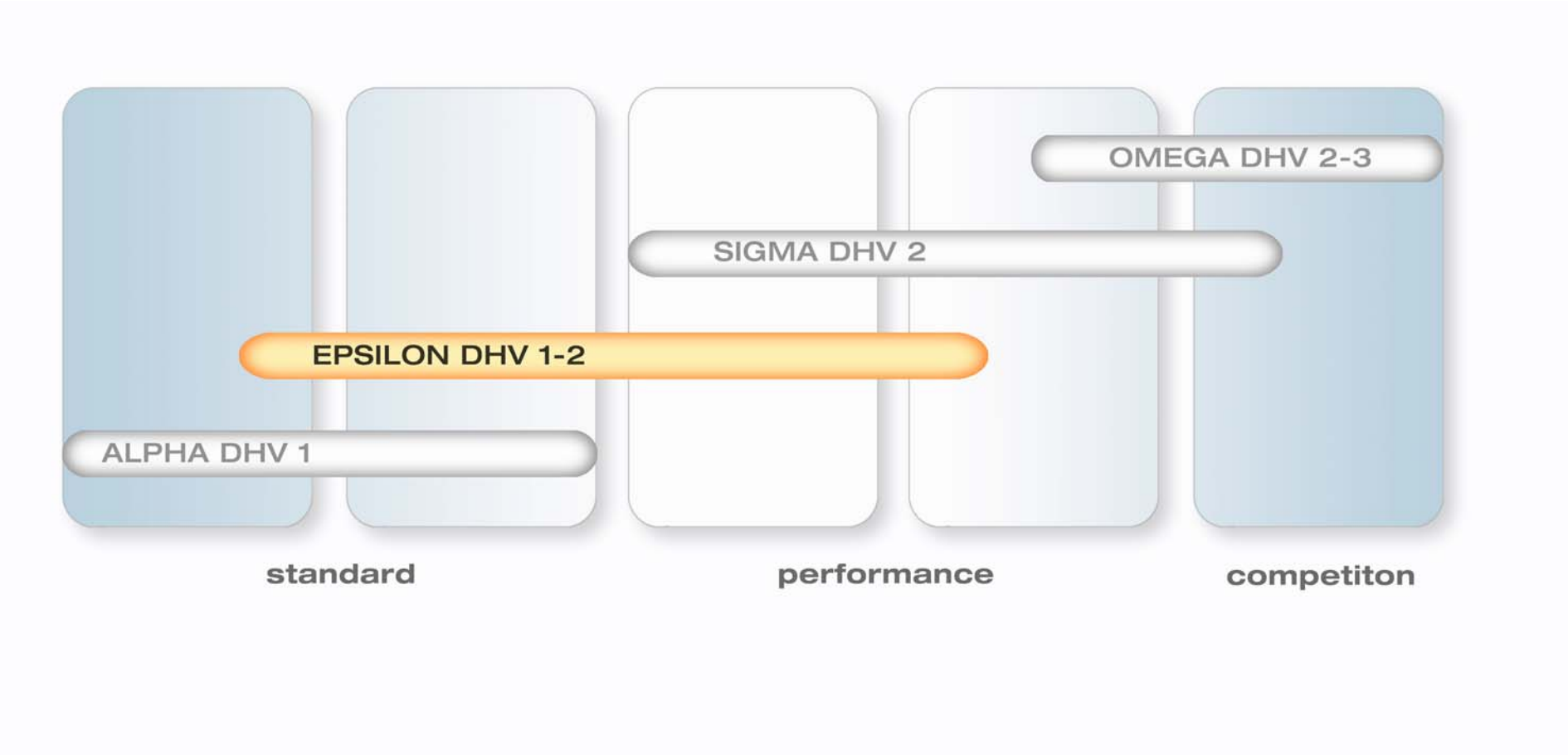
ADVANCE EPSILON 5

Overview off the ADVANCE fleet



ALPHA 3 - Time to fly!

The ALPHA 3 is ideal for trainee pilots and pilots who want the maximum in passive safety. Easy take-off behaviour, direct and agile handling as well as light control pressure are the hallmarks of this DHV 1 rated paraglider. The performance is suitable for cross-country flights and extended fun in the thermals, even for less frequent flyers.

EPSILON 5 – Discover a new Horizon!

The EPSILON is placed right in the middle of the DHV 1-2 category and offers a very high level of passive safety. Thanks to the well known ADVANCE handling, the Epsilon 5 is a superb wing for long thermal flights. This wing will help inexperienced pilots realise their flying aspirations and take the first steps towards XC flying.

SIGMA 6 - Discover your 6th Sense!

The top performance intermediate SIGMA 6 belongs to the latest generation of DHV 2 rated cross-country paragliders. The SIGMA 6 pilot possesses the necessary flying sensitivity and already has experience in cross-country flying. Pilots switching from a lower class will soon find themselves at home thanks to the balanced take-off behaviour and high intrinsic safety. The SIGMA 6 helps the pilot to improve his ability safely.

OMEGA 6 - Pure XC Spirit!

The OMEGA 6 is a high-performance DHV 2-3 rated paraglider with great passive safety. It is aimed at performance-oriented frequent flyers with cross-country experience. The OMEGA 6 conveys precise canopy feedback and possesses good thermal bite.

Bi BETA 3 - Immediate boarding!

The BI BETA 3 stands for unlimited tandem flying fun and a high level of intrinsic safety (DHV 1-2). Thanks to balanced handling, simple take-off and landing behaviour as well as a long life expectancy, it is exceptionally well suited for commercial use.

EPSILON 5 - Discover a new Horizon!

The Epsilon 5 is a superb wing for long thermal flights, its high performance making it ideal for cross-country flying. Because of its performance profile, we were able to reduce the aspect ratio, thus making this glider comfortable to fly for less experienced pilots as well.

Features of the EPSILON 5

- Excellent lift and smooth handling in thermal conditions.
- High performance, right up to top speed flight.
- Good pitch stability & great amount of passive safety
- Flawless take off characteristics
- Efficient big ear kit

The very high passive safety of the EPSILON 5 will help inexperienced pilots to expand their aeronautical horizon, and to take the first steps towards XC flying. Due to its great performance, this glider is the perfect choice for pilots who fly not as often as they would like and are looking for a glider classified in a different category. Due to its superb safety potential, the EPSILON 5 is recommended for advanced and talented paragliding students as well.

This product has been developed under the supervision of Thomas Ripplinger, who has overseen both the development and testing of the EPSILON 5 by the following ADVANCE test pilots: Kari Eisenhut, Chrigel Mauer, Andi Aebi, Andy Hediger, Ewa Wisnierska and Steve Cox. The Team required 14 months and 12 prototype stages in order to finalise the Epsilon 5 as a wing worthy of the renowned Advance quality.

The EPSILON 5 at a glance

Flawless take off characteristics and smooth handling in thermic conditions

- The profile offers a very good “thermal bite”
- The glider behaves in a well-mannered way in response to exaggerated steering inputs
- Clear increasing brake pressure before a full stall
- Due to the reduced aspect ratio, this glider is very comfortable to fly in bumpy thermals

High performance up to top speed

- The line geometry has been refined for the EPSILON 5. A reduction in total line material means less drag, improved line control and effective translation of the speed system to the wing profile
- The new line geometry offers a better performance all the way up to top speed

Pitch stability & great amount of passive safety

- The wing is very stable; it reopens after massive collapses very quickly but without aggressive actions.
- Together with the internal compression straps, the closed cells increase the stability of the wing without any detrimental effect on the reopening of the wing after a collapse.
- The wing incorporates an aerofoil 'twist' in the front section of the wing along it's span. Our tests show that this significantly reduces the magnitude of assymetric collapses.
- The chosen wing profile offers a very high stability up to the top speed of the glider.

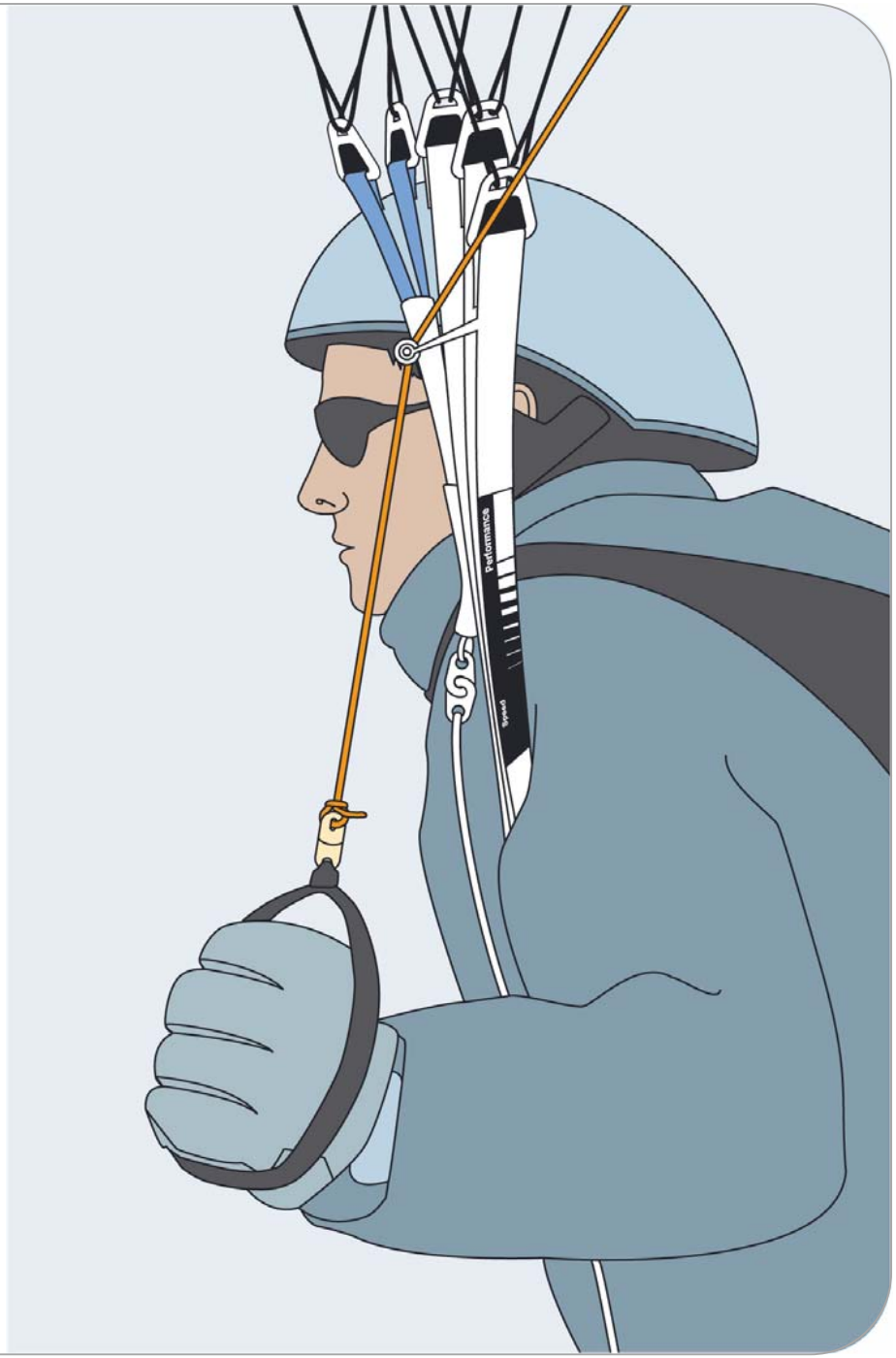
Accurate take off behaviour

- The line geometry incorporates only two line levels in the central area of the EPSILON 5. This allows for quick and easy sorting of the lines.
- The wing is suited to effortless forward and reverse inflations.
- The canopy inflates quickly even in calm conditions and lifts evenly without hanging back or overshooting.

Innovations

Efficient big ear system and optimized risers

- The EPSILON 5 features a totally new design of separated A-risers.
- Due to our innovative Quick-Snap system, the A-risers are automatically snapped together. They separate from each other following take off to assume the correct position ensuring a proper and precise wing profile.
- The optimized risers permit easy ground handling.
- Together with the new line geometry, these risers allow very easy activation of the 'big ears' manoeuvre.
- These risers are supplied in two different lengths depending on wing size. For easier and safer handling for smaller pilots, canopy sizes 23 and 25 are equipped with shorter risers (difference 4 cm), and smaller brake handles than the canopy sizes 28 and 31.



Efficient and smooth speed system with SPI

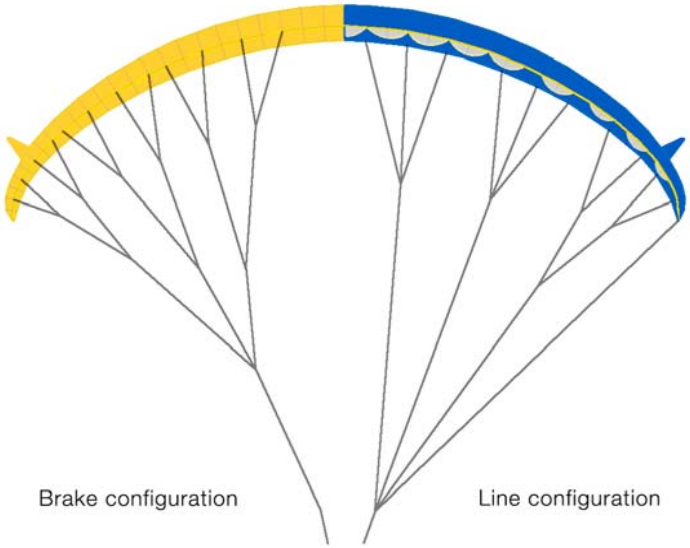
The EPSILON 5 speed system enables an increase in speed of up to 10 km/hr. The system is designed in such a way that on pressing the speed system, the A, B and C risers shorten by different amounts allowing an optimum canopy form to be maintained even in accelerated flight.

The system is very smooth in operation and enables an excellent glide performance, even at high speeds.

The transition from performance-optimized flying to speed-optimized flying takes place continuously and not abruptly - this is clarified by the progressive change down the scale.

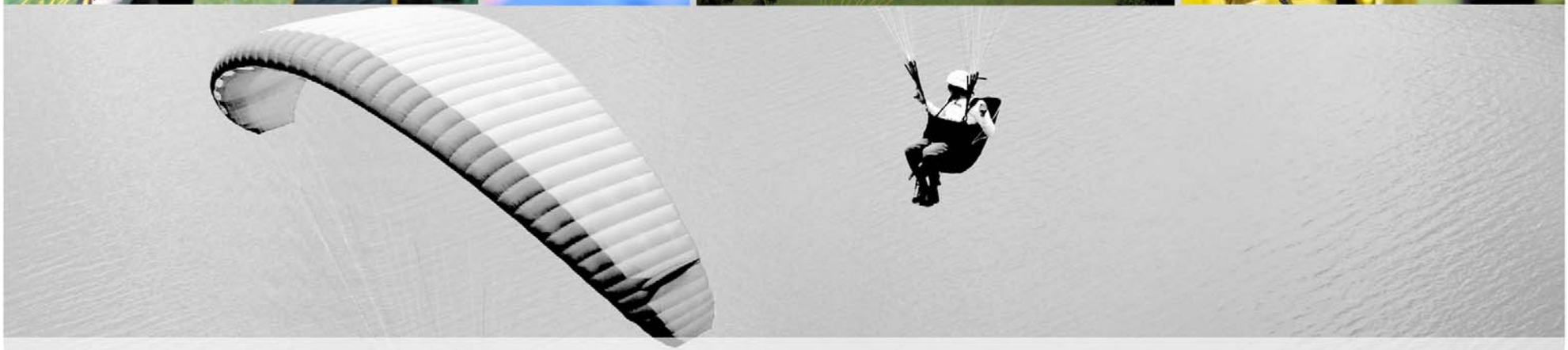
Line geometry

The line geometry has been refined for the EPSILON 5. A reduction in total line material means less resistance, improved line control and effective translation of the speed system to the wing profile. The new line geometry offers greater efficiency in the big ears manoeuvre. By using only two line levels in the central area of the EPSILON 5, this ensures quick and easy sorting and untangling of the lines.



EPSILON 5 – the improvements over its predecessor

		same	better	much better
Take off	Inflates easily and quickly, rises without any overshooting.			
Handling	Precise brake control / direct and fine.			
Brake control	Smooth at the beginning, getting progressively harder .			
Manoeuvrability	Highly agile, easy to fly fast turns.			
Dynamism	Very rapid return to normal flight after any dynamic manoeuvres.			
Stability	Very high canopy stability.			
Performance	Greater performance, whether in trim speed or accelerated.			
Behaviour	Balanced and easy with great “thermal bite”; direct feedback.			
Speed	Better performance and more stability in accelerated flight.			



ADVANCE EPSILON 5

Discover a new Horizon!

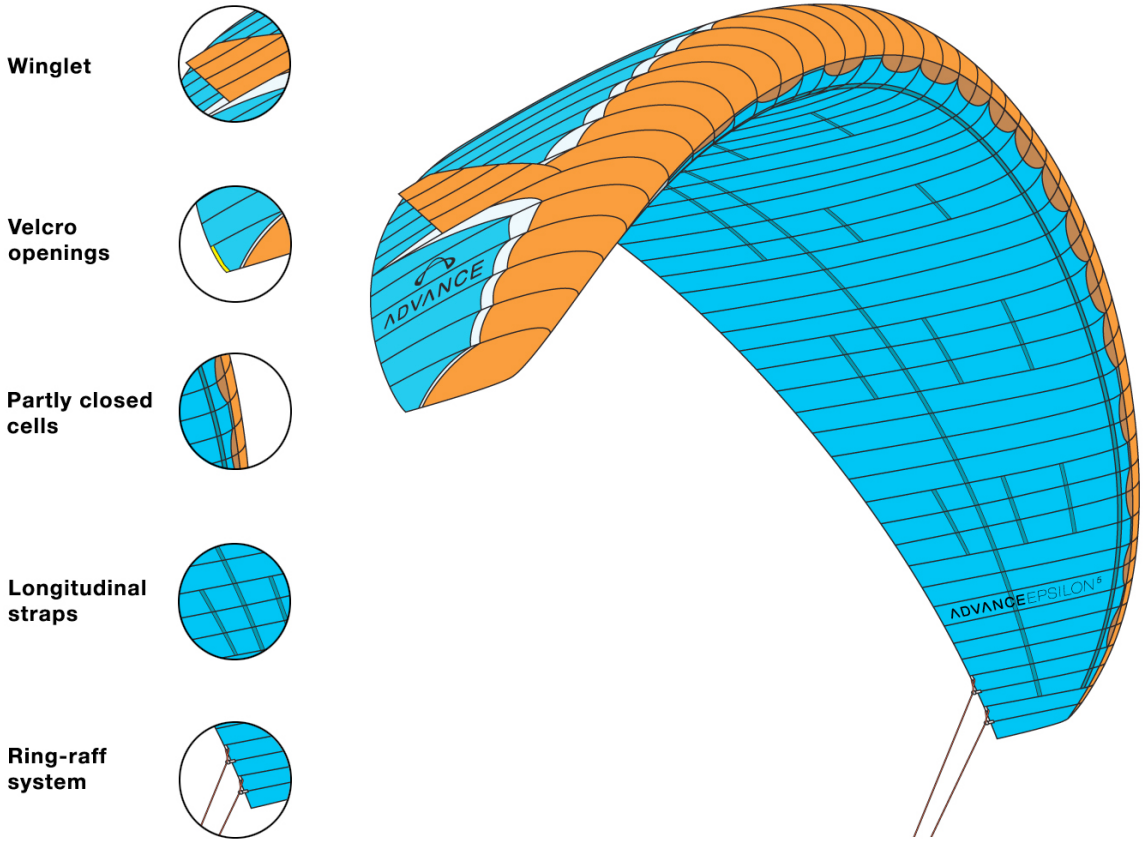
A master of his trade

The EPSILON 5 is built with a very precise and sophisticated technology that makes it an exceptional product.

As usual at ADVANCE, even the smallest details were important. This glider is meticulously built, incorporating:

- Mylar reinforced cell walls and leading edge for an easy take off. The leading edge of the canopy is pre-shaped ready for inflation on the ground due to the layout of the reinforcing. The stability in accelerated flight is enhanced due to this reinforcing.
- An additional Mylar reinforcement of the leading and trailing edge improves the durability and longevity of the glider.
- Upper surface and all cell ribs are made from Skytex-Ripstop (44 gr/m2, lower surface is made from Skytex-Ripstop. (40gr/m2)
- The partly closed cells make the leading edge more solid and the air circulation and pressures in the glider are more homogeneous.
- Longitudinal straps ensure a better stability of the canopy and prevent unnecessary movement that can influence the performance and the handling of the glider.
- The line geometry is optimized to ensure less air resistance and to guarantee an easy separation at the take off.
- All the stitching is internal to prevent the seams from abrasion.
- All cells are scaled and diminish in size from the centre of the wing to the wingtips. This prevents wrinkles along the cell walls and assures a beautifully clean aerodynamic shape. Advance, having pioneered cell scaling, now incorporate a feature practically unique amongst range of wings on the market today. Not only are the cells scaled across the span, they are scaled internally across the chord of the wing - in order to achieve the cleanest, crease-free profile.
- The brake handles are fixed with a magnetic clip to allow easy access. The shape and the flexibility of the brake handles ensure a comfortable use even after hours of flying.
- The brake line swivel is another innovative idea from ADVANCE. It prevents the brake lines from twisting up if you usually fly with a wrap.

- The winglets, once an important aerodynamic element are now the trademark of our wings. They reduce the turbulence at the wingtip (Vortex-effect) and can improve the handling.



- The Velcro openings at the wing tips make the remove of debris much easier.
- Small synthetic clips inside the Maillion Rapide on each riser fix the lines in the right position
- The “ring raff system” improves the homogeneity of the brake and turn behaviour of the glider.

The ADVANCE Harnesses

The EPSILON 5 can be flown with any harness. However, we recommend the use of an ADVANCE harness. When using a harness from another manufacturer, you should ensure that the chest strap width is between 40 and 42 cm and the height of the attachment points is between 40 and 46 cm.
Just like ADVANCE paragliders, ADVANCE harnesses are unique products, manufactured exclusively from quality materials. All models were developed by our R & D Team as a result of countless flying hours and belong to the latest generation of paraglider harnesses.
The ADVANCE harnesses are the only paraglider harnesses so far developed for ADVANCE paragliders. It goes without saying that they can be used when flying any other paraglider. The positioning of the attachment points, the arrangement of the straps, the quick-buckles, the easily adjustable harness position, the free-sliding shoulder straps as well as the simplicity of the design, all contribute to ADVANCE harnesses being amongst the leading products on the market today.

Certification

Our priority when developing a new wing is always to get great flight characteristics. However, the DHV Certification is one major point in the target specification as well.

Be aware, that certification results can only give limited information about the behaviour of a wing in strong thermals and turbulent air. They inform only about the wing's behaviour during collapses and extreme manoeuvres that are deliberately initiated by the pilot under test conditions.

The EPSILON 5 is certified according to DHV 1-2 with the speed system.

The Materials

The EPSILON 5, like all ADVANCE products, is produced as the result of the latest developments and experience in the sport. All the materials used for the paraglider have been carefully selected in order to allow our products an excellent longevity. The materials are systematically tested and all canopies undergo quality control testing.

Upper surfaces, leading edge and cell ribs :
Nylon NCV New Skytex 6.6, 44 gr/m2

Lower surfaces:
Nylon NCV New Skytex 6.6, 40 gr/m2

Reinforcement of the leading edge and trailing edge :
Polyester/Mylar 20 mm

Reinforcement of the leading edge lower surface :
Polyamide 16 mm

Suspension lines :
Liros, Dynema 0.95 mm (1st level)
Liros, Dynema 1.15 mm (2nd level)
Edelrid, Aramid 2.1 mm / 1.9 mm / 1.5 mm (3rd level)

Risers:
Polyester 22 mm, 1100 kg

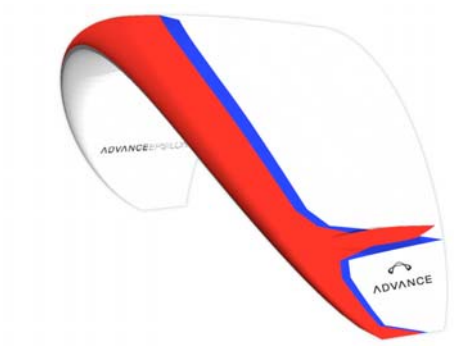
Quick links:
Inox 3,5 mm, 750 kg

The weight range of the EPSILON 5

The weight range has to be adapted to each wing category. Therefore each category has different sizes for the sizes of the gliders. The profile and the aspect ratio are facts that influence the graduation of the different sizes in a crucial way.

Colours of the EPSILON 5

WHITE	Leading edge + winglets:	red
	Design Stripe:	blue
	Top + bottom surface:	white
ORANGE	Leading edge + winglets:	blue
	Design Stripe:	grey
	Top + bottom surface:	orange
TURKIS	Leading edge + winglets:	orange
	Design Stripe:	white
	Top + bottom surface:	turkis
YELLOW	Leading edge + winglets:	grey
	Design Stripe:	red
	Top + bottom surface:	yellow
RED	Leading edge + winglets:	gold
	Design Stripe:	blue
	Top + bottom surface:	red



Technical Details

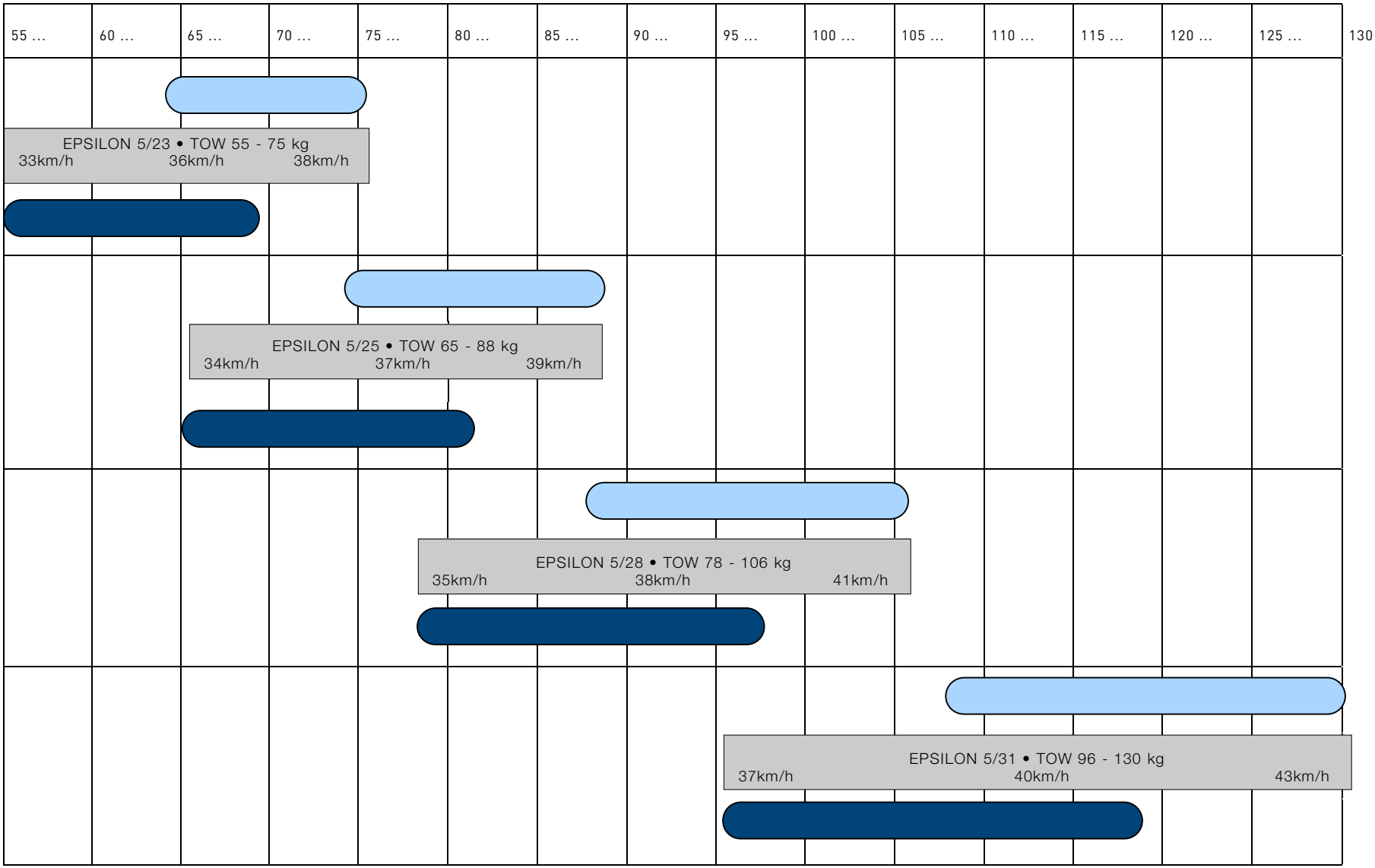
EPSILON 5		**23**	**25**	**28**	**31**
Flat surface	m2	23.35	25.26	28.10	31.37
Projected surface	m2	20.12	21.76	24.21	27.03
Span	m	10.81	11.24	11.85	12.52
Projected span	m	8.68	9.03	9.52	10.06
Aspect ratio		5.00	5.00	5.00	5.00
Projected aspect ratio		3.75	3.75	3.75	3.75
Max chord	m	2.69	2.80	2.95	3.12
Min chord	m	0.62	0.64	0.68	0.72
Number of cells		50	50	50	50
Take off weight (pilot, wing, equipment)	kg	55 – 75	65 – 88	78 – 106	96 - 130
Maxi length of the lines with the risers	kg	5.5	5.8	6.4	6.95
Weight of the glider	m	6.70	6.97	7.35	7.77
Min speed **	km/h	23 (+/- 1)			
Max speed without speed-system **	km/h	38 (+/- 2)			
Max speed with speed-system **	km/h	48 (+/- 2)			
Min sink rate **	m/s	1.2			
Glide *		8.7 (+/- 0.2)			

Surface, span and aspect ratio are calculated from the computer and are measured on the axis of the profile.

* The performance data for the Glide angle of the EPSILON 5 is dependant upon the position of the pilot, the aerodynamic style of the harness, the type of clothing (e.g.: Speed arms) and the size of the glider

** The performance data for sink rate and speed are measures of central tendency and change depending of the load ratio

Which Size for which Pilot – an aid to assist in your decision



Legend

The grey scale shows the total weight range of the Glider and the min. and max. trim speed

The dynamic side of the EPSILON 5 – The Pilot prefers a glider with dynamic handling and a high groundspeed

The thermal side of the EPSILON5 – The Pilot prefers a glider with smoother reactions and a better climb ratio in weak thermals

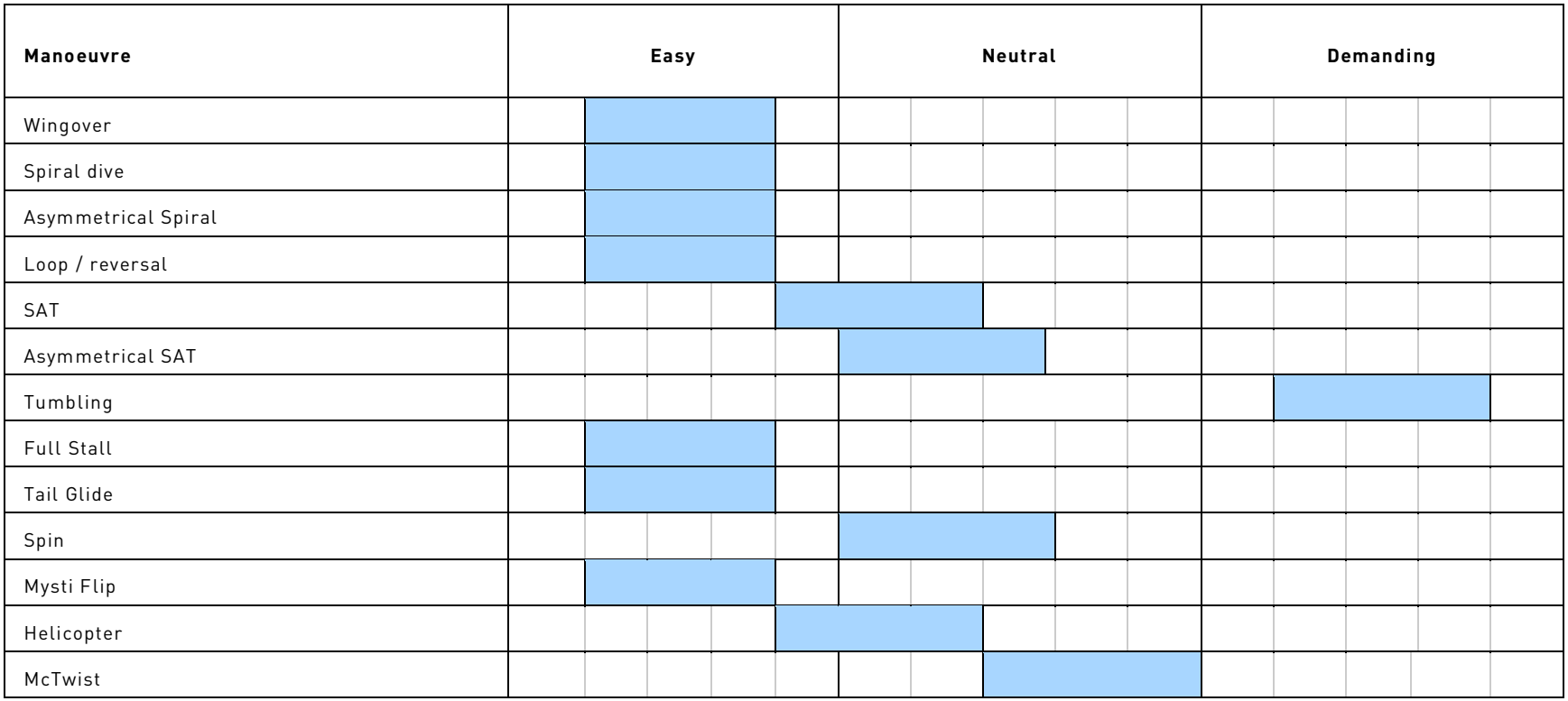
Flying Acro with the EPSILON 5

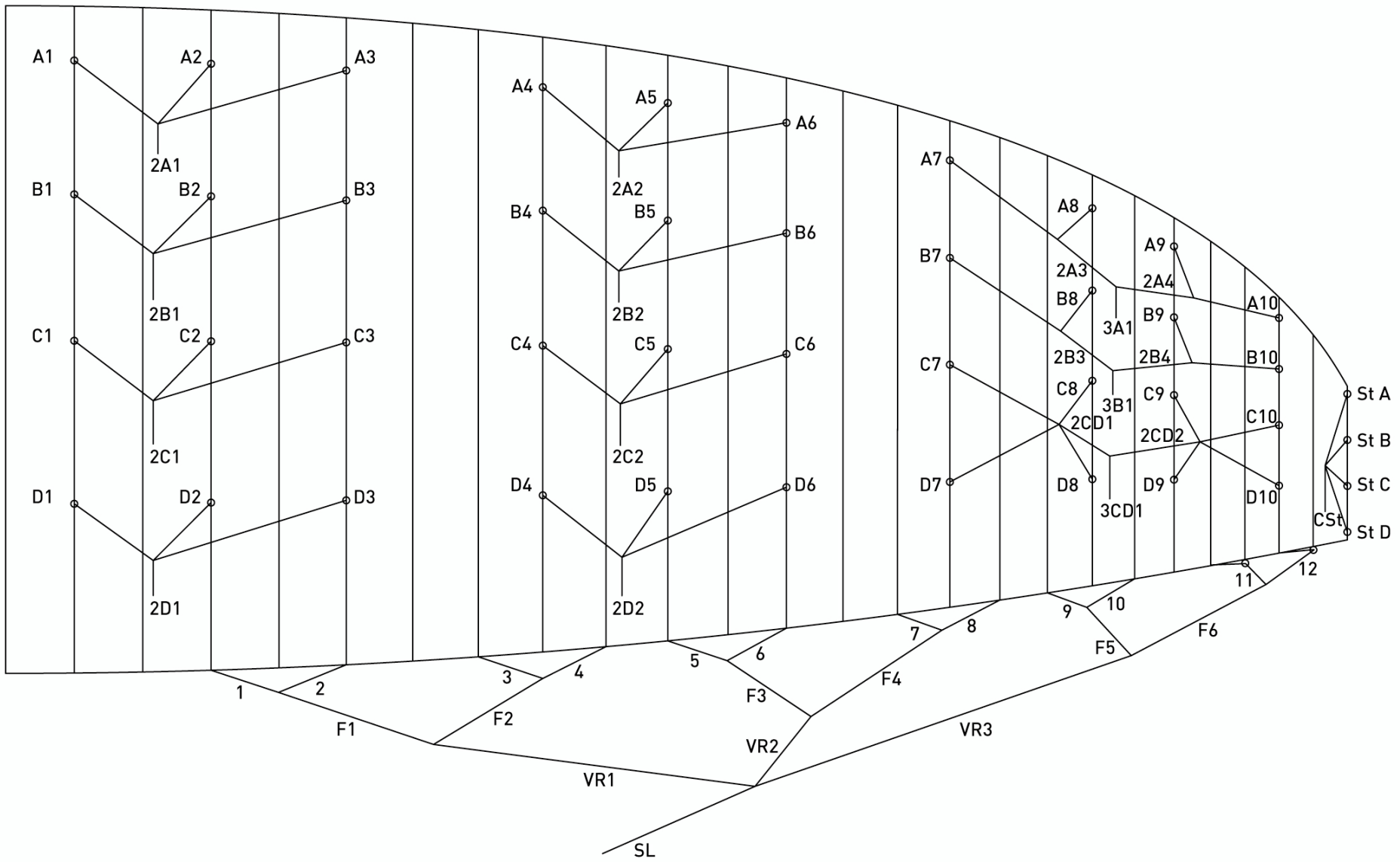
Thanks to its precise handling and the very high canopy stability, the EPSILON 5 is ideal as an Acro wing for pilots undertaking their first Acro manoeuvres.

During the development of this wing, we focused particularly on building-in the best thermalling and XC qualities. The wing is not reinforced specifically for acro, however it is tested by the DHV up to 13+ G."

If you use this glider for acro flying, please be aware that these manoeuvres will decrease the lifespan of your wing. A regular service or check-up of the wing by a professional is an absolute essential for every acro pilot.

This chart gives a short overview of the behaviour of the EPSILON 5 in acro manoeuvres.

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