LEVEL WINGS

# WIND FORCE 32

## User Manual

V1 29.07.2023

## Warning : read this user manual before first flight !

### CAUTION !

Improper use of the equipment can cause serious and irreversible injuries, which may even lead to the death of both pilot and passenger. Neither manufacturer nor dealer endorse or is responsible for the misuse of the equipment. It is the own pilot's responsibility to use his or her equipment properly.

This manual offers you all the information you need to get familiar with the characteristics of your new wing.

This manual is for information purposes only. It is by no means to be regarded as flight instructions.
Flight training can only be guaranteed and provided by a competent and authorised training structure.
Only regulatory authorities of the practice from the respective country can determine the pilot's competence.

Each country has its own regulations and laws regarding paragliding. It is your responsability to know and comply with the regulation of the region you are flying in.
Make sure your piloting and training level are in correlation with the classification of this equipment.

We reserve the right to modify the contents of this manual at any time.
We therefore invite you to regularly consult our website :
**www.levelwings.com**

Thank you for choosing our **LEVEL WINGS** glider.

We have made sure that its performance, its flying qualities and its construction give you complete satisfaction.

Designed as a professional tool, the **FORCE** meets all the requirements of tandem pilots. Its ease of use and the feeling of security it exudes will allow you to focus on the essentials.
Its meticulous design and the choice of materials make it a lightweight and high-performance wing.

This manual gathers the information that will help you to know your wing, to use it in complete safety and to keep it in good condition.



## WHO IS THE WIND FORCE INTENDED FOR?

The **WIND FORCE** is a tendem paraglider that will best meet the requirements of pilots.

It is intended for professional and/or leisure pilots who want an easy-to-flight and adapted for strong winds.
The design and choice of materials have been thought out for intensive and long-lasting use.
The development and tests were carried out with professional pilots in order to be as close as possible to the expectations of commercial pilots.

## Certification

Air Turquoise laboratory carried the tests out.

The **WIND FORCE** tandem has been certified EN Classe C.

It can be used with most harnesses and attachments intended for tandems available on the market.

# PREPARATION BEFORE TAKE-OFF

## When first used

It is important to perform a thorough pre-flight check :
Check that the lines are correctly connected and that there are no knots.
Check that the riser straps are not twisted or rolled up.
Check the general appearance of the wing (attachment point, seam, fabric).
Finish with an inflation to control the general aspect of the wing once inflated.

## For each use :

Unfold the wing and place it in an arc on the upper surface, leading edge up.

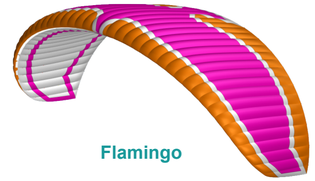
Separate A, B, C, D risers and the brakes ; make sure risers and lines don't make any knots and are free.

Check that :
- trims are set symmetrically in the neutral position
- harnesses, straps and carabiners are not altered
- all attachments are correctly connected (risers, spreaders, rescue parachute, harnesses, etc.)

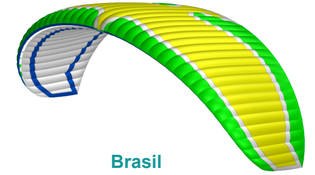


# EQUIPMENT

| | |
|---|---|
| Size (m2) | 31 |
| Number of risers | 4 |
| Nombre de cellules | 42 |
| Flat area (m2) | 32 |
| Wingspan (m) | 12,2 |
| Cord (m) | 3,1 |
| Flat aspect ratio | 4,67 |
| Projected area (m2) | 27,27 |
| Projected aspect ratio | 3,5 |
| Weight range TWF | 90 - 180 |
| Dimensions of pilot and passenger harnesses used for certification | * Largeur des points d'attache: 55 ±2 cm |
| Brake range at TWF max (cm) | 70 - 80 |



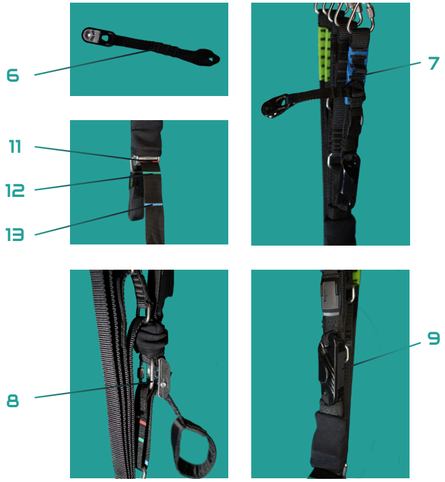
Flamingo



Brasil

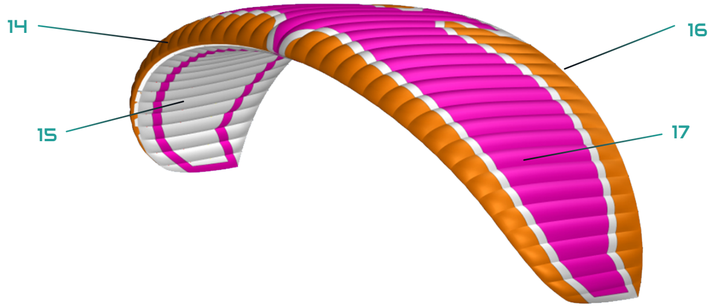
1 : A Riser
2 : A' Riser
3 : B Riser
4 : C Riser
5 : Trim handle
6 : Adjustable brake pulley
7 : Brake pulley setting
8 : Removable trim webbing
9 :Big Ears blocker system
10 : Main attachment point
11 : Negativ trimming
12 : Neutral position
13 : 50% position
14 : Leading edge
15 : Lower surface
16 : trailing edge
17 : Uper surface


La poulie de frein dispose de deux positions de réglage.
Si vous déplacez la poulie, reproduisez le nœud d'origine à l'identique.

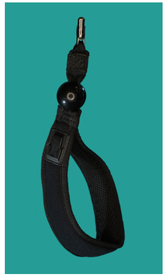



The risers are not equipped with a front accelerator system.





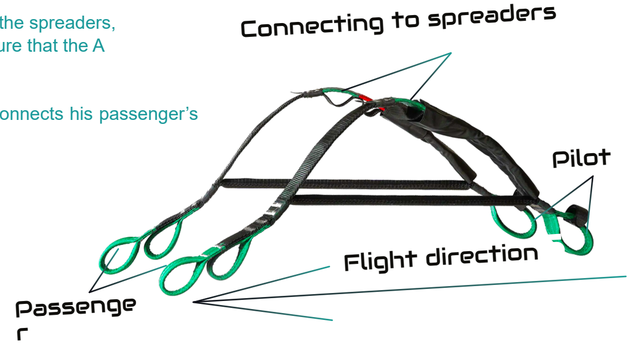

Light handle



Banana handle

## Connecting to spreaders

The bottom loop on the risers must be connected to the attachment points on the spreaders, using karabiners with appropriate resistance for a tandem load. You must ensure that the A risers are on top, without any twists or obstruction.
NEVER connect the glider to any other point.
The pilot then connects his harness to the rear loops on the spreaders and connects his passenger's harness to the forward loops.



## Take-off

The **WIND FORCE** will offer you a progressive and easy inflation in any flight condition, both in light winds and in strong winds.
Despite this, before the first flight, practice inflation to familiarize yourself with your new wing.
It is possible to inflate facing or back to the wing depending on take-off conditions.

## Forward launch :

To inflate with your back to the wing, take the A and A' risers in hand at the level of the shackles, move forward gradually, adapting your pace to the wind conditions.
When the wing is above your head, do a tempo and a visual check of the wing before deciding to accelerate in order to take off.

## Reverse launch :

If the direction and speed of the wind is suitable, we advise you to inflate facing the wing in order to facilitate visual control.
The pilot positions himself or herself facing the glider and his or her passenger facing the slope.
For inflation facing the wing, take only the A risers.
Apply a slight impulse to the risers to start inflation, adapting your movement to that of the wing in order to facilitate the tempo.
Once the wing is stabilized and controlled at the zenith, the pilot turns around and begins the launch run.
Make sure you never take off without having carried out all the safety checks.

Trimmers position:
We advise you to take off on the « neutral » position. However you can adapt this setting (symmetrically) depending on the conditions.



## Turning

In order to initiate a turn after checking that the space is clear, apply weight to the side where you wish to turn.
You may ask the passenger to go along.
Make sure you are not braking on the oposite side, then gradually lower the brake control on the side where you have applied the weight, until you obtain the desired inclination.
You can regulate the radius and the speed of rotation using the outer control.

## Landing

Make sure beforehand that you have enough altitude to make an approach adapted to the aerological conditions and terrain used.

When approaching, avoid any committed manoeuvre or excessive braking.
Land into the wind, away from any turbulence.
During final phase, maintain maximum speed until you are about to make contact with the ground, gradually brake your wing until you come to a complete stop.
Be careful not to brake too early and too suddenly, this would lead to pitching up again.

## Use of trims

If you need more speed, releasing the trimmers will allow you to accelerate.
Blue mark is for 50%
We advise you to use full speed (fully released trims) with caution and not to fly close to the ground or in turbulent conditions with this setting.
The neutral position is shown by a green mark on the trim strap.
We recommend using this position for standard use (take-off, flight, landing).
If you wish to slow the wing down, pull on the trimmers strap to bring it to the negative position.
You can use this position in flight when your wing loading factor is high.
The negative position is shown by a red mark on the trim strap.

## Active piloting

Active piloting is the flying technique that will help you fly with greater safety and enjoyment.
It means flying in coherence with the wing, along with pendular movements, pitching and rolling axes, and anticipating actions in order to stay in control and safe.
If the air is smooth the wing feedback can be minimal, but in turbulence feedback is continuous and needs to be constantly checked by the pilot.

Such reactions become instinctive in good pilots.

In order to get the best performance from the wing, the pilot should try to control it through small brake inputs and weight-shift, rather than constantly being present on the brakes.

A small movement early is more efficient than a big brake movement later to control the wing.
The more you let the glider fly at trim speed, the better performance you will get out of it.
The objective of active piloting is to get the glider to fly smoothly through the air with a stable position above the head, and controlled angle of incidence.
Your paraglider is highly resistant to collapse without any pilot action at all, but learning how to fly actively will increase this safety margin even further.



## Substitution steering commands

If you are unable to activate the brake control, you can control your wing using the D risers.
To make a course change, grab the D riser on the side you want to turn and pull it down.
Be careful that piloting with the D risers must be carried out with caution: stall occurs more quickly than when piloting with the brakes.

## Descent in 360° turns

To initiate a 360° turn, ensure that the airspace is clear, lean on the inside of the turn then gradually operate the control on the desired side. The wing will accelerate gradually, regulate the rotation speed using the brake.
To exit the rotation, return to a neutral position in the harness and gradually raise the control of the inner side of the turn .
You can slightly brake the outer side to accelerate the exit.
Be careful that too drastic an exit will result in a large pitching up then down, that will need to be controlled.
This manoeuvre causes a great centrifugal force, which can have physical consequences on the pilot and the passenger : disorientation, temporary loss of vision (black veil).
In accordance with the EN C certification, the **WIND FORCE** has no tendency to neutral spiral and comes out of rotation autonomously.

## Big Ears

Big Ears is a rapid descent technique, because it decreases surface area and increases sink rate.
In order to use this technique on the **WIND FORCE,** grab the A' risers. Pull gradually on one of the two, until the wingtip collapses.
It is better to engage one ear at a time. To maintain Big Ears for a long time, you can use the blocker system located on the D risers.
When using the blocker system, be sure to anticipate the reopening by releasing the blocker line.

## B risers descent

This manoeuvre is very physical (even impossible) to carry out with a tendem. We advice against using this method of rapid descent.

**Aerobatic manoeuvres**
The **WIND FORCE** is not designed for aerobatics.
Any extreme or repeated aerobatic maneuvre can damage your wing.

## Parachutal stall

If you notice that the wing descends vertically without horizontal speed and that it is partially deflated, you are certainly experiencing a prachutal stall.
If this happens, fully raise the brakes (up to the pulleys) and if necessary release the trimmers symmetrically.
Make sure you resume normal flight before touching the controls again.

## Stall

Stall will only occur in the event of exagerated inputs to the control by the pilot. This maneuver is very physical and can be dangerous. It is not a safe rapid descent technique.

**Spin / Asymmetrical stall**

A spin will only occur in case of pilot error. If it happens, pull the brakes all the way up (to the pulleys) and control the resulting nose-down pitch.

## Asymmetrical collapses

Your wing may occasionally collapse due to turbulence or pilot error.
During a collapse, keep your heading, move away from the relief while keeping a straight and stabilized flight.
To do this, you must apply the maximum weight on the open side of the wing and, if necessary, accompany this movement with an adapted action on the same side control. If the closed side does not open spontaneously, repeat the operation as many times as necessary.
During testing, fold lines were used.

## Frontal collapses

In case of frontal collapse, the glider is designed to open spontaneously according to the standard. Take care not to brake the wing to stimulate the resumption of flight. During testing, fold lines were used.



## Cleaning

It is best not to clean your wing. However, if necessary, we advise you to use a damp cloth without soap nor detergent. Apply in small areas and be sure to let the wing dry thoroughly before using or packing it.

## Storage and transportation

When you are not using your wing, store it in a dry, temperate place protected from UV rays.
Make sure the wing is totally dry before storing it.
For transportation : protect the wing from all external aggresions it could suffer, such as : tearings, cutings, crushings, UV rays. Put it in a sturdy enough bag.

## Maintenance

Your wing's maintenance must be done on a regular basis.
We recommend that you have your glider fully checked by a specialist workshop every 24 months or every 100 flying hours.
Between these checks, we recommend that you be mindful of :
- Lines condition : folds, damages or cuts.
- Wing condition : holes, tears, premature wear
- Risers condition : straps, seams, attachment points.

We also recommend changing the spreaders and carabiners at least every 5 years, or as soon as they show signs of wear.

## Repair

Your wing may suffer damages due to external aggression. In this case, it must be checked and repaired in a specialized workshop.
Items such as risers, brake pulleys or control handles can be ordered from your **LEVEL WINGS** dealer.

## Recycling

All our materials are selected for their excellent technical and environmental characteristics.
You can recycle most of the components, none of them are dangerous for the environment.
If you consider that your **WIND FORCE** has reach the end of its life, you can separate all metal and plastic parts and apply the selective sorting rules in force in your country.
Regarding the recovery and recycling of textile parts, we invite you to contact the organizations guaranteeing the management of fabrics.

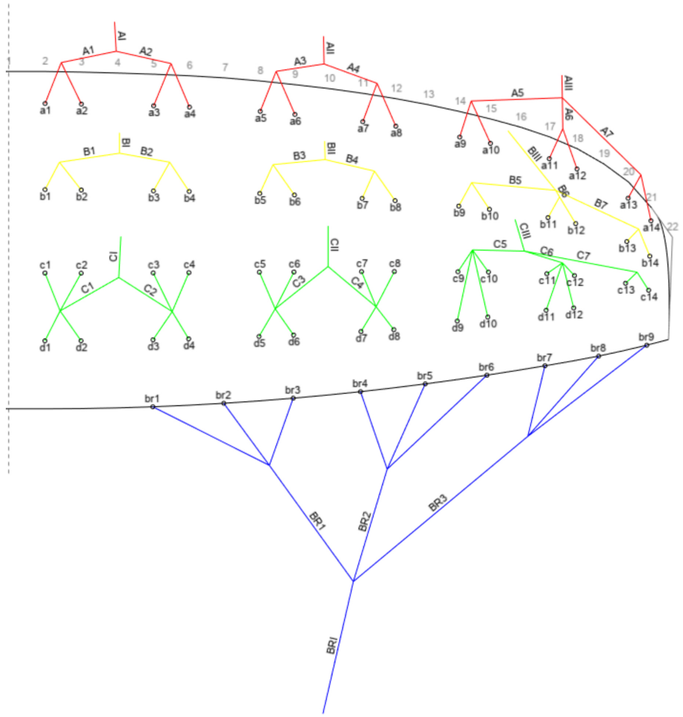
## Environmental Friendliness

Paragliding is an outdoor activity. You evolve in an environment for which you are responsible.
So be sure :

* To respect the local flora and fauna
* Not to throw your waste on the ground
* Not to generate more noise than necessary.

You thus participate in the preservation of the environment and activity.





# MESUREMENT TABLE

## Lines

Tolerence margin ± 10 mm

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| a1 | 6606 | b1 | 6458 | c1 | 6519 | d1 | 6714 | br1 | 7284 |
| a2 | 6559 | b2 | 6410 | c2 | 6469 | d2 | 6674 | br2 | 6991 |
| a3 | 6548 | b3 | 6416 | c3 | 6457 | d3 | 6666 | br3 | 6843 |
| a4 | 6584 | b4 | 6455 | c4 | 6495 | d4 | 6689 | br4 | 6818 |
| a5 | 6580 | b5 | 6454 | c5 | 6505 | d5 | 6718 | br5 | 6744 |
| a6 | 6552 | b6 | 6428 | c6 | 6476 | d6 | 6695 | br6 | 6770 |
| a7 | 6556 | b7 | 6439 | c7 | 6482 | d7 | 6680 | br7 | 6678 |
| a8 | 6588 | b8 | 6475 | c8 | 6515 | d8 | 6686 | br8 | 6637 |
| a9 | 6585 | b9 | 6498 | c9 | 6514 | d9 | 6601 | br9 | 6624 |
| a10 | 6510 | b10 | 6432 | c10 | 6451 | d10 | 6523 | | |
| a11 | 6379 | b11 | 6321 | c11 | 6345 | d11 | 6392 | | |
| a12 | 6326 | b12 | 6280 | c12 | 6299 | d12 | 6339 | | |
| a13 | 6236 | b13 | 6193 | c13 | 6204 | d13 | 8339 | | |
| a14 | 6222 | b14 | 6175 | c14 | 6175 | d14 | 8419 | | |

## Risers

Tolerence margin ± 5 mm

| | CLOSED | OPEN |
|---|---|---|
| A | 390 | 390 |
| A' | 390 | 390 |
| B | 390 | 430 |
| C | 390 | 470 |



# MATERIALS

## Lines Material

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| a1 | PPSL 120 | b1 | PPSL 120 | c1 | PPSL 120 | d1 | PPSL 120 | br1 | PPSL 120 |
| a2 | PPSL 120 | b2 | PPSL 120 | c2 | PPSL 120 | d2 | PPSL 120 | br2 | PPSL 120 |
| a3 | PPSL 120 | b3 | PPSL 120 | c3 | PPSL 120 | d3 | PPSL 120 | br3 | PPSL 120 |
| a4 | PPSL 120 | b4 | PPSL 120 | c4 | PPSL 120 | d4 | PPSL 120 | br4 | PPSL 120 |
| a5 | PPSL 120 | b5 | PPSL 120 | c5 | PPSL 120 | d5 | PPSL 120 | br5 | PPSL 120 |
| a6 | PPSL 120 | b6 | PPSL 120 | c6 | PPSL 120 | d6 | PPSL 120 | br6 | PPSL 120 |
| a7 | PPSL 120 | b7 | PPSL 120 | c7 | PPSL 120 | d7 | PPSL 120 | br7 | PPSL 120 |
| a8 | PPSL 120 | b8 | PPSL 120 | c8 | PPSL 120 | d8 | PPSL 120 | br8 | PPSL 120 |
| a9 | PPSL 120 | b9 | PPSL 120 | c9 | PPSL 120 | d9 | PPSL 120 | br9 | PPSL 120 |
| a10 | PPSL 120 | b10 | PPSL 120 | c10 | PPSL 120 | d10 | PPSL 120 | | |
| a11 | PPSL 120 | b11 | PPSL 120 | c11 | PPSL 120 | d11 | PPSL 120 | BR1 | PPSL 200 |
| a12 | PPSL 120 | b12 | PPSL 120 | c12 | PPSL 120 | d12 | PPSL 120 | BR2 | PPSL 200 |
| a13 | PPSL 120 | b13 | PPSL 120 | c13 | PPSL 120 | | | BR3 | PPSL 200 |
| a14 | PPSL 120 | b14 | PPSL 120 | c14 | PPSL 120 | | | | |
| | | | | | | | | BRI | DSL 350 |
| A1 | PPSL 275 | B1 | PPSL 275 | C1 | PPSL 275 | | | | |
| A2 | PPSL 275 | B2 | PPSL 275 | C2 | PPSL 275 | | | | |
| A3 | PPSL 275 | B3 | PPSL 275 | C3 | PPSL 275 | | | | |
| A4 | PPSL 275 | B4 | PPSL 275 | C4 | PPSL 275 | | | | |
| A5 | PPSL 275 | B5 | PPSL 275 | C5 | PPSL 275 | | | | |
| A6 | PPSL 275 | B6 | PPSL 275 | C6 | PPSL 275 | | | | |
| A7 | PPSL 275 | B7 | PPSL 275 | C7 | PPSL 275 | | | | |
| | | | | | | | | | |
| AI | TSL 500 | BI | TSL 500 | CI | TSL 380 | 3D1 | TSL 280 | | |
| AII | TSL 500 | BII | TSL 500 | CII | TSL 380 | 3D2 | TSL 280 | | |
| AIII | TSL 380 | BIII | TSL 500 | CIII | TSL 380 | 3D3 | TSL 280 | | |

Dimensions and lengths have been controled by Air Turquoises Test Laboratory.
When measuring the lines, a tension is applied progressively up to 50N.

## Fabrics

| | |
|---|---|
| INTRADOS | DOKDON20DMF MJ32 |
| EXTRADOS | SKYTEX 38 |
| Suported PROfiles,ROD | SKYTEX 40 HARD |
| UNSUported PROfiles,ROD,V.T-TAPES, diagonals | SKYTEX 32 HARD |

## Riser material

| | | | |
|---|---|---|---|
| Webbing Poly: Untreated 70221-20mm Black | 20mm | Gouth & Wolf | Riser |
| Webbing Poly: Untreated 70221-25mm Black | 25mm | Gouth & Wolf | Riser |
| Webbing Nylon 25mm Black ( Trim) with Print | 25mm | Dandy tapes | Riser |
| MAGIC DE PRO 3mm GREY | 3mm | Liros | Riser |
| Webbing nylon Rib 15mm Black | 15mm | Dandy tapes | Riser |
| 15mm GG Webbing | 15mm | Dandy tapes | Riser |
| Technora webbing 13mm Black | 13mm | Liros | Riser |
| DELTA INOX MR 3.5 | | Peought | Riser |



LEVEL WINGS

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