XS 21.25	S 23.5	M 25.75	L 28
CELLS	82+80	82+80	82+80	82+80
FLAT SURFACE AREA [m²]	11.1	11.27	12.2	12.74
FLAT WINGSPAN [m²]				
FLAT ASPECT RATIO	5.8	5.8	5.8	5.8
ALL UP WEIGHT [kg]	70-90	80-100	90-110	100-125
WEIGHT OF THE WING [kg]	4.8	5.1	5.4	5.9
FREE FLIGHT CERTIFICATION	EN B	EN B	EN B	EN B
FF CERTIFICATION LAB	DHV	DHV	DHV	DHV
PPG CERTIFICATION				
PRICE [€]				

Materials: SKYTEX 32/32





Photo: Supair

Leaf 2

## SUPAIR: LEAF 2/LEAF 2 LIGHT

### THE LEAF 2, A TOOL FOR PROGRESSING.

Supair advertised the Leaf 2 as the ideal tool for progressing, more robust and even more precise than the first version, and indeed our test pilot agrees with this; see his comments below.

It is now also available in a lightweight version, giving a saving in volume and a reduction in weight of 1.1 kg...

<https://www.supair.com/produit/leaf-2-light/>



### OUR TEST PILOT: PHILIPPE LAMI

Philippe has been a partner for many years in the French paragliding school, [Aérogloss](#). He is also one of the most experienced test pilots and journalists specialising in paragliding. Another string to his bow is his company, [Windsriders](#), which produces down jackets optimised for our sport.



### THE EDITOR'S OPINION

I have been using the Supair Leaf 2 for more than a year, in my development courses. The Leaf 2 is a real, excellent EN B, situated right in the middle of the group. It is characterised by excellent pitch damping, and is very tolerant, whilst giving a gentle and precise turn, which in general, is very exciting. This wing, in the hands of a beginner pilot who isn't always very sharp in their piloting, will generally tolerate any imprecision. Its flattering performances and its exemplary behaviour make it an excellent choice to be able to progress well and discover cross country flying in a calm fashion. Note that the Light, which has just come out in version 2, combines all these qualities with, in addition, lightness!

*Philippe Lami*





Photo: Supair Karine Dupreux

Leaf 2 Light



Video: Leaf 2 Light  
<https://www.youtube.com/embed/zjedmPAVqBA>

## LEAF 2/LEAF LIGHT

MANUFACTURER DATA

MANUFACTURER: SUPAIR

Web: <https://www.supair.com/produit/leaf-2/>

YEAR	2019/2017	2019/2017	2019/2017	2019/2017	2019/2017
SIZE	XS/XS	S/S	M/M	M-L/M-L	L
CELLS	49	49	49	49	49
FLAT SURFACE [M²]	21.2	24.4	26.2	28.6	30.4
FLAT WINGSPAN [M]	10.6	11.4	11.8	12.3	12.7
FLAT ASPECT RATIO	5.3	5.3	5.3	5.3	5.3
ALL UP WEIGHT [KG]	55-75	70-90	80-100	90-110	105-125
WEIGHT OF THE WING [KG]	4.5/3.25	4.8/3.60	5/3.85	5.2/4.1	5.4
CERTIFICATIONEN LTF	B	B	B	B	B
CERTIFICATION LAB					
CERTIFICATION MOTOR					
PRICE [€]	3 730/3 800	3 730/3 800	3 730/3 800	3 730/3 800	3 730/3 800

### Fabric

Upper surface: Porcher Sport Skytex Universal 38 g/m²/Porcher Sport 32 g/m² and 27 g/m²  
 Lower surface: Porcher Sport Skytex Universal 32 g/m²/Porcher Sport 27 g/m²





# GIN LEOPARD





## GIN LEOPARD XS - EN D

In the relatively limited family of competitors for the Ozone Zeno (the Zeno 2 will be launched soon), the Gin Leopard offers a real alternative, which is innovative and not a copy. Here, Gin Seok and Torsten Siegel demonstrate their know how of cohesion, with a wing with an aspect ratio of more than seven for 86 cells. We're definitely at the top of the range of wings certified EN D, aiming high.

The inflation is monobloc, frank and powerful, and it is operated simply by taking hold of the two central lines. Careful, there is a small amount of brake travel through the controls (less than the Zeno). This changes a lot!

In the air, the Leopard immediately won me over by having a turn which was more precise and more incisive than the previous Zeno. The wing glides really well and the accelerator is really efficient, without any inertia. The general communication, piloting with hands on the plastic 'pseudo carbon' bars, is excellent.





Photo: Gin

In very light conditions, the Leopard is formidably efficient. It turns without losing its place, but once again, be careful you do not 'pierce' the brake travel by braking too much. The wing requires more dexterity than the Zeno, that's for sure, but offers a real plus in the turn. In strong conditions, the damping in the pitch is marked and the wing holds itself back easily, by using the brakes or the rear risers, with moderate but frank amplitude. The ears can be used, but the B3s work very well and are gentler. I admit that on this type of wing, I avoid abrasion and structural shocks and always remain fully in the mode 'totally open' and with maximum piloting. Fast tight turns when descending also work really well. I land happy to have found an alternative which can smile at the Zeno, with a net gain in handling.

LEOPARD				
MANUFACTURER DATA				
<b>MANUFACTURER: GIN</b>				
Web: <a href="https://www.gingliders.com/en/paragliders/leopard/">https://www.gingliders.com/en/paragliders/leopard/</a>				
YEAR	2019	2019	2019	2019
SIZE	XS	S	M	L
CELLS	86	86	86	86
FLAT SURFACE [M <sup>2</sup> ]	20.5	22.32	24.22	26.7
FLAT WINGSPAN [M]	12.08	12.65	13.18	13.84
FLAT ASPECT RATIO	6.86	6.9	6.93	6.93
ALL UP WEIGHT [KG]	70-88	85-102	95-112	105-127
WEIGHT OF THE WING [KG]	4.85	5.30	5.65	5.95
CERTIFICATION	EN D	EN D	EN D	EN D

Material: leading edge upper surface: Porcher Skytex, 38 g/m<sup>2</sup>  
Principal upper surface: Porcher Skytex, 32 g/m<sup>2</sup>  
Principal lower surface: Porcher Skytex, 27 g/m<sup>2</sup>









### THE EDITOR'S OPINION

I got my hands on the AirCross Cruise Evo and the Classic for a few hours to compare these two versions of an EN B+ from the German manufacturer, designed by Paul Amiel. The wing is thoroughly modern and both versions include all the latest technology. Looking through it against the sunlight shows the complexity of the internal structure. The inflation has been significantly improved in the Evo, removing the hesitation which was a characteristic of the first version (but note, this wasn't a fault, but rather an advantage for a pilot who was progressing a bit too fast). In the air, both versions were very nice, with a bite and turn which were very satisfying. The glide is well within the spectrum of an EN B+ and the wing offers real comfort in turbulent conditions. It benefits from being known for certain qualities, it's 'stereotype' character and its very recognisable look.

Philippe Lami

## AIRCROSS

### LITTLE KNOWN INTERESTING WINGS

AirCross are one of the small manufacturers who, for reasons which we can't really explain, have not (or have yet to) achieve the success they deserve. The AirCross U-Cruise in 2017 was a very nice EN B+ with good performance, but whose sales remained well below their potential. With the arrival of the 'Evo' version, which corrected the weight issue which we criticised in the first version, the manufacturer reduced their stocks of the classic version by reducing the price.

Below is our test of the first version. On the right the comparison with the Evo.

[www.aircross.eu](http://www.aircross.eu)







Photo:



### THE EDITOR'S OPINION

A few first impressions of the new version of the Rise 4: the wing has less aspect ratio and more cells, by being smoother (53 cells for 4.35 kg, in size small). The inflation is docile, without any tendency to overfly. At the San Bastiano take off in Corsica, I flew in weak thermals, with a few local pilots. I had to scratch, feet in the bushes... Flying in this sort of terrain, the Rise 4 revealed its temperament: lots of brake travel, lots of capacity to slow right down whilst keeping a very good sink rate and a precise turn. The Rise turns on a pocket handkerchief and makes you smile. Flying here without a reserve, in a string harness, despite the Corsican canon balls. I land after struggling for 45 minutes, with a huge smile on my face. The Rise 4 hits the general public right on target! In summary, it is pleasant and simple to fly.

Philippe Lami

## AIR DESIGN

The Rise 4 has just been launched as an EN B+, price 3,990 €, 5 sizes. Other than that, Air Design are still working on a version 2 of the single skin UFO. In the meantime, this sector is currently booming with other competitors bringing out version 3s.

<https://ad-gliders.com/?lang=en>







NIVIUK.COM > PARACHUTES

EN/LTF

# OCTAGON 2

## La garantie de l'efficacité maximum

La deuxième version du parachute de secours Niviuk offre une excellente stabilité pendulaire et une vitesse de descente très faible, de sorte que le retour au sol soit le moins brutal possible.

Découvrez les plus belles aventures sur notre Facebook et Instagram:



[facebook.com/Niviuk](https://facebook.com/Niviuk)



[instagram.com/Niviukparagliders](https://instagram.com/Niviukparagliders)





*Touring over Luxor, a town on the right bank of the Nile, 700 km south of Cairo.*

## PORTFOLIO **RAMON MORILLAS IN EGYPT**

*Famous pilot Ramon Morillas prepares trips for paramotor pilots in Egypt, which even include SIV training over the Nile. He brought us back some photos of his aerial strolls. A paramotor is undoubtedly a fantastic tool for exploring the Kingdoms of the Pharos and the Egyptian gods...*





*The temple of Amon at Luxor. It is impressive to fly over a place which is considered one of the most ancient places of prayer in the world. Luxor's place in religion has remained almost uninterrupted for more than 3,500 years. The wing in the photo is a Niviuk Qubik, a stable and comfortable wing which allows you to develop your flying.*  
<http://niviuk.com/fr/paramoteur/qubik1>



Poignées de gaz ergonomiques  
Ergonomic gas throttles

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V2 et V3

**exo**

[www.myexo.fr](http://www.myexo.fr)




**Queen Hatchepsout's temple (1508-1458 BC), between the Valley of the Kings and the Valley of the Queens, at Luxor (Thebes antique) Egypt.**





*The first graves in the valley date from about 3,000 to 3,500 years ago.*





*Self portrait of Ramon Morillas between thousand year old statues.  
There are certainly no more prestigious pylons for slalom than these  
ones.*





***Emiko Morota (Niviuk Qubik) and Nicolas Aubert (Ozone Freeride, PAP Tinox, Polini 190) exploring the Valley of the Kings. The Ozone Freeride is a good compromise between the Speedster 2 and the Viper 4. It replaces the Slalom.***

***<https://www.flyozone.com/paramotor/products/gliders/freeride> and***

***<https://www.flyozone.com/paramotor/products/gliders/freeride>***





*Ramon will also soon be organising SIV courses above this land of the gods and temples.*





Ramon flies a Niviuk Kougat 3 with a Vittorazi Moster Plus M19 in a PAP Tinox chassis with a Helix propeller.

His companion Emiko, shown here above the temple of the Queen, flies a Niviuk Qubik with a PAP Tinox Safari.





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