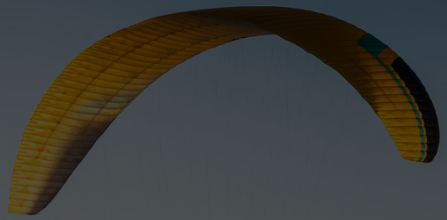

ARTIK 6

User's manual

ARTIK 6

WELCOME TO THE REVOLUTION

WELCOME

We wish to welcome you to our team and thank you for your confidence in our glider product line.

We would like to share the enthusiasm with which we created the ARTIK 6 and the importance and care we took in the design and manufacture of this new model in order to offer maximum pleasure on every flight with a Niviuk glider.

The Artik 6 hails the dawn of a new era of XC flying where countless possible routes are waiting for you. A fusion of outstanding performance and accessibility to sate your hunger for kilometres.

The incredibly high performance results from the incorporation of the Niviuk technologies: designed to provide an unparalleled flight experience.

We are confident you will enjoy flying this glider and will soon discover the meaning of our motto:
“The importance of small details”.

This is the user manual and we recommend you read it carefully.

The Niviuk Team.

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USER’S MANUAL

This manual provides you with the necessary information on the main characteristics of your new ARTIK 6.

Whilst it provides information on the wing, it cannot be viewed as an instructional handbook and does not offer the training required to fly this type of paraglider. Training can only be undertaken at a certified paragliding school and each country has its own system of licensing. Only the aeronautical authorities of respective countries can determine pilot competence.

The information in this manual is provided in order to warn you against adverse flying situations and potential dangers.

Equally, we would like to remind you that it is important to carefully read all the contents of your new ARTIK 6 manual.

Misuse of this equipment could lead to severe injuries or death. The manufacturers and dealers cannot be held responsible for misuse of the paraglider. It is the responsibility of the pilot to ensure the equipment is used correctly.

SUMMARY

1. CHARACTERISTICS

1.1 WHO IS IT DESIGNED FOR?

Cross Country: Prepare to do some serious kilometres on a high-performance wing with excellent glide. Outstanding damping guarantees stability and comfort.

Competition: You will notice the high efficiency in thermals. Its high speed will take you to the top in the sport category.

Progression: A communicative wing that will allow you to continue learning safely but with added maneuverability and performance.

1.2 CERTIFICATION

The ARTIK 6 has been submitted for the European EN and LTF certification. All certification tests were performed at the Swiss testing house Air Turquoise.

All sizes passed the load, shock and flight tests.

The load test proved that the wing can withstand the stipulated 8G.

The shock test proved that the wing can resist 1000 daN of force.

The flight test resulted in the following certification for all sizes:

EN C
LTF C

We recommend that only pilots who are familiar with gliders of this certification or above fly this paraglider.

Only the aeronautical authorities of respective countries can determine pilot competence.

We recommend pilots read the flight test report carefully, especially the comments of the test pilot. The report contains all the necessary information on how the paraglider reacts during each of the tested manoeuvres.

It is important to note that different size wings will react differently during manoeuvres. Even within the same size, at maximum or minimum load, the behaviour and reactions of the wing may vary.

- Description of EN C class wing characteristics:

Paragliders with moderate passive safety, potentially dynamic reactions to turbulence and pilot errors. The recovery to normal flight may require precise interventions by the pilot.

- Description of the pilot skills required for an EN C wing:

Designed for pilots familiar with recovery techniques, who fly actively and understand the implications of flying a glider with reduced passive safety.

For further information on the flight test and the corresponding certification number, please see the final pages of this manual or see niviuk.com.

1.3 IN-FLIGHT BEHAIVOR

The new profile feels very stable and solid in all phases of flight. The optimisation of the leading edge contributes to the wing being more cohesive. For this reason, during glide the wing maintains altitude well, even when fully accelerated. When gliding, it has an excellent sink rate and the profile remains stable. Turning is intuitive, precise and requires

less physical effort.

It should be noted that the ARTIK 6 climbs better in thermals than the previous model.

The ARTIK 6 has a gliding efficiency at the highest level in its classification, and is very stable in flight.

1.4 CONSTRUCTION, MATERIALS

The ARTIK 6 has all the technological innovations used on other Niviuk gliders and is built with the most careful selection of current materials. It has all the current technology and accessories available to improve pilot comfort whilst increasing safety and performance.

In the design of all Niviuk products the team aims to ensure development and continuous improvement. The technologies developed in recent years have allowed us to develop greater, better wings. It is in this context that we would like to introduce the technologies included in this new model.

RAM - The Ram Air Intake system is characterised by the arrangement of the air inlets, to ensure optimal maintenance of internal pressure across the the whole range of angles of attack. The result? Having greater internal pressure means better tolerance of turbulence, greater consistency of the profile shape across the speed range; excellent handling at low speed is achieved by allowing the pilot to extend the braking limit, there is a lower risk of collapse and consequently, greater control and safety.

TNT (Titanium Technology) - Nitinol is a combination of 50% nickel and 50% titanium. This technology provides three outstanding benefits that increase the performance of the wing, compared to plastic rods. *With the incorporation of the Nitinol rods, the weight of the wing is reduced by 13% compared to nylon.
*Nitinol has closely related properties. It has shape memory and enormous elasticity. This means that the rods maintain their optimum shape even after ultra-compact or bad folding, so that the wing does not suffer from deformation unless the radius at the point of bending is less than 1 cm.
*The leading edge shape is much more rigid and uniform. This means a much more consistent and progressive inflation; which translates into an easier take-off. The profile is taut at all times, without creases or wrinkles, and fully optimised for all flight phases.

In addition, the rods have a plastic protector at their ends to prevent any damage to the fabric of the wing. Nitinol is now featured in all our wings.

SLE (Structured Leading Edge) - The SLE is a rigid structure located at the leading edge of the wing that eliminates the need for old-fashioned mylar reinforcements in this area, thus reducing the weight and increasing the durability of the wing. The leading edge will also have better turbulence absorbing qualities. In addition, the SLE provides greater solidity and strength in the leading edge to maintain its shape at all speeds and angles of attack, thus increasing performance.

3DP (3D Pattern Cut Optimization) - This technology seeks to implement the best orientation of the cloth on each panel according to its location on the leading edge. If the cloth pattern is correctly aligned with the load axes, the cloth suffers less deformation flight after flight, so the leading edge keeps its shape better and maintains its durability over time. The design of our paraglider and paramotor wings has evolved a lot over the years, significantly affecting the leading edge.
The application of this innovation, in conjunction with the 3DL, is key to converting the perfect shape from 2D to 3D.

3DL (3D Leading Edge) - 3DL technology is an adjustment of the fabric at the leading edge of the wing to control the ballooning and the creases that are generated by the curvature in this area. The leading edge is then divided into sub-panels which are sewn into each of the cells at

the front of the wing. As a result, the leading edge of the wing is more evenly tensioned, which benefits the wing in performance and durability. As an example, because of its similarity, imagine a rugby ball. In order to produce its characteristic oval shape without wrinkles, its cover is made of several panels - not of just one piece.
The application of this innovation, in conjunction with the 3DP, is key to converting the perfect shape from 2D to 3D.

STE (Structured Trailing Edge) - The STE provides a rigid structure at the trailing edge in order to maintain its shape in accelerated flight. In addition, the rigidity provided by these elements improves the load distribution, reducing wrinkles, and consequently drag, and therefore ensuring better performance.

DRS (Drag Reduction Structure) - With the application of the DRS, the airflow at the trailing edge is directed more progressively along the adverse pressure gradient with the aim of reducing the aerodynamic drag produced in this area. This increases performance without compromising safety or control of the wing.

RSD (Radial Sliced Diagonal) - RSD (Radial Sliced Diagonal) technology improves the internal structure of the wing, incorporating different independent diagonal ribs oriented more efficiently, i.e. in the optimal direction of the fabric, improving the strength and reducing weight and deformation. Currently, most paragliders have diagonal ribs connected from the attachment points to the adjacent profiles with the aim of reducing the number of attachment points, the number of lines and improving load distribution.
In conventional diagonal ribs, loading/unloading cycles away from the highest strength axis of the cloth result in a loss of shape, which reduces the cohesion of the wing and therefore aerodynamic efficiency.
The use of these technologies is a big technological leap forward in building wings and a big improvement in flight comfort.
For the construction process of the ARTIK 6 we use the same criteria, quality controls and manufacturing processes as in the rest of our range.

From Olivier Nef's computer to fabric cutting, the operation does not allow for even a millimetre of error. The cutting of each wing component is performed by a rigorous, extremely meticulous, automated computer laser-cutting robotic arm.
This program also paints the guideline markers and numbers on each individual fabric piece, thus avoiding errors during this delicate process.

The jigsaw puzzle assembly is made easier using this method and optimises the operation while making the quality control more efficient. All Niviuk gliders go through an extremely thorough and detailed final inspection. The canopy is cut and assembled under strict quality control conditions facilitated by the automation of this process.

Every wing is individually checked with a final visual inspection.
The fabric used to manufacture the glider is light, resistant and durable.
The fabric will not fade and is covered by our warranty.
The upper-lines are made from unsheathed Dyneema and the rest are made of unsheathed Kevlar.
The line diameter has been calculated depending on the workload and aims to achieve the required best performance with the least drag.
The lines are semi-automatically cut to length and all the sewing is completed under the supervision of our specialists.
Every line is checked and measured once the final assembly is concluded.
Each glider is packed following specific maintenance instructions as recommended by the fabric manufacturer.
Niviuk gliders are made of premium materials that meet the requirements of performance, durability and certification that the current market demands.

Information about the various materials used to manufacture the wing can be viewed in the final pages of this manual.

1.5 ELEMENTS, COMPONENTS

The ARTIK 6 is delivered with a series of accessories that will greatly assist you in the maintenance of your paraglider:

- An inner bag to protect the wing during storage and transport.
- An adjustable compression strap to compress the inner bag and reduce its volume.
- A Speed-bar.
- A repair kit with self-adhesive Ripstop tape and spare O-rings to protect the maillons.
- A Kargo bag. It is not included in the pack, but we recommend to get it. This bag is large enough to hold all equipment comfortably and with plenty of space.

2. UNPACKING AND ASSEMBLY

2.1 CHOOSING THE RIGHT LOCATION.

We recommend unpacking and assembling the wing on a training hill or a flat clear area, free of obstacles and without too much wind. It will help you to carry out all the recommended steps required to check and inflate the ARTIK 6.

2.2 PROCEDURE

Take the paraglider out of the rucksack, open and unfold it on the ground with the lines positioned on the undersurface, oriented in the direction of inflation. Check the condition of the fabric and the lines for defects. Check the maillons/IKS connecting the lines to the risers to make sure they are fully closed and tightened. Identify, and if necessary untangle, the A, B and C-lines, the brake lines and corresponding risers. Make sure that there are no knots.

2.3 CONNECTING THE HARNESS

The ARTIK 6 risers are colour-coded.
- Right: green
- Left: red

This colour-coding makes it easier to connect the wing to the correct side and helps prevent pre-flight errors.

Correctly connect the risers to the attachment points so that the risers and lines are correctly ordered and free of twists. Check that the IKS or carabiners are properly fastened and securely locked.

2.4 TYPE OF HARNESS

The ARTIK 6 can be flown with all current harness types. We recommend setting the chest strap to the distance specified in the certification report - this will vary depending on size.

Care should be taken with the chest strap setting, as the distance of the chest strap setting will affect the handling of the glider. If the chest strap is too wide, it allows greater feedback but this carries the risk of affecting the stability of the wing.
If the chest strap is set too tightly, the wing feels more solid, but there is a loss of feedback and a risk of twisting in the case of a violent asymmetric collapse.

2.5 SPEED-BAR

The speed-bar is a means of temporary acceleration by changing the flow over the profile. The speed system comes pre-installed on the risers and is not modifiable as it conforms to the measurements and limits stipulated in its certification.

The ARTIK 6 includes a speed system with maximum travel depending on its size (see below).

The speed system is engaged when the pilot pushes the speed-bar - not included as standard with this glider model - with their feet (see 2.5.1 Speed system assembly)

The speed system uses an action/reaction system. Released, the speed-bar is set to neutral. When the bar is pushed using the feet, the wing accelerates. The speed can be regulated by varying the pressure on the bar. Once the pressure on the bar is released, the speed system returns to the neutral setting.

The speed system is efficient, sensitive and precise. The pilot can use the system whenever they want during the flight. In the neutral position the glider will fly at the standard speed and glide. Using full speed-bar, the wing will fly at maximum speed, but the glide will be adversely affected.

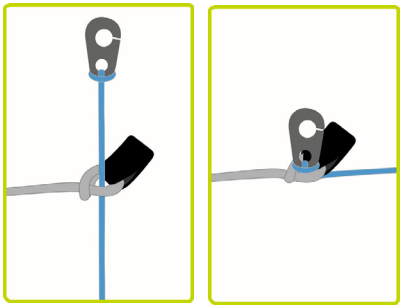
•Released speed-bar: the A, B, C – risers are aligned.
•Full speed-bar: the difference between the A - C risers becomes:
Size 21 - 18 cm
Size 23 - 20 cm
Size 25 - 20 cm
Size 27 - 20 cm

Please note!
The use of the speed system results in changes to the speed and reactions of the wing. For more information, please see the certification report.

2.5.1 SPEED SYSTEM ASSEMBLY.

The speed-bar consists of the bar that the pilot pushes with their feet, as well as the two chords that connect it to the speed system components on the risers. Once you have chosen the type of speed-bar you prefer, you must install it. Some considerations:

•you should use the type of speed-bar you consider appropriate, depending on the type of harness, personal preferences, etc.
•The speed-bar is detachable to facilitate its connection and / or disconnection to the risers as well as subsequent adjustment.
•To connect it to the harness, please follow the instructions of the harness manufacturer. The majority of harnesses have a speed system pre-installed.
•The standard connection of the speed-bar to the speed system is via Brummel hooks, where two slots in the hooks are interlocked, making their connection / disconnection easy. However, any connection system that is safe may be used.



2.5.2 CHANGING THE RISER CHORDS.

In spite of the speed system having pulleys with bearings to reduce friction to a minimum, the frequency with which the speed-bar is used causes the chord to wear and you may need to replace them.

In all Niviuk gliders the speed system chords on the risers are completely removable and easily replaceable. You can use the Brummel hooks, not use them, remove them, use another type of connector, etc. It is even

possible to fix the speed-bar chords directly to the speed system on the risers. This last option makes the connection / disconnection more laborious, but means the chord has maximum travel without obstructions or restrictions which is very useful for some models of harnesses.

2.6 INSPECTION AND WING INFLATION ON THE GROUND

After your gear has been thoroughly checked and the weather conditions deemed favourable for flying, inflate your ARTIK 6 as many times as necessary to familiarise yourself with its behaviour. Inflating the ARTIK 6 is easy and should not require a great deal of physical effort. Inflate the wing with a little pressure from the body using the harness. This may be assisted by using the A-lines. Do not pull on them; just accompany the natural rising movement of the wing. Once the wing is inflated to the overhead position, appropriate control with the brakes will be sufficient to hold it there.

2.7 ADJUSTING THE BRAKES

The length of the main brake lines are adjusted at the factory and conform to the length stipulated during certification. However, they can be changed to suit your flying style. It is advisable to fly with the original setting for a period of time to get used to the actual behaviour of the ARTIK 6. In case it is necessary to modify the brake length, loosen the knot, slide the line through the brake handle to the desired point and re-tighten the knot firmly.
Only qualified personnel should carry out this adjustment. You must ensure that the modification does not affect the trailing edge and slow the glider down without pilot input. Both brake lines should be symmetrical and the same length. We recommend using a clove hitch or bowline knot.

When changing the brake length, it is necessary to check that they do not engage when the speed-bar is used. When we accelerate, the glider rotates over the C-riser and the trailing edge elevates.
It is important to check that the brake is adjusted to take into consideration this extra distance during acceleration. With this profile deformation there is a risk of generating turbulence and causing a frontal or asymmetric collapse.

3. THE FIRST FLIGHT

3.1 CHOOSE THE RIGHT LOCATION

For the first flight we recommend going to a gentle slope (training hill) or your usual, familiar flying area.

3.2 PREPARATION

Repeat the procedures detailed in chapter 2 UNPACKING AND ASSEMBLY in order to prepare your equipment.

3.3 FLIGHT PLAN

Planning a flight before taking off to avoid possible problems later is always a good idea.

3.4 PRE-FLIGHT CHECK LIST

Once ready, but before taking off, conduct another equipment inspection. Conduct a thorough visual check of your gear with the wing fully open, the lines untangled and properly laid out on the ground to ensure that all is in working order. Be certain the weather conditions are suited to your flying skill level.

3.5 WING INFLATION, CONTROL, AND TAKE-OFF

The ARTIK 6 comes up easily, without requiring additional energy, and does not overfly you. It is a straight-forward exercise, leaving enough time for you to decide whether to accelerate and take off or not.

If the wind permits, we recommend a reverse launch, as this allows a

better visual inspection of the wing during inflation. In “strong” winds, the ARTIK 6 is especially easy to control using this launch technique. Winds of 25 to 30 km/h are considered strong for paragliding.

Correctly setting up the wing on the ground before take off is especially important. Choose an appropriate location facing the wind. Position the paraglider in a crescent configuration to facilitate inflation. A clean wing layout will ensure a trouble-free take off.

3.6 LANDING

The ARTIK 6 lands excellently, it converts the wing speed into lift at your demand, allowing an enormous margin of error. Wrapping the brake lines around your hand to get greater braking efficiency is not necessary.

3.7 PACKING

The ARTIK 6 has a complex leading edge, manufactured using a variety of different materials and it must be packed carefully. A correct folding method is very important to extend the useful life of your paraglider.

It should be concertina-packed, with the leading edge reinforcements flat and the flexible rods stacked one on top of the other. This method will keep the profile in its original shape and protect the integrity of the wing over time. Make sure the reinforcements are not bent or folded. It should not be folded too tightly to avoid damage to the cloth and/or lines.

At Niviuk we have designed the NKare Bag, a bag designed to assist you with rapid packing which helps maintain the integrity of the leading edge and its internal structures in perfect condition.

The NKare Bag guides you through the folding process, allowing you to concertina pack the wing with each rod on top of the other and then fold the wing as required. This folding system ensures that both the fabric and the reinforcements of the internal structure are kept in perfect condition.

4. IN FLIGHT

We recommend that you read the certification test report.

The report contains all the necessary information on how the ARTIK 6 reacts during each of the tested manoeuvres.

It is important to point out that the appropriate response to each adverse manoeuvre can vary from size to size; even within the same size at maximum or minimum load the behaviour and reactions of the wing may vary.

Having the knowledge that the testing house provides through the test report is fundamental to learning how to deal with possible situations.

To become familiar with the manoeuvres described below, we recommend practising within the auspices of a licensed training outfit.

4.1 FLYING IN TURBULENCE

The ARTIK 6 has an excellent profile to deal with incidents; it is very stable in all conditions and has a high degree of passive safety, even in turbulent conditions.

All paragliders must be piloted for the prevailing conditions and the pilot is the ultimate safety factor.

We recommend active flying in turbulent conditions, always taking measures to maintain control of the wing, preventing it from collapsing and restoring the speed required by the wing after each correction.

Do not correct the glider (braking) for too long in case this induces a stall. If you have to take corrective action, make the input then re-establish the correct flying speed.

4.2 POSSIBLE CONFIGURATIONS

To become familiar with the possible incidents described below, we recommend practising within the environment of a licensed training outfit. You must adapt your use of the brakes depending on the wing-loading and avoid over-steering.

It is important to note that the type the reaction to an incident can vary from one size of wing to another, and even within the same size the behaviour and reactions may be different depending on the wing-loading.

In the test report, you will find all the necessary information on how to handle your new wing during each of the tested manoeuvres. Having this information is crucial to know how to react during these incidents in real flight, so you can deal with these situations as safely as possible.

Asymmetric collapse
In spite of the ARTIK 6 ’s profile stability, strong turbulent air may cause the wing to collapse asymmetrically, especially in very strong turbulence, especially if you do not fly actively and prevent the collapse. In this case the glider conveys a loss of pressure through the brake lines and the harness. To prevent the collapse from happening, pull the brake handle on the affected side of the wing. It will increase the incidence of the wing (angle of attack). If the collapse does happen, the ARTIK 6 will not react violently, the turning tendency is gradual and easily controlled. Weight-shift toward the open, flying side (the opposite side of the collapse) to keep the wing flying straight, while applying light brake pressure to that side if necessary. Normally, the collapsed side of the wing should then recover and reopen by itself. If it does not, try to weight-shift towards the collapsed side. If this does not resolve the issue, pull the brake handle on the collapsed side decisively and quickly all the way (100%) down and release it back up immediately. You may have to repeat this action to provoke the re-opening of the collapsed glider side. Do not over-brake or slow down the flying side of the wing (control the turn). Once the collapsed side is open make sure you return to normal flying speed.

Frontal collapse
Due to the ARTIK 6 ‘s design, in normal flying conditions frontal collapses are unlikely to take place. The wing’s profile has great buffering abilities when dealing with extreme incidence changes. A frontal collapse may occur in strong turbulent conditions, entering or exiting powerful thermals. Frontal collapses usually re-inflate without the glider turning, but a symmetrically applied quick braking action with a quick deep pump of both brakes will accelerate the re-inflation if necessary. Release the brake lines immediately to return to default glider air speed.

Negative spin
A negative spin does not conform to the ARTIK 6’s normal flight behaviour. Certain circumstances however, may provoke a negative spin (such as trying to turn when flying at very low air speed whilst applying a lot of brake). It is not easy to give any specific recommendation about this situation other than quickly restoring the wing’s default air speed and angle of attack by progressively reducing the tension on the brake lines. The normal wing reaction will be to have a lateral surge on the re-accelerated side with a rotation not greater than 360º before returning to default air speed and a straight flight path trajectory.

Parachutal stall
The possibility of entering or remaining in a parachutal stall have been eliminated from the ARTIK 6.
A parachutal stall is virtually impossible with this wing. If it did enter into a parachutal stall, the wing loses forward motion, becomes unstable and there is a lack of pressure on the brake lines, although the canopy appears to be fully inflated. To regain normal air speed, release brake line tension symmetrically and manually push on the A-lines or weight-shift your body to any side WITHOUT PULLING ON THE BRAKE LINES.

Deep Stall
The possibility of the ARTIK 6 stalling during normal flight is very unlikely. It could only happen if you are flying at a very low air speed, whilst over-steering or performing dangerous manoeuvres in turbulent air.

To provoke a deep stall, the wing has to be slowed down to its minimum air speed by symmetrically pulling the brake lines all the way (100%) down until the stall point is reached and held there. The glider will first pitch rearward and then reposition itself overhead, rocking slightly, depending on how the manoeuvre is done.

When entering a stall, remain clear-headed and ease off the brake lines until reaching the half-way point of the total brake travel. The wing will then surge violently forward and could reach a point below you. It is most important to maintain brake pressure until the glider has returned to its default overhead flying position.

To resume normal flight conditions, progressively and symmetrically release the brake line tension to regain air speed. When the wing reaches the overhead position, the brakes must be fully released. The wing will then surge forward to regain full air speed. Do not brake excessively at this moment as the wing needs to accelerate to pull away from the stall configuration. If you have to control a possible frontal collapse, briefly pull both brake handles down to bring the wing back up and release them immediately while the glider is still in transition to reposition itself overhead.

Cravat
A cravat may happen after an asymmetric collapse, when the end of the wing is trapped between the lines. Depending on the nature of the tangle, this situation could rapidly cause the wing to spin. The corrective manoeuvres to use are the same as those applied in case of an asymmetric collapse: control the turn/spin by applying tension on the opposite brake and weight shift opposite to the turn. Then locate the 3STI stabilo line (attached to the wing tip) trapped between the other lines. This line has a different colour and is located on the outside position of the B-riser.

Pull this line until it is taut. This action will help to release the cravat. If ineffective, fly down to the nearest possible landing spot, controlling the direction with both weight-shift and the use of the brake opposite to the tangled side. Be cautious when attempting to undo a tangle while flying near terrain or other paragliders; it may not be possible to continue on the intended flight path.

Over-controlling
Most flying problems are caused by wrong pilot input, which then escalates into a cascade of unwanted and unpredicted incidents. We should note that the wrong inputs can lead to loss of control of the glider. The ARTIK 6 was designed to recover by itself in most cases. Do not try to over-correct it!

Generally speaking, the reactions of the wing, which are caused by too much input, are due to the length of time the pilot continues to over–control the wing. You have to allow the glider to re-establish normal flying speed and attitude after any type of incident.

4.3 ACCELERATED FLIGHT

The ARTIK 6 ‘s profile was designed for stable flight throughout its entire speed range. The speed-bar can be used in strong winds or significant sink.
When accelerating the wing, the profile becomes more sensitive to turbulence and closer to a possible frontal collapse. If a loss in internal wing pressure is felt, tension on the speed-bar should be reduced to a minimum and a slight pull on the brake lines is recommended to increase the wing’s incidence angle. Remember to re-establish the air speed after correcting the angle of attack.

It is NOT recommended to accelerate near obstacles or in very turbulent conditions. If necessary, constantly adjust the movements and pressure on the speed-bar whilst doing the same to the brake lines. This balance is considered to be ‘active piloting’.

4.4 FLYING WITHOUT BRAKE LINES

If, for any reason at all, the ARTIK 6 ‘s brake lines become disabled in flight, it will become necessary to pilot the wing with the C-risers and weight shifting until landing. These risers steer easily because are not under significant tension. You will have to be careful and not handle them too heavily in case this causes a stall or negative spin. The wing must be flown at full speed (not accelerated) during the landing approach, and the C-risers will have to be pulled symmetrically all the way down shortly before contact with the ground. This braking method is not as effective as using the brake lines, and hence the wing will land with a higher ground speed.

4.5 LINE KNOT(S) IN FLIG

The best way to avoid knots and tangles is to thoroughly inspect the lines as part of a systematic pre-flight check. If a knot is spotted during the take off phase, immediately abort the launch sequence and stop.

If inadvertently taking off with a knotted line, the glider drift will need to be compensated by weight-shifting to the opposite side and applying a slight brake pull to that side. Gently pull the brake line to see if the knot can be undone or try to locate the problem line. Try pulling it to see if the knot can be undone. Beware of trying to clear a knotted line or untangle a line in flight when close to the terrain. If the knot is too tight and cannot be undone, carefully and safely fly to the nearest landing zone. Be careful: do not pull too hard on the brake handles because there will be an increased risk of stalling the wing or entering a negative spin. Before attempting to clear a knot, make sure there are no other pilots flying in the vicinity.

5. LOSING ALTITUDE

Knowledge of different descent techniques could become vital in certain situations. The most suitable descent method will depend on the particular situation.

To become familiar with the manoeuvres described below, we recommend practising within the environment of a licensed training outfit.

5.1 BIG EARS

Big ears is a moderate descent technique, able to increase the sink rate to –3 or –4 m/s and reduces the ground speed by 3 to 5 km/h. The angle of attack and effective wing-loading will also increase due to the smaller surface area of the wing.

Standard technique

To perform the ‘Big ears’ manoeuvre, take the outermost line on each A-riser and simultaneously, smoothly pull them outward and downward. The wingtips will fold in.
To re-establish forward speed and the correct angle of attack, accelerate once the ears are pulled.
Keep the ears pulled in until you have lost the desired altitude.
Let go of the lines to re-inflate the tips automatically. If they do not, try progressively pulling one brake then the other. We recommend inflating the wing tips asymmetrically, without major change to the angle of attack, especially when flying near the ground or flying in turbulence.

Beware of the risk of stalling!

The action of reaching for the “4A3” line to make ears, can inadvertently mean pulling the brakes. The same can happen when we are holding the tips down with the “4A3” line, it is possible to accidentally affect the brakes. This can obviously lead to a significant speed decrease.
In paragliders with a very pronounced arc, pulling big ears means an increase in drag. On a very arched wing, the ears do not fold, they just hang. The increase of drag is more pronounced than on wings with a less pronounced arc.

The ARTIK 6 is designed with little chord, which is good in normal flight

conditions. However, this same damping is what can cause us to have problems to regain normal flying speed after a high increase of the angle of attack and the added drag of the ears.
These particularities, together with turbulent thermic conditions, could cause an unintentional stall.

The solution: Big ears may still be applied but you must be fully aware of the above-mentioned points and act accordingly. To avoid the stall, simply use half speed-bar (this is sufficient) to increase the speed and decrease the angle of incidence. This should allow you to maintain sufficient speed to prevent the stall. Take care not to pull the brakes while making the ears as this will make a stall more likely!

5.2 B-LINE STALL

When carrying out this manoeuvre, the wing stops flying, loses all horizontal speed and the pilot is no longer in control of the paraglider.

The airflow over the profile is interrupted and the wing enters a situation similar to parachuting.

To enter this manoeuvre, the B-risers are gripped below the maillons and symmetrically pulled down together (approx. 20-30 cm) and maintained in that position.

Initiating the manoeuvre is physically demanding because it can take some strength to pull the risers down until the wing is deformed. After this, the physical effort is less. Continue to hold the risers in position. Once the wing is deformed, its horizontal speed will drop to 0 km/h; vertical descending speed increases to –6 to –8 m/s, depending on the conditions and how the manoeuvre is performed.

To exit the manoeuvre, simultaneously release both risers. The wing will then slightly surge forward and automatically return to normal flight. It is better to let go of the lines quickly rather than slowly.

This is an easy descent technique to perform, but remember that the wing will stop flying, will lose all forward horizontal speed, and its reactions will change markedly when compared to a normal flight configuration.

5.3 SPIRAL DIVE

This is a more effective way to rapidly lose altitude. Beware that the wing will experience and be subjected to a tremendous amount of descending and rotating speed (g-force), which can cause a loss of orientation and consciousness (blackout). This manoeuvre must therefore be done gradually to increase one's capacity to resist the g-force exerted on the body. With practise, you will fully appreciate and understand it. Only practise this manoeuvre at high altitude and with enough ground clearance.

To start the manoeuvre, first weight shift and pull the brake handle located on the inner side of the turn. The intensity of the turn can be controlled by braking slightly using the outer brake handle.

A paraglider flying at its maximum rotating speed can reach –20 m/s, or the equivalent of a 70 km/h vertical descent, and will stabilise in a spiral dive from 15m/s onwards.

Good enough reasons to familiarise yourself with the manoeuvre and understand how to exit it.

To exit this manoeuvre, the inner brake handle (down side of the turn) must progressively be relaxed while momentarily applying tension to the outer brake handle opposite to the turn. The pilot must also weight shift and lean towards the opposite side of the turn at the same time.

The exit should be performed gradually and smoothly so that the changes in pressure and speed can be noted.
When exiting the spiral, the glider will briefly experience an asymmetrical

acceleration and dive, depending on how the manoeuvre was carried out.

Practise these manoeuvres at sufficient altitude and carefully.

5.4 SLOW DESCENT TECHNIQUE

This technique allows descent without straining the wing or taxing the pilot. Glide normally while searching for descending air and begin to turn as if climbing in a thermal, but with the intention to sink.

Common sense has to be used to avoid dangerous areas of rotor when looking for descending air. Safety first!

6. SPECIAL METHODS

6.1 TOWING

The ARTIK 6 does not experience any problem whilst being towed. Only qualified winch personnel should handle the certified equipment to carry out this operation. The wing must be inflated similarly as during a normal take off.

It is important to use the brakes to correct the flight path alignment, especially if the glider begins to turn. Since the wing is subject to a slow airspeed and with a high positive angle of attack, we must make any corrections with a high degree of feel and delicacy, in order to avoid a stall.

6.2 ACROBATIC FLIGHT

Although the ARTIK 6 was tested by expert acrobatic pilots in extreme situations, it was not designed for it. We do not recommend using this glider for acrobatic flying!!!

We consider acrobatic flights to be any form of piloting different than standard flights. Learning acrobatic manoeuvres should be conducted under the supervision of qualified instructors within a school environment and over water with all safety/rescue elements in place. Centrifugal forces as high as 4 to 5 G can be exerted on the body and wing during extreme manoeuvres.

7. CARE AND MAINTENANCE

7.1 MAINTENANCE

Niviuk we are firmly committed to make technology accessible to all pilots. Therefore our wings are equipped with the latest technological advances gained from the experience of our R&D team.

Careful maintenance of your equipment will ensure continued top performance. Apart from the general checks, we recommend actively maintaining your equipment.

A pre-flight check is obligatory before each flight.
If there is any damage to the equipment or you suspect any areas of the wing are susceptible to wear, you should inspect these and act accordingly.

All incidents involving the leading edge should be reviewed. A hard impact of the leading edge against a hard surface can damage the sail cloth.

Unsheathed lines provide increased performance, but this means more care should be taken when using and maintaining the wing.

Thanks to TNT, the wing has more safety and performance, but this means being more careful with the material. If any Nitinol rod is damaged, they are easily replaceable.

The fabric and the lines do not need to be washed. If they become dirty, clean them with a soft damp cloth, using only water. Do not use detergents or other chemicals.

If your wing is wet from contact with water, place it in a dry area, air it and keep it away from direct sunlight.

Direct sunlight may damage the wing's materials and cause premature aging. After landing, do not leave the wing exposed to the sun. Pack it properly and stow it away in its backpack.

If your wing is wet from contact with salt water, immerse it in fresh water and dry it away from direct sunlight.

7.2 STORAGE

It is important for the wing to be correctly folded when stored. Keep it in the in a cool, dry place away from solvents, fuels, oils.

Do not leave your gear inside a car boot, as cars left in the sun can become very hot. A rucksack can reach temperatures up to 60ºC.

Weight should not be laid on top of the equipment.

It is very important to pack the wing correctly before storage.

In case of long-term storage it is advisable, if possible, that the wing is not compressed and it should be stored loosely without direct contact with the ground. Humidity and heating can have an adverse effect on the equipment.

7.3 CHECKS AND INSPECTIONS

The ARTIK 6 must be periodically serviced. An inspection must be scheduled every 100 flying hours or every two years whichever comes first (EN/LTF norm).

We strongly recommend that any repairs should
be done in a specialist repair shop by qualified personnel.

This will guarantee the airworthiness and continued certification of your ARTIK 6.

A thorough pre-flight check must be performed before every flight.

Checking unsheathed lines

The ARTIK 6 is fitted with unsheathed lines. Their durability conforms to unsheathed line standards. Their strength is guaranteed and their resistance to UV is one of the highest in this type of lines.
However, one of the obligations derived from the use of these lines is the need to maintain the trim of your GLIDER NAME within the stipulated ranges.
We recommend checking the lines after the first +/- 30 flying hours.

Why is this necessary?
Thanks to our research and experience acquired over time by our R&D team, we are capable of predicting how lines will perform.
Following the recommended inspections will allow you to maintain the wing in optimum condition.
The maintenance carried out on each wing will be different depending on the conditions of each flying area, climate, temperature, humidity, type of terrain, wing load, etc.

7.4 REPAIRS

In case of small tears, you can temporarily repair these by using the Ripstop tape included in the repair kit, as long as no stitching is required to mend the fabric.
Any other tears or repairs should be done in a specialist repair shop by qualified personnel.
Damaged lines must be repaired or exchanged immediately.
Please refer to the line plan at the end of this manual.
We recommend any inspection or repair is performed by a Niviuk professional in our official workshop: http://niviuk.com/content/service.

Any modification of the glider made in an external workshop will invalidate the guarantee of the product. Niviuk cannot be held responsible for any issues or damage resulting from modifications or repairs carried out by unqualified professionals or who are not approved by the manufacturer.

8. SAFETY AND RESPONSIBILITY

It is well known that free-flying with a paramotor or trike is considered a high-risk sport, where safety depends on the person who is practicing it.

Incorrect use of this equipment may cause severe, life-changing injuries to the pilot, or even death.

Manufacturers and dealers cannot be held responsible for your decisions, actions or accidents that may result from participating in this sport.

You must not use this equipment if you have not been properly trained to use it. Do not take advice or accept any informal training from anyone who is not properly qualified as a flight instructor.

9. GARANTEE

The equipment and components are covered by a 2-year warranty against any manufacturing defect.

The warranty does not cover misuse of the equipment.

Any modification of the paraglider or its components invalidates the guarantee and its certification.

a) The following are not considered to be modifications: line trimming, line repair or replacement. The above must all be carried out according to the parameters stipulated by NIVIUK.

10. ANNEXES

10. TECHNICAL DATA

10.1 TECHNICAL DATA

			21	23	25	27
CELLS	**Number**		66	66	66	66
ASPECT RATIO	**Flat**		6,3	6,3	6,3	6,3
AREA	**Flat**	m2	21,5	23	24,5	27
	Projected	m2	18,33	19,61	20,89	23,02
SPAN	**Flat**	m	11,64	12,04	12,42	13,04
CHORD	**Maximum**	m	2,27	2,35	2,43	2,55
LINES	**Total**	m	248	257	266	279
	Main		2-1/4/2	2-1/4/2	2-1/4/2	2-1/4/2
RISERS	**Number**	3+1	A-A'/B/C	A-A'/B/C	A-A'/B/C	A-A'/B/C
	Accelerator	mm	160	200	200	200
WEIGHT IN FLIGHT	**Min-Max**	Kg	58-75	70-90	85-105	100-122
GLIDER WEIGHT		Kg	4,3	4,5	4,7	5
CERTIFICATION	**EN/LTF**		C	C	C	C

10.2 MATERIALS DESCRIPTION

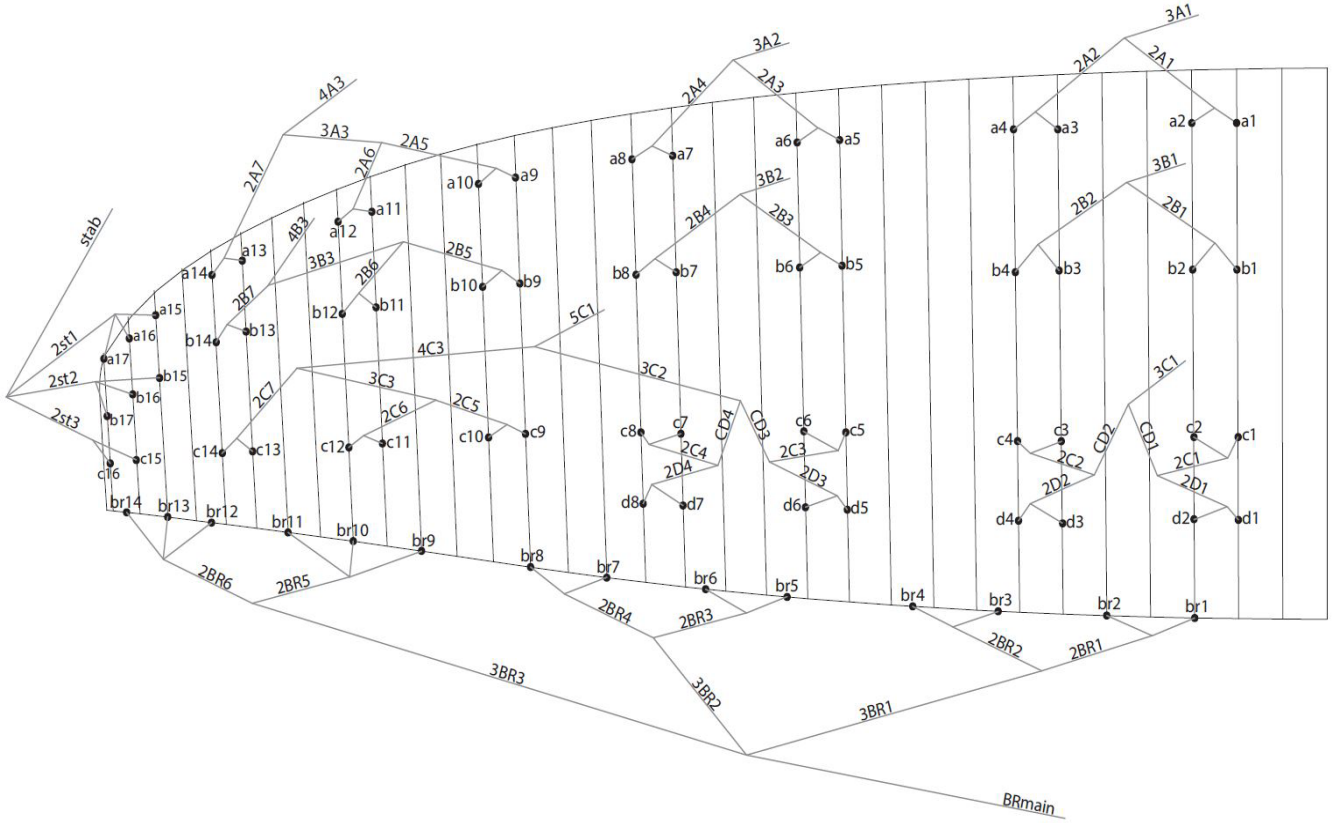
CANOPY	FABRIC CODE	SUPPLIER
UPPER SURFACE	30 DMF / N20 DMF	DOMINICO TEX CO (KOREA)
BOTTOM SURFACE	2044 32 PS	DOMINICO TEX CO (KOREA)
RIBS	2044 32 FM	DOMINICO TEX CO (KOREA)
DIAGONALS	30 DFM / 2044 32 FM	DOMINICO TEX CO (KOREA)
LOOPS	LKI - 10	KOLON IND. (KOREA)
REINFORCEMENT LOOPS	RIPSTOP FABRIC	DOMINICO TEX CO (KOREA)
TRAILING EDGE REIFOR-CEMENT	MYLAR	D-P (GERMANY)
REINFORCEMENT RIBS	LTN-0.8 STICK	SPORTWARE CO.CHINA
THREAD	SERAFIL 60	AMAN (GERMANY)

SUSPENSION LINES	FABRIC CODE	SUPPLIER
UPPER CASCADES	DC - 60	LIROS GMHB (GERMANY)
UPPER CASCADES	DC - 40	LIROS GMHB (GERMANY)
MIDDLE CASCADES	DC - 60	LIROS GMHB (GERMANY)
MIDDLE CASCADES	DC - 40	LIROS GMHB (GERMANY)
MIDDLE CASCADES	A-8000/U 70	EDELRID (GERMANY)
MIDDLE CASCADES	A-8000/U 90	EDELRID (GERMANY)
MIDDLE CASCADES	A-8000/U 130	EDELRID (GERMANY)
MAIN	A-8000/U 90	EDELRID (GERMANY)
MAIN	A-8000/U 130	EDELRID (GERMANY)
MAIN	A-8000/U 190	EDELRID (GERMANY)
MAIN	A-8000/U 230	EDELRID (GERMANY)
MAIN BREAK	TARAX-200	EDELRID (GERMANY)
THREAD	SERAFIL 60	AMAN (GERMANY)

RISERS	FABRIC CODE	SUPPLIER
MATERIAL	3455	COUSIN (FRANCE)
COLOR INDICATOR	210D	TECNI SANGLES (FRANCE)
THREAD	V138	COATS (ENGLAND)
IKS	3.5	ANSUNG PRECISION (KOREA)
PULLEYS	RF25109	RONSTAN (AUSTRALIA)

10.3 RISERS PLAN

10.4 SUSPENSION PLAN



10.5 DIMENSIONS ARTIK 6 21

LINES HEIGHT mm					
	A	B	C	D	BR
1	7189	7138	7209	7279	7474
2	7153	7101	7169	7241	7214
3	7112	7059	7130	7200	7064
4	7121	7067	7145	7211	7056
5	7048	6993	7108	7175	6912
6	7011	6956	7053	7119	6776
7	6950	6899	6949	7015	6692
8	6960	6910	6948	6997	6712
9	6871	6829	6912		6643
10	6810	6770	6867		6538
11	6697	6668	6849		6556
12	6686	6660	6885		6534
13	6610	6592	6899		6560
14	6613	6598	6932		6654
15	6444	6424	6437		
16	6389	6381	6425		
17	6378	6386			
RISERS LENGHT mm					
	500	500	500	500	STANDARD
	330	355	385	500	ACCELERATED

10.6 DIMENSIONS ARTIK 6 23

LINES HEIGHT mm					
	A	B	C	D	BR
1	7442	7381	7455	7527	7742
2	7405	7344	7414	7489	7473
3	7365	7301	7375	7447	7319
4	7374	7311	7390	7459	7311
5	7296	7227	7354	7423	7163
6	7258	7189	7297	7366	7022
7	7196	7131	7191	7258	6935
8	7206	7143	7190	7240	6956
9	7121	7068	7148		6881
10	7058	7008	7102		6773
11	6942	6902	7083		6792
12	6931	6894	7120		6771
13	6846	6823	7135		6798
14	6848	6829	7169		6895
15	6670	6648	6662		
16	6612	6603	6649		
17	6601	6608			
RISERS LENGHT mm					
	500	500	500	500	STANDARD
	330	355	385	500	ACCELERATED

10.7 DIMENSIONS ARTIK 6 25

LINES HEIGHT mm

	A	B	C	D	BR	
1	7680	7616	7693	7769	7993	
2	7642	7579	7652	7729	7715	
3	7601	7536	7612	7687	7555	
4	7612	7546	7628	7700	7548	
5	7532	7468	7592	7663	7394	
6	7493	7430	7534	7604	7250	
7	7430	7371	7424	7494	7162	
8	7441	7383	7423	7475	7184	
9	7352	7299	7381		7108	
10	7287	7236	7333		6997	
11	7168	7127	7314		7017	
12	7156	7119	7352		6995	
13	7067	7043	7365		7023	
14	7070	7049	7401		7123	
15	6887	6865	6879			
16	6828	6819	6866			
17	6816	6824				
			RISERS LENGHT mm			
	500	500	500	500		STANDARD
	330	355	385	500		ACCELERATED

10.7 DIMENSIONS ARTIK 6 27

LINES HEIGHT mm

	A	B	C	D	BR	
1	7983	7919	8000	8078	8336	
2	7944	7881	7957	8037	8048	
3	7902	7838	7917	7995	7884	
4	7913	7850	7934	8009	7877	
5	7831	7770	7901	7974	7717	
6	7791	7730	7840	7913	7567	
7	7726	7669	7727	7799	7476	
8	7737	7682	7726	7780	7501	
9	7646	7596	7688		7427	
10	7578	7531	7637		7312	
11	7455	7418	7617		7334	
12	7443	7409	7656		7311	
13	7357	7331	7668		7341	
14	7360	7338	7704		7445	
15	7168	7145	7159			
16	7106	7097	7145			
17	7094	7103				
			RISERS LENGHT mm			
	500	500	500	500		STANDARD
	330	355	385	500		ACCELERATED

10.10 CERTIFICATION SPECIMEN TEST

ARTIK 6 21

AIR TURQUOISE SA | PARA-TEST.COM
Route du Pré-au-Comte 8 ▲ CH-1844 Villeneuve ▲ +41 (0)21 965 65 65
Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes

paragliding by air turquoise

Classification: **C**

NIVIUK

In accordance with standards EN 926-1:2015, EN 926-2:2013 and LTF NFL II-91/09:	PG_1751.2020
Date of issue (DMY):	19.01.2021
Manufacturer:	Niviuk Gliders / Air Games S.L.
Model:	Artik 6 21
Serial number:	ARTIK621V1

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**75**	Range of speed system (cm)	**16**
Minimum weight in flight (kg)	**58**	Speed range using brakes (km/h)	**14**
Glider's weight (kg)	**4.3**	Total speed range with accessories (km/h)	**29**
Number of risers	**3**	Range of trimmers (cm)	**0**
Projected area (m2)	**18.33**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 100 hours of use or every 24 months
Harness brand	**Supair**	Warning! Before use refer to user's manual
Harness model	**Access S**	Person or company having presented the glider for testing: **None**
Harness to risers distance (cm)	**42**	
Distance between risers (cm)	**40**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
B	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**B**	**A**	**A**	**A**	**C**	**A**	**A**	**A**	**B**	**A**	**A**	**B**	**A**	**0**

ARTIK 6 23

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Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes

paragliding by air turquoise

Classification: **C**

NIVIUK

In accordance with standards EN 926-1:2015, EN 926-2:2013 and LTF NFL II-91/09:	PG_1733.2020
Date of issue (DMY):	23.10.2020
Manufacturer:	Niviuk Gliders / Air Games S.L.
Model:	Artik 6 23
Serial number:	ARTIK6423

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**90**	Range of speed system (cm)	**20**
Minimum weight in flight (kg)	**70**	Speed range using brakes (km/h)	**14**
Glider's weight (kg)	**4.5**	Total speed range with accessories (km/h)	**29**
Number of risers	**3**	Range of trimmers (cm)	**0**
Projected area (m2)	**19.61**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 100 hours of use or every 24 months
Harness brand	**Flugsau**	Warning! Before use refer to user's manual
Harness model	**X-Light M**	Person or company having presented the glider for testing: **Tim Rochas**
Harness to risers distance (cm)	**40**	
Distance between risers (cm)	**44**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
B	**A**	**B**	**C**	**A**	**A**	**A**	**A**	**A**	**C**	**A**	**A**	**A**	**B**	**A**	**A**	**A**	**B**	**A**	**A**	**B**	**A**	**0**

10.10 CERTIFICATION SPECIMEN TEST

ARTIK 6 25

AIR TURQUOISE SA | PARA-TEST.COM
Route du Pré-au-Comte 8 ▲ CH-1844 Villeneuve ▲ +41 (0)21 965 65 65
Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes

paragliding by air turquoise

Classification: **C**

NIVIUK

In accordance with standards EN 926-1:2015, EN 926-2:2013 and LTF NFL II-91/09:	PG_1734.2020
Date of issue (DMY):	23.10.2020
Manufacturer:	Niviuk Gliders / Air Games S.L.
Model:	Artik 6 25
Serial number:	ARTIK6424

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**105**	Range of speed system (cm)	**20**
Minimum weight in flight (kg)	**85**	Speed range using brakes (km/h)	**14**
Glider's weight (kg)	**4.7**	Total speed range with accessories (km/h)	**29**
Number of risers	**3**	Range of trimmers (cm)	**0**
Projected area (m2)	**20.29**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 100 hours of use or every 24 months
Harness brand	**Advance**	Warning! Before use refer to user's manual
Harness model	**Success 4 L**	Person or company having presented the glider for testing: **Tim Rochas**
Harness to risers distance (cm)	**44**	
Distance between risers (cm)	**46**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
B	**A**	**A**	**C**	**A**	**A**	**A**	**A**	**A**	**C**	**A**	**A**	**B**	**B**	**A**	**A**	**A**	**A**	**A**	**A**	**B**	**A**	**0**

ARTIK 6 27

AIR TURQUOISE SA | PARA-TEST.COM
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Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes

paragliding by air turquoise

Classification: **C**

NIVIUK

In accordance with standards EN 926-1:2015, EN 926-2:2013 and LTF NFL II-91/09:	PG_1750.2020
Date of issue (DMY):	09.12.2020
Manufacturer:	Niviuk Gliders / Air Games S.L.
Model:	Artik 6 27
Serial number:	ARTIK627V1

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**122**	Range of speed system (cm)	**19**
Minimum weight in flight (kg)	**100**	Speed range using brakes (km/h)	**14**
Glider's weight (kg)	**5**	Total speed range with accessories (km/h)	**29**
Number of risers	**3**	Range of trimmers (cm)	**0**
Projected area (m2)	**23.02**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 100 hours of use or every 24 months
Harness brand	**Advance**	Warning! Before use refer to user's manual
Harness model	**Success 4 L**	Person or company having presented the glider for testing: **None**
Harness to risers distance (cm)	**44**	
Distance between risers (cm)	**48**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
B	**A**	**B**	**A**	**A**	**A**	**A**	**A**	**A**	**C**	**A**	**A**	**B**	**B**	**A**	**A**	**A**	**A**	**A**	**A**	**B**	**A**	**0**

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