



ADVANCE OMEGA⁸

Product presentation

ADVANCE OMEGA⁸



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it's in your nature

ADVANCE

Inspired by Success

With the OMEGA 8 you'll find yourself at the top of the XC league! The OMEGA 8 is the highest performance glider in the serial class.

It has yet again set a new benchmark, just like the OMEGA series gliders before it. The new ADVANCE flagship glider embodies tradition and progress at the same time. Its handling and design are unmistakable.



www.advance.ch/omega

Watch the film!



Inspired by Success

Pilot requirements

The OMEGA 8 is a purebred high-performance paraglider that should only be flown by highly experienced, performance-oriented long-distance or competition pilots. In order to be able to fully master an OMEGA 8, a pilot must already possess experience of high-performance gliders in different weather conditions. A regular flyer with these skills and with lots of experience of active flying through turbulence will be able to safely exploit the paraglider's huge performance potential and cover long distances in a controlled and relaxed manner.

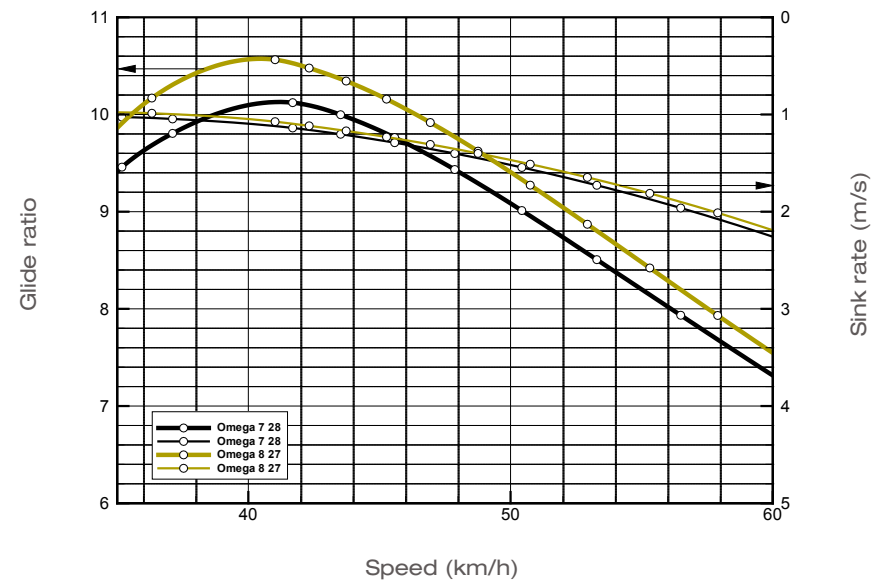


Comparing the OMEGA 8 with the OMEGA 7

The OMEGA 8 is a 3-liner and therefore has less total line length (in other words less line drag) – a saving of more than 60 m of line for the equivalent 27/28 size. As a 3-liner the OMEGA 8 is also lighter to accelerate; with shorter speed bar travel – and it goes faster.

The OMEGA 8's profile is excellent for pulling-up: this makes takeoff much easier than with the OMEGA 7. The OMEGA 8 brake pressure is lower, and the glider turns perfectly into thermals, giving the pilot a better feel for what's going on.

The OMEGA 8 uses continuous diagonal ribs whereas the OMEGA 7 had individual diagonals. This makes it possible to use lighter material for the non-suspending profiles. Instead of the OMEGA 7's mylar nose reinforcements the OMEGA 8 uses nylon wires. These features save around 0.8 kg of canopy weight.



1500m altitude / 15°C surface temperature / 1013 hPa
sea level pressure / wind calm / average pilot height

Outstanding features

A fascinating feeling in flight

The OMEGA 8 takeoff is exceptionally easy and reliable for a glider of its class, even in light tailwind. Just a light pull on the A-lines is enough for the perfect pull-up.

In the air the pilot can fully rely on the direct handling and the exceptional performance of the OMEGA 8 - all the time. Very tight turning can easily be achieved with only light brake pressure - outside brake fully released - and the wing allows itself to be led into thermals beautifully, giving back a completely honest and fascinating feel.

Similarly evident is the exceptionally light and effective speed system and - as a result of just the right wing twist - high canopy stability. Any tendency to fold is felt at the wingtips first, and thus can be prevented at the outset.

Performance in every sense

The OMEGA 8 speed system was developed to achieve a comfortable foot load, short leg travel and a differential action that makes the most of the whole wingspan. These features give a flyable top speed of 59 km/h. With its glide ratio of 10.6 the OMEGA 8 is the strongest performer of its class.

Over the whole speed range the wing has good internal pressure, without feeling stiff-as-a-board. Together with perfect lift distribution and wing twist this results in very high stability. With these qualities the OMEGA 8 is intended for accelerated flight in thermally active conditions.



FASCINATING



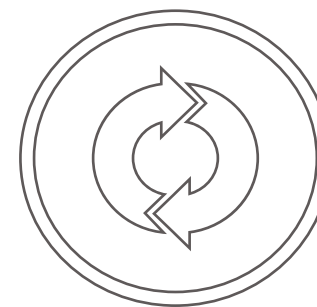
POWERFUL

Then there's the balanced pitching behaviour, so that the OMEGA 8 does not have to be repeatedly braked to arrest a forward shooting canopy. The pilot can have confidence in letting the glider fly, and improve performance by less brake activity.

Grown on success

All the technology used in the OMEGA 8 has been developed and matured up to the last detail, and carefully tested by the ADVANCE competition team for years. The OMEGA 8's three line levels and profile is based on the well-tried wing used by ADVANCE team pilot Andy Aebi to become 2009 world champion in Mexico.

Taking part in the 2009 Red Bull X-Alps also encouraged a lot of tweaks and try outs. ADVANCE team pilot Chrigel Maurer won this event in splendid style with the help of his superb equipment. The choice of materials for the OMEGA 8, including the use of nylon wires in the leading edge, owes a lot to Chrigel's X-Alps wing. The OMEGA 8 is one of the lightest in its class.



REFINED

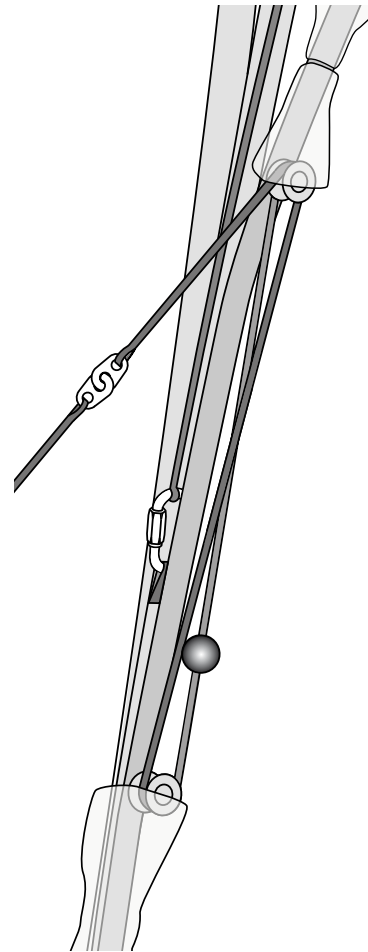
Other important details

Efficient and smooth 2-phase speed system with SPI

Thanks to its 3 line levels and the choice of profile the OMEGA 8 can be very efficiently accelerated with little effort. In addition the OMEGA 8 has a variable ratio speed system. This means that the speed bar travel and pressure can be changed to suit the user's anatomy: smooth, 3:1 ratio when the legs are bent, and efficient, more direct 2:1 with outstretched legs. During accelerated flight the Speed-Performance-Indicator (SPI) always shows the ideal against the currently selected accelerate setting.

Specially coated lines

The OMEGA 8's uncovered lines have a high resistance to UV radiation and physical abrasion thanks to their compact braid and an additional coating of the individual line fibres. The loops at the line junctions are reinforced, which results in lower contact surface pressure. A well-tried Dyneema/Aramid mix has been used for the brake lines to ensure minimum stretching.



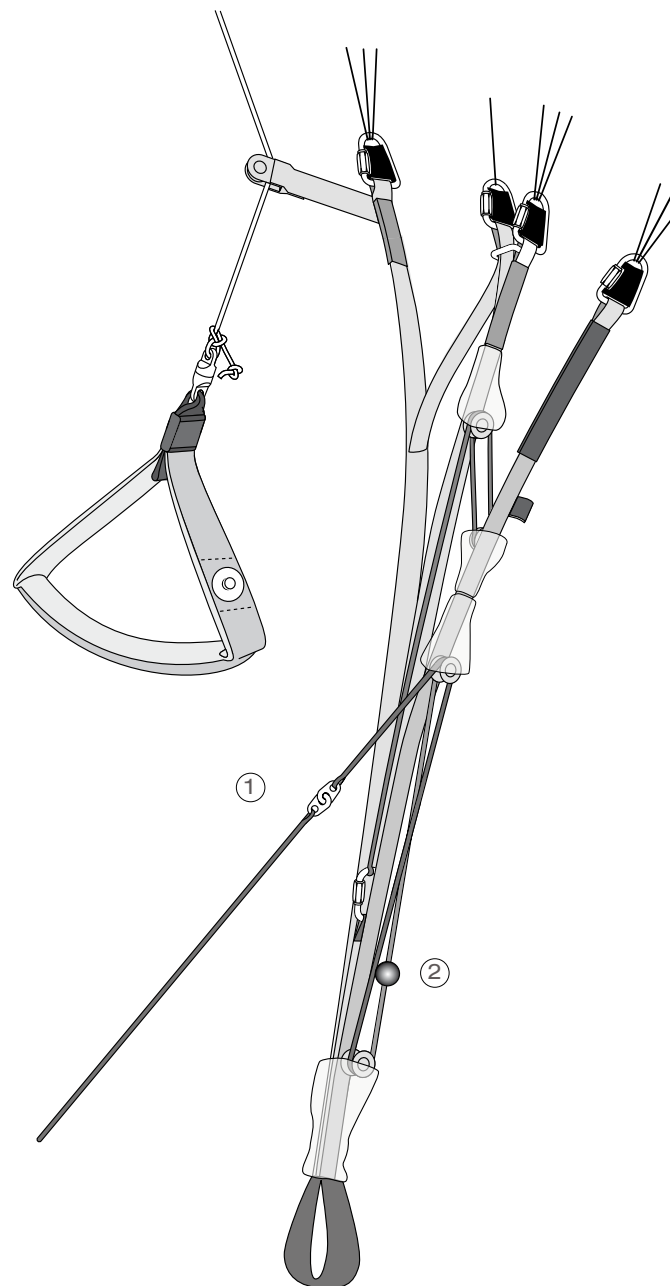
Speed system

The OMEGA 8 speed system should be correctly adjusted before the first flight, and it should be confirmed that the whole accelerate travel can be used. The OMEGA 8 riser/harness speed line connection is made by means of normal Brummel hooks ①.

After initial adjustment of the accelerator to leg length and to the harness, fine adjustment is carried out by individual configuration of the 2-phase speed system: moving the knot which locks the ball (see ball ② in the illustration) enables the speed bar extension distance and pressure to be adjusted to both leg length and leg position.

Example: If the knot is moved downwards, the transition from triple to double transfer occurs earlier, increasing the pressure and shortening the leg extension distance. If, on the other hand, the knot is moved upwards, the double transfer acts later and the leg extension distance is increased. Optimum adjustment of the 2-phase system enables a smooth triple transfer with bent legs and an efficient double transfer with outstretched legs.

The OMEGA 8's speed system is designed in such a way that the profile shape in accelerated flight, that is to say with changed angle of attack, is fully maintained at all times. This means that the favourable profile characteristics remain effective at high speed. The separation of the outermost A-riser allows the acceleration to be fine-tuned, in order to increase the stability of the wing tip in accelerated flight.



Speed-Performance-Indicator (SPI)

As a high-end long-distance paraglider, the OMEGA 8 is designed for accelerated flight in turbulent air. Because today's accelerated flying plays a decisive role in performance-hungry paragliding, a high average speed is the critical factor for success on long flights. It calls for continual adjustment of speed depending on the prevailing headwind, sink rate and anticipated climb in order to obtain both best glide and also the shortest flight time to cloud base. This is why the SPI is of particular importance to the OMEGA 8.

Based on careful calculations from the polar curve five positions with values for prevailing headwind \leftarrow , sink rate \downarrow (both values measured in un-accelerated flight) and the expected next rate of climb \uparrow are provided on the back of the D-risers. Lining up the sliding red speed system indicator on the SPI scale gives a precise setting for best performance for the air you are flying through. The positions specified on the SPI only apply to any one of the three listed values per position, considered by itself. The principle of the SPI is based on the simple and expanded McCready speed-to-fly theory.

Example: the first speed bar position applies to either 18.5 km/h headwind or 1.9 m/s descent rate (Vario) or an expected (Vario) average next climb rate of 0.9 m/s (see ① in the illustration).

If headwind, descent rate and expected climb are considered in combination, the correct speed bar position is more than cumulative because the polar curve is not a straight line.

Example: If the headwind is 18.5 km/h and the sink rate is 1.9 m/s, then your speed bar setting should be somewhat faster than the second position on the SPI (see ② in the illustration). If an expected climb of 0.9 m/s is considered as well, you should be pushing well past position three on the SPI (see ③ in the illustration).



→ 0.0
↓ 0.0
↑ 0.0

①

→ 18.5
↓ 1.9
↑ 0.9

②

→ 24.5
↓ 2.5
↑ 1.5

③

→ 29.5
↓ 3.3
↑ 2.3

→ 33.5
↓ 4.0
↑ 3.0

Examples of use

Condition: No head wind / no sink

Speed / height loss / time to the cloudbase

Trim Speed = 473m, 15'05" to cloudbase

50 km/h = 532m, 14'53" to cloudbase

55 km/h = 590m, 15'19" to cloudbase

58 km/h = 632m, 15'45" to cloudbase

Condition: 20 km/h head wind / no sink

Speed / height loss / time to the cloudbase

Trim Speed = 928m, 29'51" to cloudbase

50 km/h = 889m, 24'55" to cloudbase

55 km/h = 930m, 24'10" to cloudbase

58 km/h = 968m, 24'08" to cloudbase

Condition: 20 km/h head wind / 1.5 m/s sink

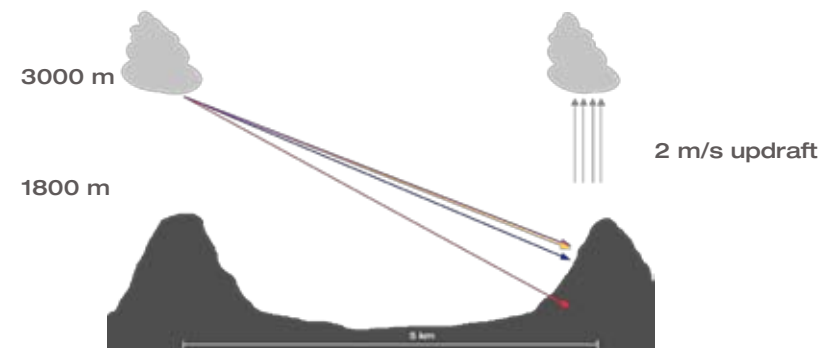
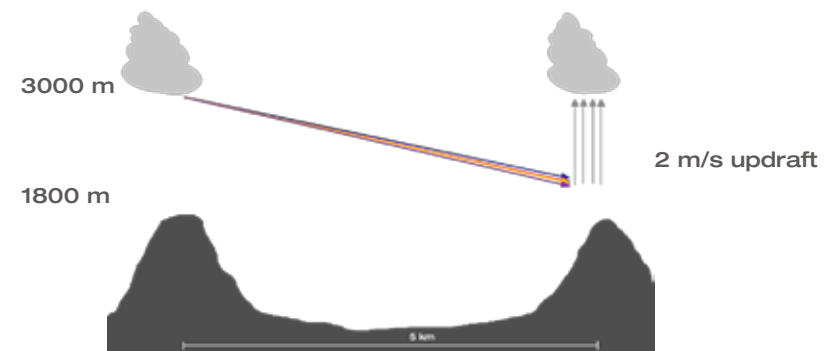
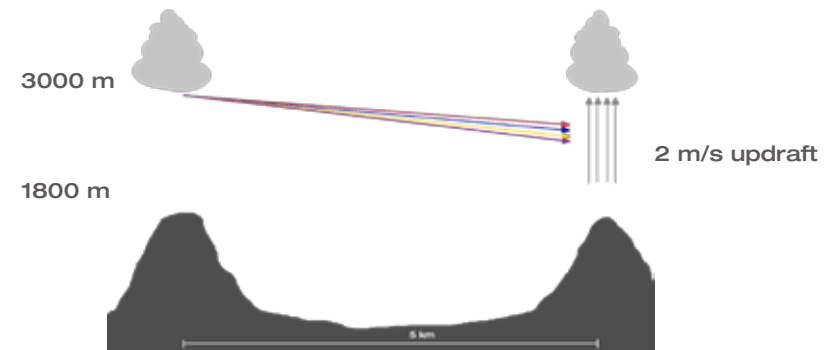
Speed / height loss / time to the cloudbase

Trim Speed = 2223m, 71'34" to cloudbase

50 km/h = 1798m, 50'22" to cloudbase

55 km/h = 1710m, 44'26" to cloudbase

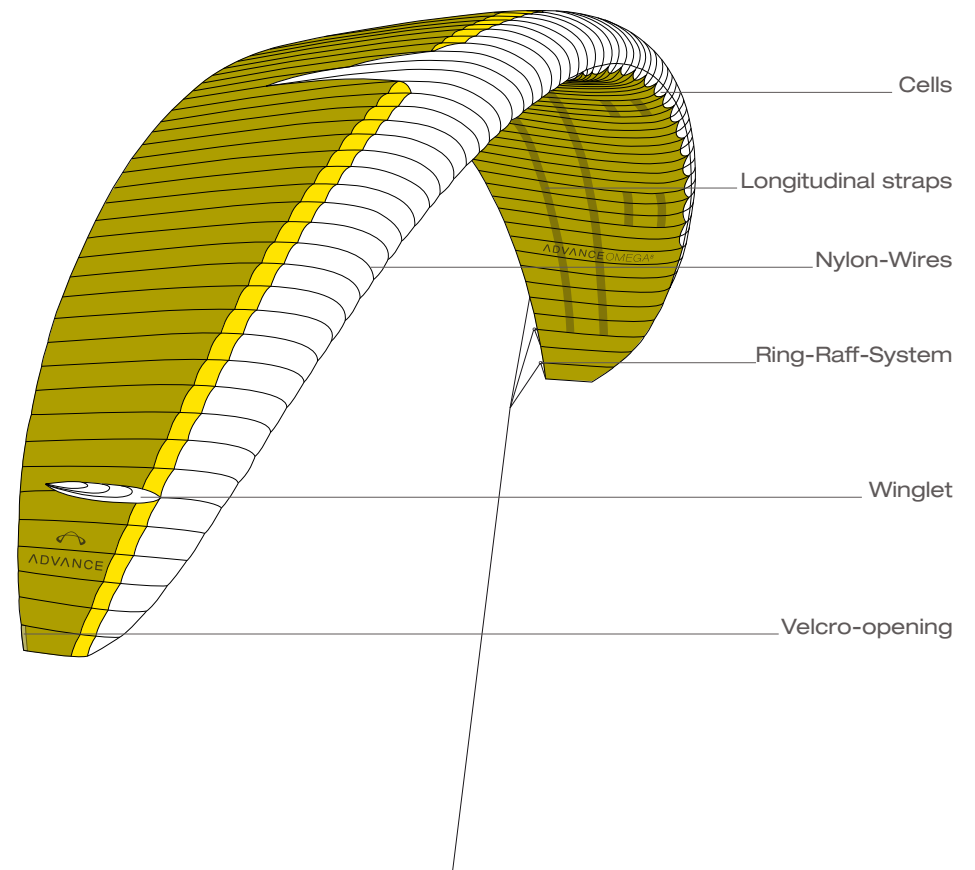
58 km/h = 1688m, 42'03" to cloudbase



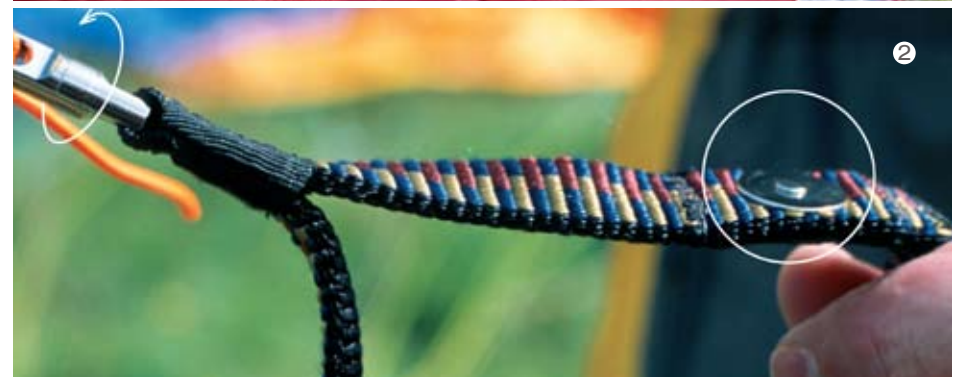
ADVANCE Standards & Quality

ADVANCE pays a lot of attention to small details:

- The Smart Sail System aligns the material at the leading edge in the best direction to match the loads in this area, and a strong, specially impregnated fabric is used here to improve the life of the wing (See picture 1).
- The semi circular cell openings align more efficiently with the stagnation point on the leading edge as it moves with varying angles of attack. This improves the internal wing pressure and thereby the stability of the canopy.
- 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.
- Longitudinal straps ensure a better stability of the canopy and prevent unnecessary movement that can influence the performance and the handling of the glider.
- 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 wing tips. This protect wrinkles along the cell walls and assures a beautifully clean aerodynamic shape.



- The brake handles are fixed with a magnetic clip to allow easy access. The shape and the flexibility of the brake handles ensure maximum comfort even after hours of flying (See picture 2).
- 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 (See picture 2).
- The winglets, which are an important aerodynamic element, are a 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 removal of dirt and debris much easier (See picture 3).
- The “Ring Raff System” improves the coordination of brake application and turning behaviour (See picture 3).
- The length of the riser matches the size of your wing. This ergonomic improvement allows every pilot to handle the risers easily and to reach up to the lines conveniently. The brake handles also come in different sizes.



Suitable harnesses

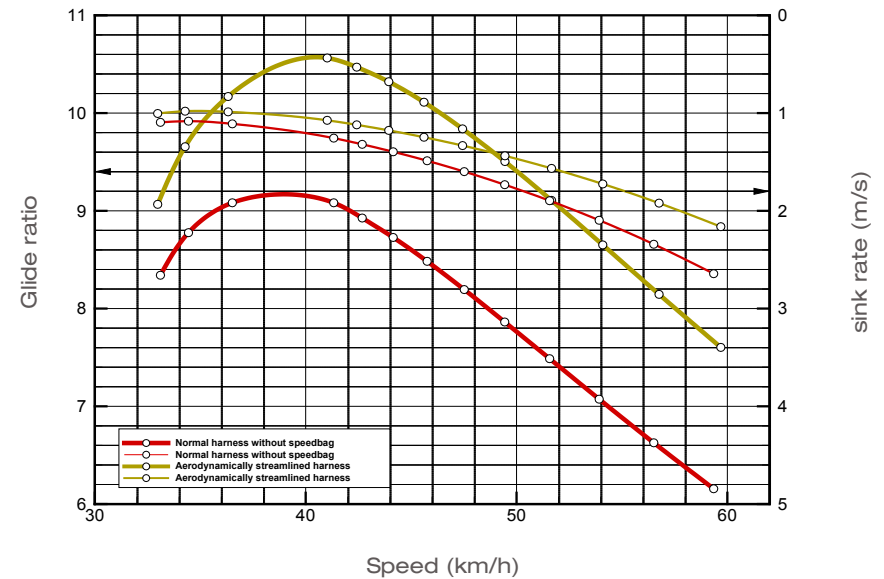
The OMEGA 8 is certified for harnesses in group GH (without rigid cross-bracing) (see section «Certification»). The harness support points should ideally be at a distance of approx. 45 cm (shoulder width) and a height of between 40 and 48 cm.

The OMEGA 8 is neither suitable nor certified for harness of group GX (with rigid cross-bracing). The use of such harnesses can have a bad effect on handling and extreme flight behaviour.

The OMEGA 8 was specifically trimmed for use with an aerodynamically streamlined harness. We therefore recommend a harness with speedbag, so that the high performance of this glider can be fully exploited. Especially well suited is the ADVANCE iMPRESS harness – the OMEGA 8 was developed and tested with it.

Effect of the harness

Practice confirms the theory – a streamlined harness improves the glide performance enormously.



1500m altitude / 15°C surface temperature / 1013 hPa
sea level pressure

Weight range

Flying in the lower or upper weight ranges has no effect on the OMEGA 8's good glide performance. The wing's flying characteristics can be different, however, but without affecting the pilot's safety.

We basically recommend a choice of OMEGA 8 where approximately the middle of the weight range will apply. If an individual's takeoff weight lies between two sizes and the choice is not clear the decision then also depends on personal preference and the pilot's typical flying conditions.

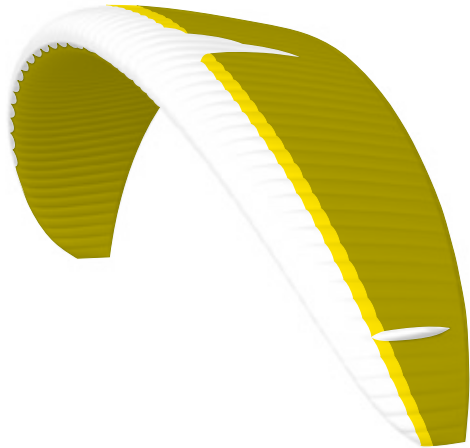
If the pilot often flies in strong thermals and/or plenty of wind – and prefers a more dynamic glider – we recommend the higher end of the weight range. On the other hand a low sink rate for weak thermals, and more damped reactions to manoeuvres would call for the model where the pilot's takeoff weight lies towards the lighter end of the weight area. If in doubt the pilot should try both sizes and decide as a result of test flights.

Better glide performance will be achieved if in-flight weight is increased by carrying ballast, and a larger glider size used. Because of the greater proportion of the drag raised by the body and lines smaller gliders don't have as good gliding performance as large ones.

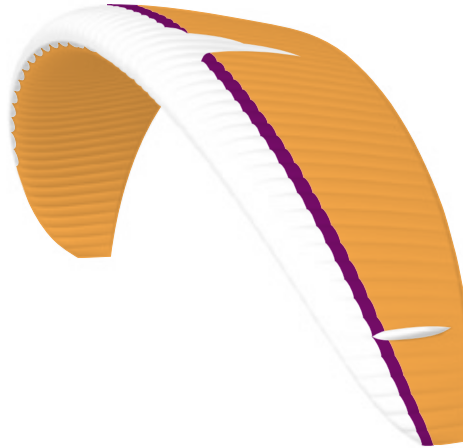


Colours

Colour code - Leading edge & winglets / design stripe / top & bottom surface



PALM - white / yellow / palm



ORANGE - white / aubergine / orange

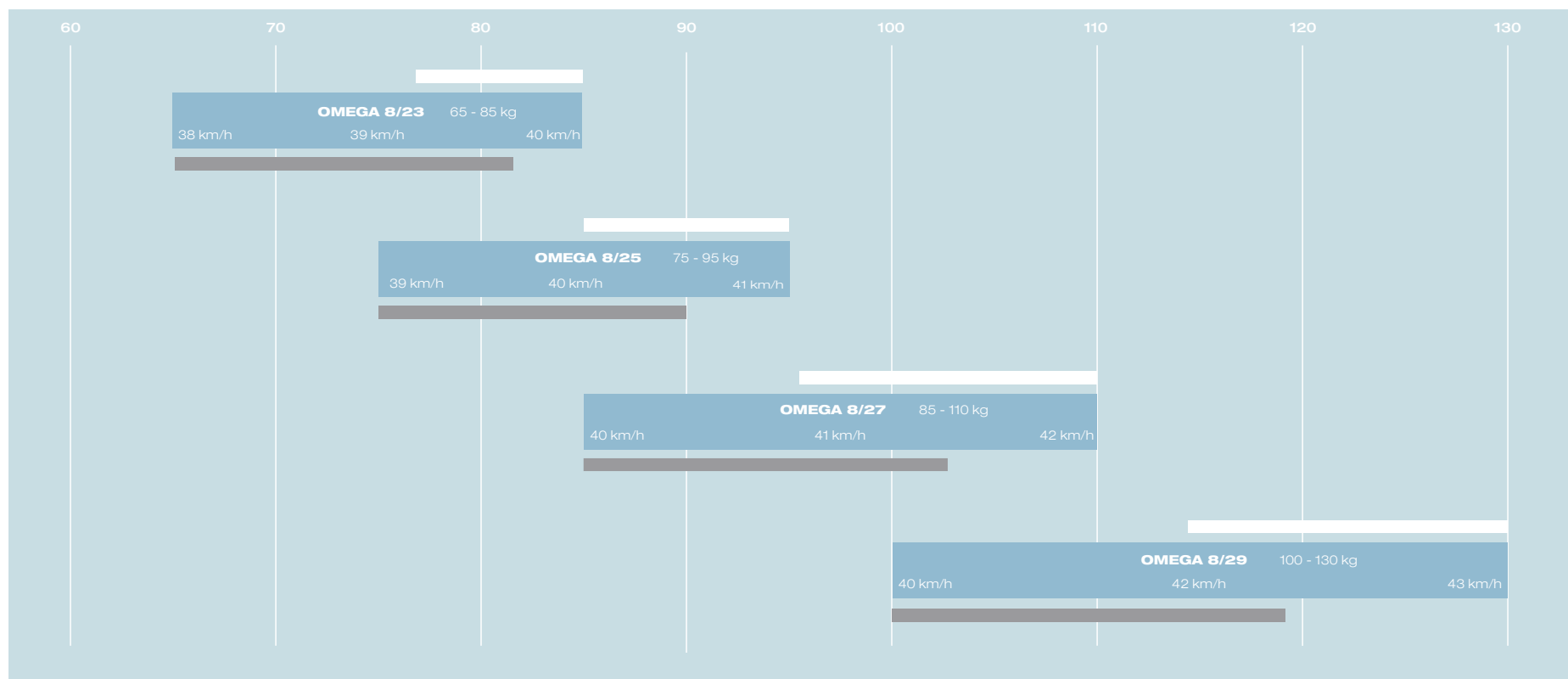




WHITE - aubergine / grey / white

Special colours

The OMEGA8 leading edge is made of a new fabric, developed exclusively for ourselves. This material is New Skytex 6.6 Evolution water-repellent, 9092 E117 / 44 g/m² from Porcher Sport. Because this material is only made for us all OMEGA 8 leading edges will only come in one of the standard colours – aubergine, gold, grey, orange, petrol, red and white.

Choice of the size



-  Weight range of the different sizes.
-  The dynamic side of the OMEGA 8. In this area the glider is more dynamic, and shows higher stability.
-  The thermalling side of the OMEGA 8. In this area the wing climbs better in weak conditions.

Certification

The OMEGA 8 has been awarded LTF and EN for all sizes in both un-accelerated and accelerated flight. The certification reports can be downloaded from www.advance.ch.

Certification ratings can only provide limited information about a paraglider's flying behaviour in thermally active and turbulent air. The certification grading is based primarily on provoked extreme flight manoeuvres in calm air.

During the development of an ADVANCE paraglider, the emphasis is first and foremost on flying behaviour and handling and not exclusively on the certification test. The result is a well-rounded product with the familiar ADVANCE handling. Nevertheless, the certification rating occupies a significant proportion of the specifications that have to be met.



Technical data



OMEGA 8		23	25	27	29
Flat surface	m2	22.50	24.5	26.50	28.5
Projected surface	m2	18.9	20.6	22.3	23.9
Span	m	12.32	12.86	13.38	13.87
Projected span	m	9.55	9.96	10.36	10.57
Aspect ratio				6.8	
Projected aspect ratio				4.8	
Max chord	m	2.28	2.38	2.47	2.56
Min chord	m	0.40	0.42	0.43	0.45
Take off weight ²	kg	65 - 85	75 - 95	85 - 110	100 - 130
Glider weight	kg	5.4	5.7	6.0	6.4
Number of cells				73	
Number of risers				3	
Riser length	cm	46	48	50	52
Max length of the lines with the risers	cm	753.9	786.7	818.3	848.5
Symmetric control travel	cm			> 50	
Min speed ¹	km/h			24 (+/- 1)	
Trim speed ¹	km/h			40 (+/- 2)	
Max. speed ¹	km/h			59 (+/- 2)	
Min. sink rate ¹	m/s			1.0 (+/- 0.1)	
Best glide ¹				10.6 (+/- 0.1)	
Certification				EN / LTF	

¹ Values depending on wing loading, harness/pilot and glider size

² Pilot, wing, equipment

Materials used

We routinely inspect and test our materials many times over. Like all ADVANCE products the OMEGA 8 is designed and produced as a result of the latest developments and knowledge. We have chosen all the materials very carefully, under conditions of the strictest quality control.

Leading edge: New Skytex 6.6 Evolution water-repellent, 9092 E117 / 44 g/m2

Upper and lower surface: New Skytex 6.6 water-repellent, 9017 E77A / 40 g/m2

Ribs: New Skytex 6.6 hard, 9017 E29 / 40 g/m2

Internal partitions: New Skytex 6.6 hard, 70000 E91 / 27 g/m2

Leading and trailing edge reinforcements: Polyester laminated, 20mm

Lower leading edge reinforcements: Polyamid, 16 mm

Lines:

- Liros Technora (Aramid), LTC200 / 160 / 80, unsheathed UV coated, 1,3mm / 1,2mm / 0,7mm (main lines)
- Liros Technora (Aramid), LTC 120 / 80 / 65, unsheathed UV coated, 1,1mm / 0,7mm / 0,65mm (2nd level)

- Liros Technora (Aramid), LTC 80 / 65 / 45, unsheathed UV coated, 0,7mm / 0,65mm / 0,55mm (1st level)

- Liros Technora (Aramid), LTC 160 / 45, unsheathed UV coated, 1,2mm / 0,55mm (brake lines)

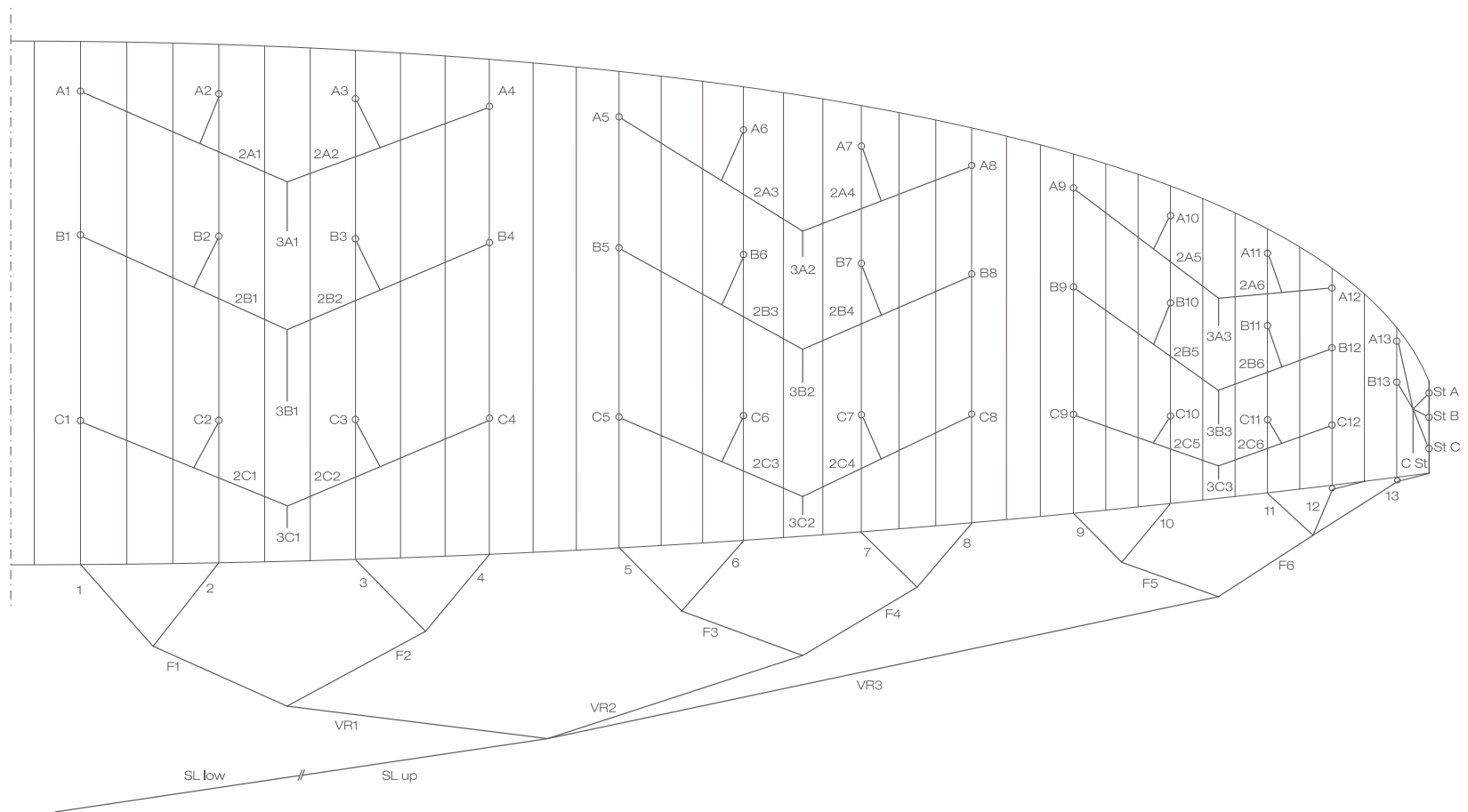
- DFLP 232, Dyneema / Polyester (steering line)

Risers: Polyester / Technora (Aramid), 13mm – 1000kg

Quick links: Maillon Rapide, Inox stainless, 3.5 mm - 750 kg

Lineplan

OMEGA 8 - 23/25/27/29





ADVANCE Models

Freeflight



Paramotor



ADVANCE ALPHA

The ALPHA is ideal for the safety-conscious leisure pilot and is the ADVANCE beginner's model. It is certified for motorised flight (paramotoring). The HIKE version of the ALPHA is markedly lighter, has much better performance, and makes use of a higher takeoff weight.

ADVANCE EPSILON

The EPSILON represents the definitive platform for the confident new pilot or recreational thermal flyer and offers many reasons to leave the home site for the first time. It is certified for motorised flight (paramotoring).

ADVANCE SIGMA

To fully get the most out of this top performance intermediate wing the SIGMA pilot should be competent at cross-country flying and possess the necessary feeling for a wing in such conditions.

ADVANCE OMEGA

Our OMEGA is a high-end high performer and is primarily directed at performance-orientated frequent flyers and serial-competitions pilots. The OMEGA gives precise canopy feedback and shows excellent thermal bite.

ADVANCE BIBETA

Thanks to its robustness and a broad operating envelope this tandem glider is especially designed for the professional tandem pilot, and is also very popular with recreational tandem flyers.



it's in your nature **ADVANCE**