

SKYWALK



PRO  
GUIDE

TONIC2

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**1 INTRODUCTION**

**Welcome to skywalk!**

Congratulations on the purchase of your new TONIC2 and thank you for your trust in us and in our products. In this manual you will find product-specific information that will help you quickly get to know your new paraglider to ensure your fun for a long time. General information about the most important safety-relevant points for handling your paraglider can be found in the attached „BASIC GUIDE“.

We are always open for questions, comments or critique and are happy to provide you at any time with further information!

**Your skywalk Team**  
 PURE PASSION FOR FLYING

Edition1 / 10\_19  
 The latest version of the manual can be found on  
[www.skywalk.info](http://www.skywalk.info)

## 2 DESCRIPTION

The TONIC2 is the fun machine in our mini-wing range. The super-compact wing with short span and short lines is aimed at those who like to soar in strong winds or close to the slope. We like to call the TONIC2 the “go-kart” of the air because it converts control impulses directly and precisely and loves high banking and dynamic turns. Nevertheless, the field of application is surprisingly versatile - depending on the size you choose.

### PILOT REQUIREMENTS

Depending on the size and wing load, the TONIC2 sets different requirements to the pilot. In the smallest size as well as in the extended weight ranges, the TONIC2 is classified as LTF/EN C due to its high wing load. In this area the TONIC2 is suitable for pilots with regular flight practice who already have gained solid experience with others wings and pilots who can handle a agile wing with high wing load.

The sizes S and M are classified to LTF/EN B in the standard weight range. In this range the TONIC2 is also suitable for occasional pilots with less flight experience, as well as for pilots who fly for the first time a wing with higher wing load and shorter lines.

### SCOPE OF DELIVERY

The TONIC2 comes standard with inner bag, compression strap, glider backpack, riser bag and “BASIC GUIDE”.



## 3 TECHNICAL DATA

Size	XS	S	M
Cell number	35	35	35
Area flat (m²)	16,30	18,70	21,10
Wingspan flat (m)	8,40	9,00	9,60
Aspect ratio flat	4,33	4,33	4,33
Area projected (m²)	14,00	16,00	18,10
Wingspan projected (m)	6,75	7,24	7,69
Aspect ratio projected	3,27	3,27	3,27
min. profile depth (cm)	95	102	109
max. profile depth (cm)	237	254	269
Middle line length without risers (m)	5,29	5,67	6,02
Line consumption (m)	226	243	259
Weight (kg)	2,4	2,6	2,8
Take-off weight from - to (kg) for EN/LTF B	-	50-85	65-105
Extended weight range (kg) for EN/LTF C	50-95	86-105	106-120
Winch certified	yes	yes	yes
JET FLAP Technology	yes	yes	yes
Paramotor homologation	no	no	no
Accelerator	yes	yes	yes
Maximum speed bar travel (mm)	140	140	140
Brake line travel max. (cm)	55	61	66
Trimmers	yes	yes	yes
Number of seats	1	1	1

\* with Dyneema-riser. Weight with trimmer--riser approx. +250g

## 4 LINE SYSTEM

The layout of the suspension points is designed for optimal load distribution and a long lifespan. With all considerations and calculations however, our focus is always on safety. The mix of materials used on the lines of the TONIC2 is an ideal combination of durability, low stretch and low drag.

The skywalk TONIC2 has 3 A-, 3 B-, 3 C-, and 1 stabilo line. The main-stabilo is connected with the B-riser. The brake lines are not load-bearing and lead from the trailing edge over the main brake lines through the brake pulleys on the C-risers to the brake handles.

A marking on the main brake line indicates the position of the handle attachment. This setting should not be lengthened, for example, to provide more brake travel in extreme flight situations or during landing, nor shortened such that the glider is flown constantly with some brake on.

To provide a better overview and to make sorting easier, the lines have different colors:

- the AI, All, AIII-lines and the A-risers are red.
- the BI, BII, BIII-lines and the B-risers are yellow
- the CI, CII, CIII-lines are blue.
- the stabilo lines are orange.
- the brake lines are orange.

The lines are attached with loops to oval shackles and secured with plastic inserts.

The skywalk TONIC2 has 3 risers per side:

- the A-lines lead to the A-riser
- the B-lines as well as the stabilo lines lead to the B-riser
- the C-lines lead to the C-riser

A schematic drawing of the risers can be found at the back of the manual.

## 5 ACCELERATION SYSTEM

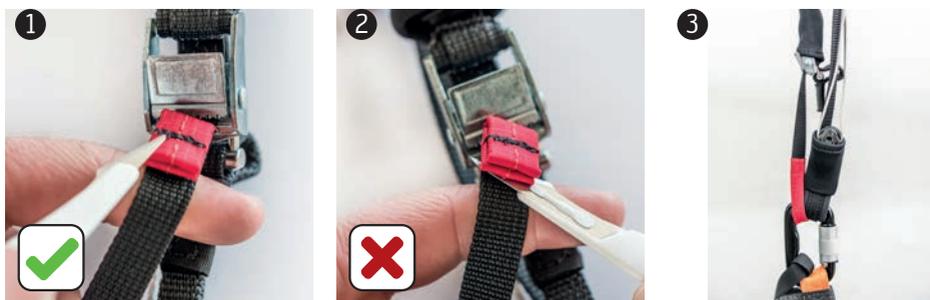
The skywalk TONIC2 can be equipped with a foot-operated acceleration system. The acceleration system affects the A and B-risers. Exact lengths of the accelerated risers can be found at the end of the instruction. The riser is additionally equipped with a trimmer. To activate the trimmer, a safety seam must be removed including the red webbing. It is important to make sure that the trimmer webbing or other parts of the riser are not damaged:

Proper removal of the seam above the safety material. (pic 1)

Wrong removal of the seam. Risk of damage to the trimmer webbing! (pic 2)

**Please note:**

Once the safety seam is removed, the loop on the trimmer webbing must be hooked into the main carabiner. Only then the TONIC2 operates according to LTF/EN regulations.



## 6 FLIGHT TECHNIQUES AND CHARACTERISTICS

### WINCHTOWING

The skywalk TONIC2 is well suited for winch towing. Make sure that you only use certified winches and that you climb from the ground at a flat angle.

The pilot must have had proper towing instruction and must ensure that the winch operator has had proper training that includes paragliders. When launching on a winch, always fly with a lot of feeling and don't brake too much as your glider will already have an increased angle of attack. We recommend the use of a towing adapter.

### FLYING WITH A MOTOR

Currently, the TONIC2 has no certification for flying with a motor. You can find out the current status of motor certification at any dealer or importer, or by asking skywalk directly.

### FULL STALL

To initiate a full stall, both brake lines must be pulled down symmetrically on both sides. The glider will slow down steadily until the airflow over the top of the wing is interrupted. The wing then suddenly will tilt backwards. Despite this unpleasant glider reaction, both brake lines must be held down firmly until the glider has stabilized. The skywalk TONIC flies backwards in the full stall and usually forms a slight rosette at the front. To recover, guide both brake lines symmetrically upwards (time → = 1 sec). The glider will open and surge forward to pick up speed. Symmetrical braking prevents excessive forward surging of the wing. If the pilot does not apply the brakes, the skywalk TONIC will surge forward, possibly leading to a frontal collapse.

### CAUTION



DUE TO THE SMALL SIZES AND HIGH WEIGHT RANGES, WE DO NOT RECOMMEND TO FLY FULL STALLS WITH MINIWINGS AS THIS MANEUVERS ARE DEMANDING TO FLY.

DUE TO THE HIGH WING LOADING, WE DO NOT RECOMMEND PERFORMING FULL STALLS, SPINS OR PARACHUTAL STALLS WITH A TONIC2, AS THESE CAN LEAD TO DEMANDING WING REACTIONS. INITIATING RECOVERY FROM THE FULL STALL TOO EARLY, TOO QUICKLY, OR INCORRECTLY MAY RESULT IN AN EXTREME FORWARD SURGE OF THE WING.

You can find further information on practices and characteristics of flying in the enclosed "BASIC GUIDE".

## 7 DESCENT TECHNIQUES

### PULLING BIG EARS

In contrast to the spiral, your forward speed with »big ears« is higher than your rate of descent. This rapid descent aid is used to quickly exit danger zones by flying straight ahead in a desired direction.

The risk of collapses in turbulent air is significantly reduced with big ears. To perform this maneuver, proceed as follows (according to DHV teaching instructions):

- Step on the speed bar half-way, grab the outer A-lines (AIII) above the line shackle with your palms facing outward and pull the lines down.
- Now press the speed bar all the way. Keep the brake handles and the outer A-lines in your hands during the maneuver.
- Check the symmetry of the collapsed glider.
- To recover, slowly release the A-lines. The glider usually will reinflate by itself.
- As soon as the glider is fully open, release the speed bar.
- To speed up reinflation, pull lightly on the brakes. Another proven technique is to first reinflate one side of the glider, then the other. This can reduce the risk of a stall.

#### Examples:

- If the pilot is surprised near a summit with little ground clearance by strong wind or a thundercloud, neither a B-stall nor a spiral dive can help.
- If the pilot is stuck in very strong lift, it is advisable to exit the lift band with the use of big ears and to find sinking air in which to lose altitude.

### B-LINE STALL

The B-lines are pulled down symmetrically 10-15cm. Keep the brake handles in the respective hands. The airflow on top of the profile largely detaches and the paraglider descends without flying forward. Pulling hard on the B-risers allows you to decrease the area of the wing and increase your sink rate, but this also increases the risk of the wing forming a rosette to the front. If this happens, recovery from the B-stall immediately! You can exit the stall by quick and symmetric release of the B-lines. The paraglider will pitch forward and pick up speed. At no time you may use the brakes in this case!

You can find further information about descent techniques in the enclosed "BASIC GUIDE".

## 8 MATERIALS

The skywalk TONIC2 is manufactured from the highest quality materials. skywalk has selected the best possible combination of materials with regard to resilience, performance and longevity. We are aware that the durability of the glider is a deciding factor in the pilot's satisfaction.

### WINGS AND RIBS

Upper sail:	Porcher Skytex 38g / Dominico Dokdo 32g
Lower sail:	Porcher Skytex 27g
Ribs:	Porcher Skytex 27g hard

### LINES

A, B, C Main lines:	Liros PPSLS 180/125
A, B, C Middle lines:	Liros PPSLS 125/65
A, B, C Top lines:	Liros DC 60
Brake lines:	Liros DFLP 200/32, PPSLS 65

### RISERS

The risers are made of 12mm webbing. Stretching values, strength and stability of this material is among the highest of all webbing products available. The TONIC2 is also available with 6 mm Dyneema risers. The Dyneema risers do not have trimmers.

## 9 HOMOLOGATION

The TONIC2 is certified to LTF II 91/09 and EN926-1, EN926-2 in the category B and C. The TONIC2 is defined as a lightweight sport aircraft with an empty weight of less than 120kg in the paraglider category. The many homologation tests are the last hurdle in the development of a skywalk paraglider. The homologation test flights only take place when the test team is completely happy with the glider development.

We remark that the certification results will differ during flight in thermals or turbulent air. The homologation informs solely regarding the paraglider performance during extreme-flight- manoeuvres performed in stable air conditions. These extreme-flight-manoeu- vres during the homologation process should thus not be over-valued. Remember that certification maneuvers were carried out with a harness in the group GH with a carabiner distance (middle to middle) of 42-46 cm. If another harness is used, the glider may display flight characteristics that differ from those in the description.

## 10 CLOSING WORDS

The skywalk TONIC2 is at the pinnacle of paraglider development in the market for mini-wings and shows what is possible regarding performance, safety and innovation. It cost us a lot of time to develop this glider, but it was also a lot of fun. In this development we recognize the challenge of making the right product for every area and individual taste. We are pleased if you notice this during your first flight and if you feel a certain unity with your glider from the very beginning.

The TONIC2 will provide you with plenty of joy over many years if you treat it and care for it properly. Respect for the demands and dangers of our sport are essential for successful and beautiful flights.

Even the safest paraglider can be dangerous due to misjudgments of meteorological conditions or pilot error. Always remember that flying sports are potentially risky and that you are responsible for your own safety. We advise you to fly carefully and to respect laws in the interest of our sport, because every pilot always flies at his or her own risk!

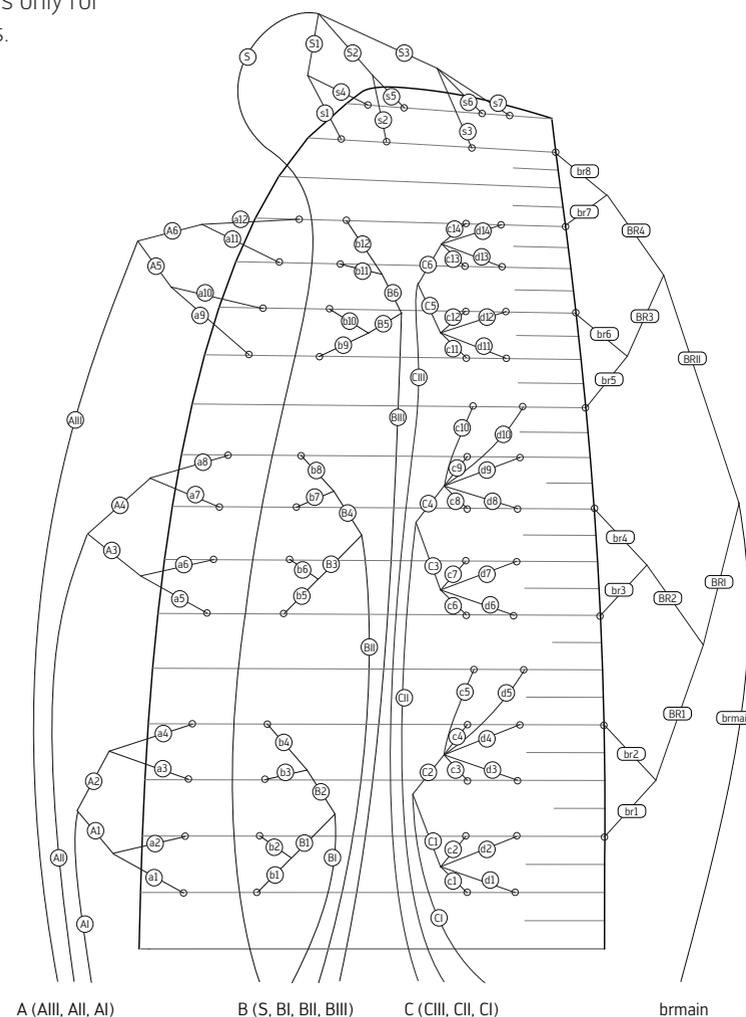
**WE WISH YOU A LOT OF FUN WITH YOUR NEW GLIDER AND ALWAYS HAPPY LANDINGS!!**

Your skywalk Team



## 11 LINE SCHEMATIC

This line schematic is only for illustration purposes.

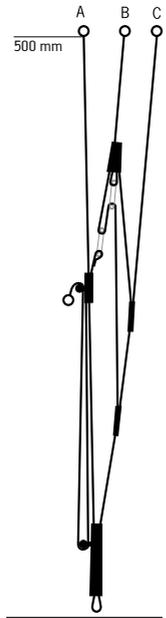


## 12 LINE LENGTH

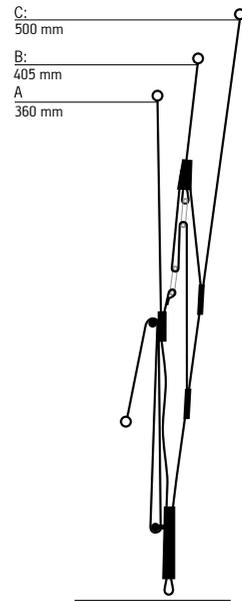
Total line length TONIC2 size: XS, S and M: [www.skywalk.info](http://www.skywalk.info)

Single line length TONIC2 size: XS, S and M: [www.skywalk.info](http://www.skywalk.info)

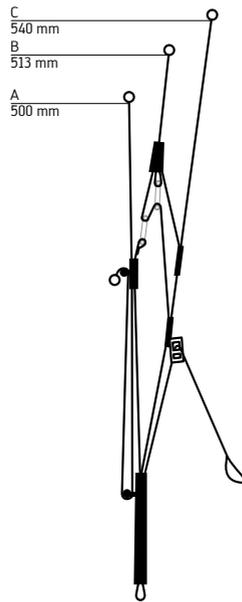
13 RISERS



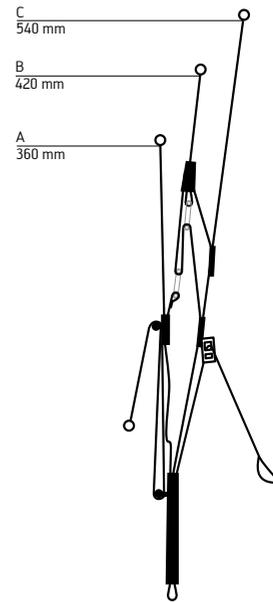
Trimspeed



Accelerated flight



Trimmers open



Trimmers open + Speedbar

Trimspeed

14 OVERVIEW GLIDER



- 1 Main lines
- 2 Top lines
- 3 Bottom sail
- 4 Cell openings
- 5 Top sail
- 6 Trailing edge
- 7 Nameplate

<b>15 TEST PROTOCOL</b>			Date:
Customer, Name:			
Adress:		Phone:	
Glider:	Size:	Serial number:	
Type certificate number:		Date of last check:	
Date of first flight:		Year of construction:	

Accomplished checking:	Results [+/-]:	Description of failure:	Suggested repairs:
Identification:	<input type="checkbox"/> + <input type="checkbox"/> -		
<b>Visual check of canopy:</b>			
Upper surface:	<input type="checkbox"/> + <input type="checkbox"/> -		
Lower surface:	<input type="checkbox"/> + <input type="checkbox"/> -		
Profiles:	<input type="checkbox"/> + <input type="checkbox"/> -		
Line flares:	<input type="checkbox"/> + <input type="checkbox"/> -		
Leading edge:	<input type="checkbox"/> + <input type="checkbox"/> -		
Trailing edge:	<input type="checkbox"/> + <input type="checkbox"/> -		
Crossports:	<input type="checkbox"/> + <input type="checkbox"/> -		
<b>Visual check of lines:</b>			
Seams:	<input type="checkbox"/> + <input type="checkbox"/> -		
Abrasion spots:	<input type="checkbox"/> + <input type="checkbox"/> -		
Core withdrawals:	<input type="checkbox"/> + <input type="checkbox"/> -		
<b>Visual check of connectionparts:</b>			
Suspension line screw locks:	<input type="checkbox"/> + <input type="checkbox"/> -		
Risers:	<input type="checkbox"/> + <input type="checkbox"/> -		
<b>Length measurement:</b>			
Risers:	<input type="checkbox"/> + <input type="checkbox"/> -		
Lines:	<input type="checkbox"/> + <input type="checkbox"/> -		
<b>Examinations of the canopy:</b>			
Firmness of canopy:	<input type="checkbox"/> + <input type="checkbox"/> -		
Porosity:	<input type="checkbox"/> + <input type="checkbox"/> -		

<b>Examinations of the lines:</b>			
Firmness of main lines:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	daN	
	Results [+/-]:	Description of failure:	Suggested repairs:
Visual check of trimming:	<input type="checkbox"/> + <input type="checkbox"/> -		
Checkflight necessary?	<input type="checkbox"/> + <input type="checkbox"/> -		
Type certificate patch?	<input type="checkbox"/> + <input type="checkbox"/> -		
Identification plate?	<input type="checkbox"/> + <input type="checkbox"/> -		
Condition:	<input type="checkbox"/> New <input type="checkbox"/> Very good condition <input type="checkbox"/> Good condition <input type="checkbox"/> Well used <input type="checkbox"/> Heavily used, but within homologation standards, frequent checks required <input type="checkbox"/> No longer airworthy, outside of the limit values.		
Repairs made?:			
Signature of tester:		Date:	
Name of tester:		Firm stamp:	



**Skywalk GmbH & Co. KG**  
Windeckstr. 4 | 83250 Marquartstein  
+49 (0) 8641/69 48 40  
[info@skywalk.info](mailto:info@skywalk.info) | [www.skywalk.info](http://www.skywalk.info)