

**PARATECH PAS1**

**Operating and packing instructions**



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# 1 Technical description

## 1.1 General

The first round canopy parachutes appeared as rescue equipment during the First World War. In the 1930s, people realized that a parachute can be used to jump out of an airplane. Parachuting was born. Accordingly, the further development of the umbrellas took place until the surface glider was invented. So the round cap was placed in the corner and no further research was done. It still served as an emergency parachute, but you were satisfied with its way of doing things. The construction is simple. Take the triangular parts corresponding to the number of lanes and sew them together. If you hang the whole thing up on lines and fill it with air, you get a hemisphere with a very great resistance.

## 1.2 development

At PARATECH, we're over the books again! When building the PS1, we achieved that the screen calculated on the computer, with all its aerodynamic advantages, really stands in the air as it should. We had to give the individual tracks a precise cut, which then gave it this special shape. The fabric surface can thus be used more effectively because, viewed from below, the umbrella is not inflated like a flower, but almost circular. In this way we achieve a uniform air flow. The PS1 is made up of the side wall and the top cap. The two main parts are connected with small cell walls, so that the two caps are evenly spaced on top of each other. We call this gradation in the form ABP system, (AirflowBreakPoint system).

## 1.3 geometry

The line lengths were deliberately chosen to be shorter than paraglider lines in order to prevent mutual interference (collapse).

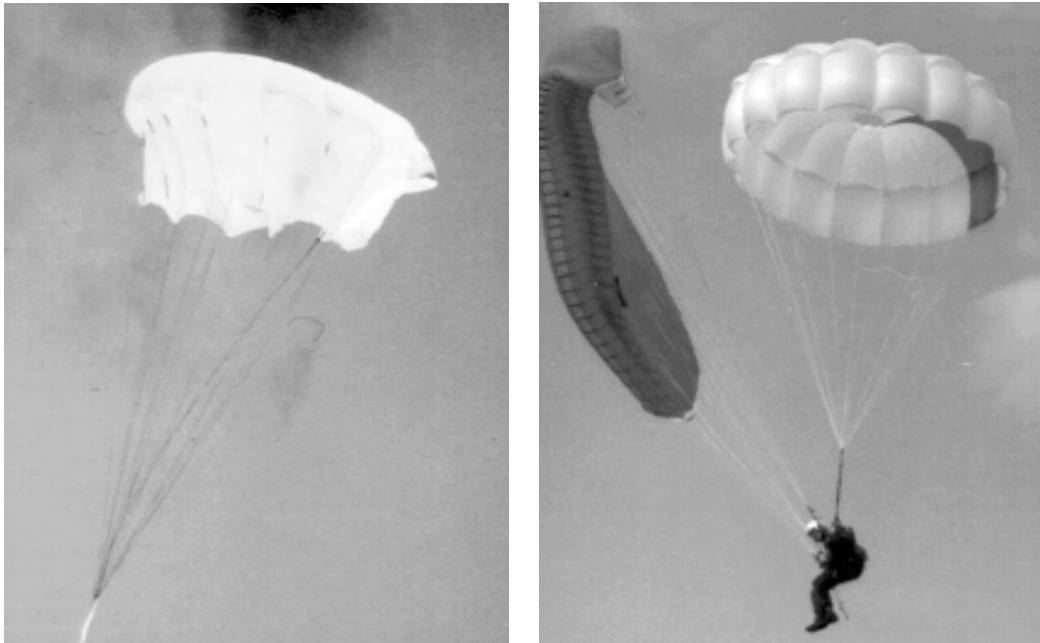
The center line defines the exact canopy geometry for the ABP system.



## 1.4 opening

The opening process is two-stage.

1. First the upper part of the cap is filled, which accelerates the opening and at the same time has a dampening effect on the base edge. The material is thus spared, the risk of tearing is eliminated and the pilot is prevented from being injured by excessive g-loads.



2. The ABP system gives the umbrella absolute pendulum stability. The emergency parachute cannot be influenced at all by the paraglider standing next to it.

The sink rate of the PS1 is sensational. These are values that are absolutely reliable because they are not almost doubled at times by commuting.

## 2 litter containers

We paid a lot of attention to the litter bin during development. Its task is not only to close the screen in a way that protects it from UV rays, but also to ensure that the opening process is very quick and controlled.

We primarily assumed that the pilot in an emergency situation does not always throw the locked umbrella with energy, but simply pulls it and lets it fall. Now the reserve parachute must unfold independently without having to shake it.

Our CC system (Container Chute System) also bypasses this possible opening delay and stretches the entire umbrella in an extremely short time.

With the CC system, a small parachute was sewn onto the inner container. It acts as a rectifier so that the package cannot overturn during the stretching process. At the same time, we use the wind that is there due to the forward speed or the sinking speed and thereby the throwing container pulls the folded reserve parachute out from the very first moment.



### 3 maintenance

You have to take care of an emergency parachute. It has to be maintained in the same way as the brakes of a car are checked over and over again. This is the only way he can do his job in an emergency.

The packing interval must be **Max. 120 days** be designed.



The ventilation time lasts at least **24 hours (not the same drying time)**. It is only hung in a dry room. Under no circumstances should you put the umbrella in the sun, otherwise the aging process will be unnecessarily accelerated by the UV radiation.

Please ensure that the rescue system is not stored in the immediate vicinity of fats, oils, acids, paints or organic thinners.

If the umbrella is dirty, it may only be cleaned with lukewarm fresh water. If the umbrella becomes damp or wet when packed, it must be opened and dried.

Repairs are only allowed to be carried out by the manufacturer or by an authorized agency.

We are always available to answer any questions you may have.



## 4 Packing instructions

### 4.1 Packing the inner container

The aids used for packing should be marked with a conspicuous color, so as not to run the risk of packing anything unintentionally into the umbrella.

So count the utensils before folding, so that after packing you can be sure that you haven't forgotten anything. Choose a smooth surface for folding. Statically chargeable floors must be avoided.

1. Pull the packing cord one after the other through the individual special packing loops on the dome, not leaving any out.



2. The umbrella can now be stretched. Attach to the shoulder strap:



3. Take the main track (stamp track) upwards and check the course of the two associated lines up to the suspension.



The two lines must not be crossed by any other line from the dome base to the riser!

(To remove a throw, loosen the shoulder strap and pull it through the lines until the two lines of the stamp path run freely.)



**4th** All PS1 screens have an odd number of lanes.

Lay out all strips in such a way that half of the strips are neatly on top of each other on both sides and the stamp strip is on top. During this work, the calotte can also be examined for damage.



**5.** The base edge of the cap (lower edge) must now be placed on top of each other in a controlled and neat manner on all strips.

The left and right lanes must be counted.

Size	S.	L.	XL	Bi
Lanes	17th	17th	19th	21st
left / right +	8/8	8/8	9/9	<u>10/10</u>
<u>Stamp track</u>	1	1	1	1

The stamp track is now placed symmetrically in the middle.



**6th** On the punch path, the base and top cap edges are drawn symmetrically to the cap tip so that mouth-like openings are created. (This enables the device to be opened quickly)



**7th** The base edge of the left and right halves is now placed under the stamp track towards the center of the screen.



**8th.** Now the left and right sides are laid one third across the middle (width of the throwing container).



**9.** Pull the packing cord (folding aid) out of the packing loops!



The packing cord must be removed, otherwise the device cannot open properly!

**10.** The six rubbers (size 30/2 or 40/2) in the line compartment of the throwing container must now be replaced with new ones. Lay the throwing container ready next to the umbrella.



**11.** Now fold the dome with a first S-fold from the base edge (note the container size).



**12.** Now lay the rest of the dome with S-beats on the first S-beat.



**13.** Place the throwing container on the fabric package so that the top end of the cap (with the packing loops) comes to rest on the container bottom. The container flap number 1 with the elastic band points in the direction of the lines.





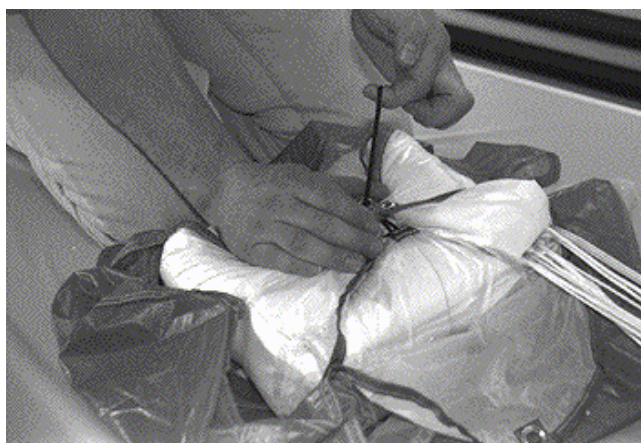
**14th** Grasp the fabric package with the left and right flaps and turn the whole thing over.



**15th** First pull the elastic band through the eyelet on flap # 1, then through the eyelet on flap # 2.



**16.** Pull the elastic band through the eyelet of flap no.3 and no.4.





**17th** Pull a line loop (approx. 3 fingers wide) through the elastic loop and "close" the inner container.



**18th** The lines are reeled into eight loops, the width of the container in two bundles, and secured in the line compartment with the rubber bands, leaving one meter of line free.

(Loosen the straps for this.)



**19th** The last meter of line is laid in eight loops and fixed with the last two elastics.



**20th** Place the shoulder strap over the package.

The elastic band through the eyelet of No. 5 and thus also close the line compartment of the throwing container.



**21st** The elastic band is now secured again.

There are two different versions of the PS1:

A. Newer model without a pin: The device is secured with another line loop as in point 17.

B. Older model with pin: The device is secured with the pin.



Do not pull the PIN too far through the elastic loop!

**RIGHT !** Container will open.



**NOT CORRECT !** Container will NOT open.



## 4.2 Packing in the outer container

A. In an integrated harness container

The folded umbrella can now be packed into all common harnesses with an integrated outer container.

The throwing handle is to be attached to the cruciate ligaments of the throwing container.

**Otherwise, follow the instructions of the harness manufacturer!**

#### **B. In PS1 outer container**

**1.** The throwing container is placed in the outer container in such a way that the cruciate ligaments with the throwing handle attached to them come to rest upwards.

The carrying strap is led outwards at one corner of the container.



**2.** To close the outer container, two packing cords are required, which are pulled through the packing loops.

The lines are then passed through the eyelets using packing cords. The packing loops are pulled through the eyelets and secured with the pins. (The package is now under tension.)

The pins are to be inserted through the packing loops from the outside towards the middle.



Now remove the packing cords!



3. The outer container is now neatly closed with the Velcro flap on the release handle.

The outer container can now be mounted on the harness on the left, right or front side.



The carrying strap that looks out of the outer container must now be connected to the reserve parachute suspension on the harness!

(Either neatly looped together or connect with a secured carabiner, with a minimum strength of 2500kg.)

## 5 Procedure for deploying a reserve parachute

The PS1 emergency parachute must be triggered manually. If you have decided on an emergency procedure (paraglider is no longer airworthy) you pull the throwing handle. Now the outer container can open and the inner or the litter bin becomes free. With a violent and targeted throw, the package is thrown into a free zone against any rotation. The emergency parachute brakes the fall in a very short time, and you now sink gently to the ground, not controllable. As with all round canopy umbrellas, it is advisable to use a landing roller to intercept the impact on the ground. In this role you adopt a very specific posture:

- a. Press your feet together
- b. Press your knees together
- c. Bend the upper and lower legs slightly so that you can pull together like a spring when you sit down. If your feet are in contact with the ground, roll
- d. over one shoulder immediately (similar to a judo roll).

If the emergency parachute does not collapse after landing due to strong winds, the easiest way to do this is to retract the center line. So it can be brought under control immediately.

## 6 Conclusion

With the PS1 rescue device, PARATECH offers maximum safety. When developing the PS1, an optimal compromise between packing volume, weight, opening speed, pendulum stability and good sinking speed was sought and found.

Now it's your turn as the pilot:

We strongly recommend that you practice the hand movement on the reserve handle after every take-off as soon as you are in the air. This is the only way you are mentally prepared for the reserve throw and have automated the sequence of movements. This gives you security and valuable time in an emergency.

As a pilot, it is nice to know that you are wearing a top product that can save lives at any time through mental training and correct handling.

If the reliability of your PS1 relieves you of any hesitation before the throw in an emergency, then both you and we at PARATECH and our PS1 have fulfilled.

**keep an eye on  
your safety  
take a**

PS1

We from the PARATECH team wish you many more successful and beautiful flights.

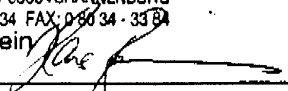


## 7 Technical Documentation

### 7.1 Technical data

PS1	Small	Large	<u>XLarge</u> Bi	
Cloth surface	31 sqm	35 sqm	42 sqm	48 sqm
Number of lanes	17th	17th	19th	21st
Weight	2.0 kg	2.2 kg	3.0 kg	3.5 kg
Pilot weight naked min.		60 kg	75 kg	115 kg
Pilot weight naked max.	65 kg	85 kg	120 kg	180 kg
Sink rate m / s	<u>4.5-5.5 4.5-5.5 4.5-5.5 4.5-6.0</u>			
AFNOR type approval	-	Yes	Yes	Yes
specification	- Rescue device for paragliders with manual release (not controllable)			
material	- Shock absorbing nylon fabric reinforced with nylon straps  - Stretchable nylon lines Ø 1.5 mm  - Center line nylon Ø 4.0 mm			

## 7.2 Approval documents

Luftsportgeräte-Kennblatt (§4 LuftVZO) Gleitsegel-Rettungsgerät		
Geräte-Kennblatt Nr.:	Ausgabe: 01	Datum: 14.09.95
<u>I. Zulassung</u>		
1. Gerätemuster:	PARATECH PS1 L	
2. Hersteller:	Aerosport International GmbH	
3. Datum der Musterzulassung:	14.09.1995	
<u>II. Merkmale und Betriebsgrenzen</u>		
1. Gerätegewicht (ohne Außenkontainer kg):	1,9	
2. maximal zulässiges Anhängengewicht (kg):	100	
3. Empfohlenes Körpergewicht Pilot (kg):	60 - 85	
4. Mittelleinenschirm:	ja	
5. sonstige Besonderheiten:		
profilierter Doppelkappe mit Zellwänden für optimale Pendelstabilität; 5-Blatt-Wurfkontainer mit Diaper;		
III. Betriebsanweisung in der Fassung vom:	14.09.1995	
Packnachweisheft in der Fassung vom:	14.09.1995	
Stempel und Unterschrift des Herstellers: Brannenburg, 14.09.95		
<b>AEROSPORT</b> INTERNATIONAL GMBH GRAFENSTR. 26 D-83094 BRANNENBURG TEL: 0 80 34 - 10 34 FAX: 0 80 34 - 33 84		Bearbeitungsvermerk DHV: Kennblatt geprüft am:  von:
Hans Bausenwein 		

**Luftsportgeräte-Kennblatt**  
(§ 4 LuftVZO)  
**Gleitsegel-Rettungsgerät**

Geräte-Kennblatt Nr.: GS 02-059-95

Ausgabe: 01

Datum: 22.09.1995

**I. Zulassung**

- |                               |                              |
|-------------------------------|------------------------------|
| 1. Gerätemuster:              | Paratech PS1 XL              |
| 2. Hersteller:                | Aerosport International GmbH |
| 3. Datum der Musterzulassung: | 22.09.1995                   |

**II. Merkmale und Betriebsgrenzen**

- |   |     |
|---|-----|
| 1. Gerätegewicht (ohne Außencontainer, kg): | 2,7 |
| 2. Maximal zulässiges Gewicht (kg):         | 130 |
| 3. Empfohlenes Gewicht (kg):                | 130 |
| 4. Mittelleinen-Schirm                      | ja  |
| 5. Sonstige Besonderheiten:                 |     |

Sicherung durch 3 kg-Sollbruchfaden der in Schlaufe verknotet wird (siehe Bedienungshandbuch).

Ausfertigung vom Original.  
Gmund, den 22.09.1995



**III. Betriebsanweisungen**

Betriebsanleitung in der genehmigten Fassung vom 14.09.1995.

Packnachweisheft in der genehmigten Fassung vom 14.09.1995

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## 7.3 Contact

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