



# REBREATHER WING USER MANUAL





## The Rebreather Wing

RB Wing is a wing made for both beginners and for more experienced divers. Wing is made out of premium black version in Nylon 1680, partly backed for increased puncture resistance and a more effective retracted shape. YKK Waterproof Zippers. Equipped with inner bungy cord it gives the bladder superior deflation capabilities as well as a great volume increase. Four APRV:s and an inflator with a mechanism in stainless steel make sure that air can be inflated and deflated in a controlled and safe way. The shape of the bladder is made to compensate for the weight of the cylinder when submerged and to give you total freedom to move in any direction. The air passage behind the neck is narrow not to push your head forward or not to be in conflict with regulator and hoses when inflated. RB Wing can be attached to either harness.

The inner bladder is made of laminated PA/PE sandwiched TPU. This gives the optimum combination of weld seam strength and salt water ageing resistance.

The lift capacity of RB Wing is 150 N and is made for a diver and equipment with a negative weight in water that does not in total exceed 15 kg. RB Wing is available in one size only.

## Approvals/Certifications

The RB Wing are approved according to the EU Directive for Personal Protective Equipment, 89/686/EEC and meets or exceed the requirements of:

EN 1809:1997

Type examination certificate number 0078/806/136/0513/0011, issued by;

Institute National de Plongée Professionnelle  
Entrée n°3 - Port de la pointe Rouge  
13267 Marseille Cedex 08  
France

Notified body number 0078.

Independent performance testing according to directive and standards is conducted at accredited laboratories INPP, Institute National de Plongée Professionnelle, Marseilles.

Poseidon Diving Systems AB is certified according to ISO 9001.

The RB Wing is only supported to be used with the Poseidon Rebreather. Refer to Technical Data at the end of this manual for determination of compatibility. Too negatively buoyant cylinders can prevent floatation and/or ascent and cause serious injury or even death.



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## WARNING:

Read user's manual before use.

This is not a lifejacket: it does not guarantee a head up position of the wearer at the surface.

Safe use of this product requires instruction in buoyancy control from a certified instructor.

Inspect all components of this product for proper operation, damage, wear or leakage before each use.

Do not inhale gases from inside bladder.  
Rinse with fresh water thoroughly and drain after use.  
Store partially inflated.

The information tag attached to the RB Wing (under the zipper next to the symbol) contains the above information and shall not be removed from the bladder.

Diving is a strenuous physical activity. Its difficulty may be increased by conditions such as cold water, poor visibility, hard work, and increased depth. Always try to exercise prudent judgement when determining whether or not to dive. Never dive when tired or in poor health.

Check that weights can be dropped off freely. If RB Wing integrated weights are not used, make absolutely sure the weight belt is not entangled when put on. If it is entangled it can be prevented from dropping off freely, and your emergency ascent can be jeopardised.

You must be familiar with the procedure to drop weights in case of an emergency ascent.

Practice this procedure prior to your first use of your RB Wing in a perfectly safe environment, i.e. in confined water which is not deeper than 3 meters.

## WARNING:

NITROX. Wings are not oxygen cleaned directly from the box. Prior to use with anything else than air according to EN 12021 having an oxygen content in excess of 22% oxygen, the inflator and feeding hose must be cleaned and serviced for oxygen use.

If the rebreather wing prior to the use with Nitrox have been used with other gasses, it may be contaminated and must be re-cleaned before use.

Using Nitrox there are special restrictions concerning maximum depth and exposure time, which is dependent on the actual oxygen concentration. Special personal training and certification is required.

Modifications of the product beyond what is described in this manual are prohibited.

Modifications can impair the function of the RB Wing, and transfers the responsibility to the person who does the modification.

Maximum load on any stainless steel D-rings is 1500 N, please refer to technical data/Manufacturers approval.

Before use of the RB Wing in any configuration, you must have proper dive training and hold a certificate for diving from a recognised training organisation. As part of this training, you must have learnt how to establish neutral buoyancy, how to adjust the amount of ballast weights, safe descent and ascent techniques, inflating and deflating a RB Wing, donning and doffing both above and under the surface. With your new RB Wing you must practice these procedures again, and adjust the amount of ballast weights you may be used to.

Retain this manual for your reference. Review this manual periodically, and prior to diving.

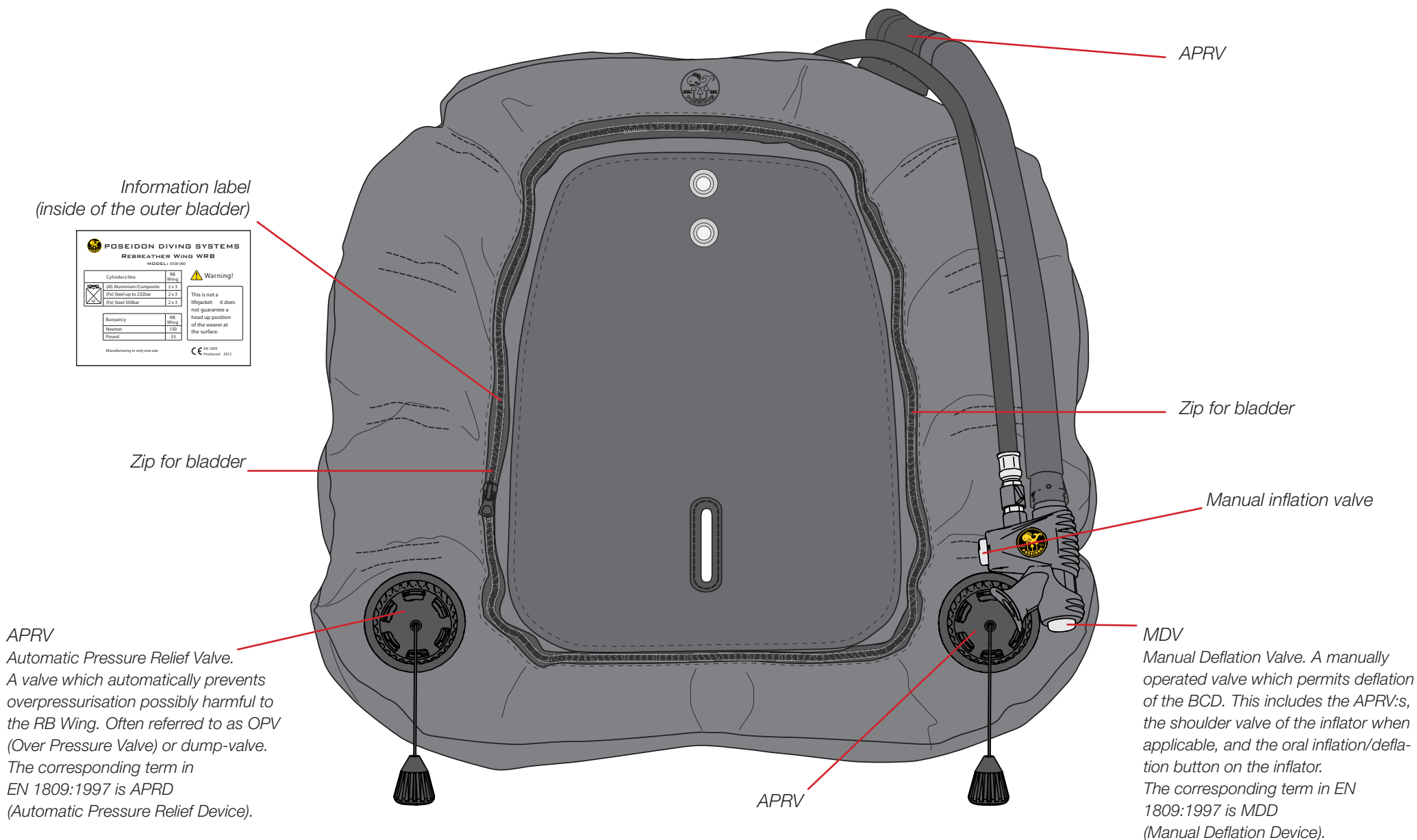
Improper use, or misuse, of this harness or buoyancy compensator could result in serious injury or even death.

Diving deeper than 50m the requirement of EN 1809 for time to completely inflate bladder will be exceeded.



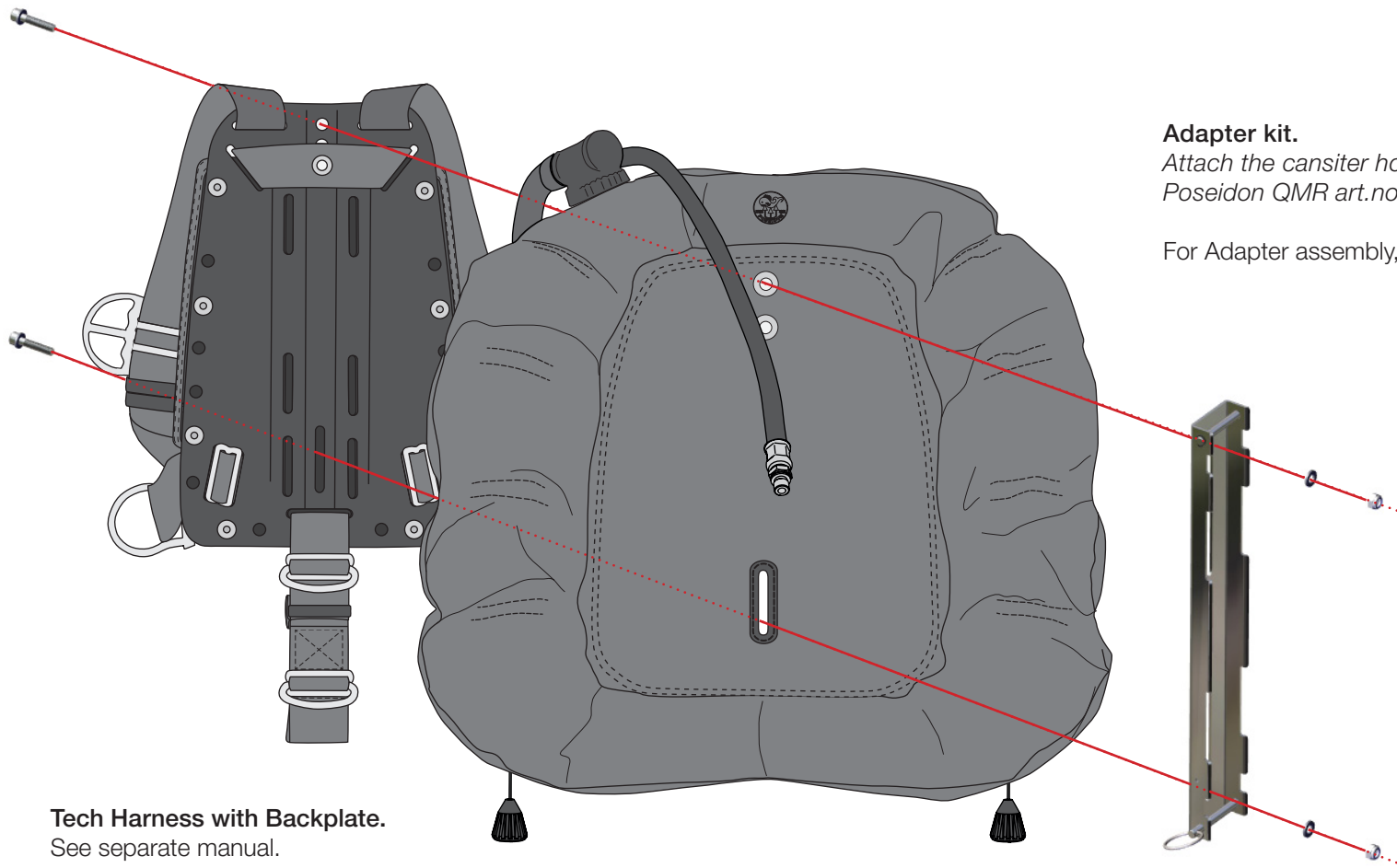


## Functional Overview





## Assembly



**Tech Harness with Backplate.**  
See separate manual.

**RB Wing**

**Adapter kit.**

Attach the cansiter housing to your RB Wing with the Adapter kit.  
Poseidon QMR art.no: 0005-100 or 11-inch adapter.

For Adapter assembly, see separate manual.

**Rebreather.**

For assembly, see separate manual.





## Donning

If a wing is used with the harness, connect the quick connector of the inflator feed hose to the inflator mechanism.

Ensure you have adjusted the RB Wing size to fit perfectly (see section size adjustment).

Undo waistbelt buckle, crotchstrap buckle and one shoulderstrap buckle. Hang the RB Wing on your one shoulder, preferably on the side where you have no instruments on your wrist, or APRV:s on your drysuit. Lean forward and the pre-curved waistbelt will grab around your hips. Then tighten the waistbelt, until you feel that you comfortably can carry the load with your waistbelt/lumbar support only.

Finally, tighten the other shoulderstrap and adjust.

Put your weights into your weight pockets and lock the buckle.

### Buoyancy control / Adjusting the amount of ballast weight.

Ensuring the wing has sufficient lift capacity and that the amount of ballast weight is correctly chosen shall be performed in confined water. Consult your SCUBA instructor for additional help in setting up your equipment and weight.

#### Wing capacity

With all your standard equipment put on and cylinders at maximum filled, make sure the RB Wing can keep you floating so that you can hold your air-ways well above the surface.

#### Ballast weights

With all your standard equipment put on and cylinders close to empty (10-20 bar), dump all gas from the RB Wing bladder. If you cannot submerge, add 1 kg at the time to your ballast weights and repeat the test procedure. If submerging takes place before the bladder is completely emptied, you may remove ballast weight instead.

#### Buoyancy calculation

All different RB Wings are constructed for different purposes, to enable certain kinds of diving, and to ensure a maximum level of safety. The lift capacity must ensure that at least 3 kg of positive buoyancy is achieved when inflated, even if releasing ballast weights is forgotten.

## Pre Dive Checks

- Check that your RB Wing is free from visible damages, such as e.g. cuts, punctures, frayed seams, excessive abrasion, and loose/missing hardware.
- Open your cylinder valve.
- Check the correct operation of the inflator mechanism by pressing the inflation button to inflate the bladder, check for leakages, and then shortly press the deflation button.
- Check the manual deflation device mechanism by pulling the inflator corrugated hose. (does not apply to models with elbow connection to the bladder)
- Check that you can reach both APRV:s on the right and left side respectively. Pull the knob and make sure the correct operation of the APRV.
- Check that you can reach the handles of your QR weight system to release your own weights.
- If a crotch strap is used, check that it is locked and that it does not prevent the release of weights.
- Inflate the bladder sufficiently to keep you floating directly after entering the water.

### WARNING:

Do not use your RB Wing as an assist or “lift bag” for bringing objects to the surface. These objects may be lost during the ascent, creating a sudden increase in buoyancy and loss of buoyancy control.

Do not inhale gases from inside bladder.

Keep sand and other contaminations out of the oral inflation mouthpiece and valve button. Under certain conditions contamination can cause the valve to not close completely. If this occurs while diving, shake the valve while operating it several times. If the valve leaks or remains inoperable immediately terminate the dive. Diving with a leaking RB Wing or with valves that do not operate properly may result in loss of buoyancy control that could result in serious injury or even death.



## Diving

### WARNING:

Be aware that the mesh at the bottom of the wing needed for effective draining of water, do expose an increased risk for bladder puncture. Make sure to protect this from coming in contact with sharp objects.

Avoid attempting to deflate an already empty bladder as this will allow seawater to enter. A flooded RB Wing can cause buoyancy difficulties.

Do not dive with a RB Wing that is damaged, leaks air, or does not function properly. Before each use inspect for proper operation, leakage, or damage. Terminate any dive as safely and quickly as possible if the RB Wing becomes damaged, leaks air, or does not function properly.

### WARNING:

Always perform a pre-dive and post-dive inspection of the RB Wing. Have your dive partner perform a crosscheck as well. The pre-dive and post-dive RB Wing examinations help identify equipment problems before unsafe conditions exist.

Ensure you are using a regulator set at min/max working IP = 8 – 9.5 bar.

Make absolutely sure your weight system is not entangled, and can be dropped off freely.

Buoyancy compensating is achieved by inflating and deflating the RB Wing bladder. Inflating the bladder using the power inflator is done by depressing the inflator button using short bursts. Continuous depressing of the button can cause you to become excessively buoyant. Orally inflating of the bladder is achieved by exhaling a small amount of air into the inflator. Place your lips on the inflator mouthpiece and exhale while depressing the oral inflation button. After exhaling release the oral inflation button to prevent air from escaping.

Deflating the bladder is done by using either the inflator's oral inflation button or any of the APRV:s. For deflation using the inflator oral inflation button, hold the inflator in an upright position so that it becomes the highest point of the bladder and depress the oral inflation button. Deflation of the bladder using an APRV is done by activating the valve that is placed on the highest portion of the bladder depending on the diver's attitude during the actual period of time. The two APRV:s placed on the rear lower portion of the bladder are activated by pulling the knob. For activating the inflator integrated MDV pull the inflator as if to extend the corrugated hose.

In case of inflator malfunction or freezing, the inflator might continuously inflate the bladder. Start by detaching the inflator hose and continuously deflate the bladder by depressing the oral inflation button while holding the inflator at the highest possible position to increase deflation effectiveness.

## After Dive

Rinse the wing with fresh water outside and inside. Inflate the wing, either orally or by using the inflator. With the wing almost fully inflated, rotate it back and forth a few times so that the entrapped water collects inside. Then let the water out through the inflator, by holding the wing up side down, with the inflator at the lowest point and depressing the oral inflation button.

Rinse your wing in fresh water both internally and externally after every dive. After seawater have been emptied as described above, fill approximately 1-2 litres of fresh water into the wing via the inflator. Partly inflated, rinse the wing internally and then let the water out as described above.



## Maintenance

No other maintenance procedures that you can do yourself other than those described in section After Dive is needed. If your RB Wing is heavily contaminated and dirty, or after your last dive for the season, it is possible to wash the RB Wing in a washing machine. Valves and inside PU bladder shall NOT be washed in a washing machine. Unscrew all APRV:s and the inflator from the bladder. Unzip the bladder and remove the inside PU bladder.

Tumble drying is prohibited.

Always let your RB Wing dry completely before storage over a longer period of time. Always store the RB Wing partially inflated.

Store in a place which is not exposed to extreme temperatures or direct sunlight.

Do not rest heavy objects on the BC.

Expected lifetime for inside PU bladder is 10 years, but can vary depending on usage.

Poseidon recommends replacing the bladder after maximum 10 years from the date of manufacture, or earlier depending on condition and usage.

Avoid prolonged or repeated exposure to chlorinated water, such as in swimming pools.

Wash your BC immediately after any use in chlorinated water. Chlorinated water can oxidize fabrics and materials on your BC, shortening its life, and cause colours to fade. Damage and fading from prolonged exposure to chlorinated water is specifically not covered under warranty.

## Servicing

It is extremely important for your safety that you keep your equipment in good condition.

You need not carry out any other maintenance than described in previous section.

The RB Wing should be inspected yearly by one of POSEIDON's authorised service locations.

Look for the POSEIDON Authorised Dealer sign. Inspection does not include a service overhaul, which only takes place if damages or malfunctions are discovered when inspected.

If you are using RB Wing with gasses having elevated oxygen content (Nitrox), you must inform the servicing location about it.

They will then always undertake a re-cleaning of the inflator and your inflator feed hose.

## Technical Data

### Maximum buoyancy

150 N

Buoyancy figures reached within 5-8 seconds.

**Dry Weight:** 1.8 kg.

### Temperatures

Working surface temp.	Working water temp.
- 20°C to + 50°C	- 3°C to + 40°C
- 4°F to + 122°F	+ 27°F to + 104°F



### WARNING:

**This RB Wing is only intended for use with the Poseidon MKVI Rebreather and Poseidon Tech with 2x3 liter cylinders.**

**This is not a lifejacket: It does not guarantee a head up position of the wearer at the surface.**

Refer to the information label placed on the inside of the outer bladder for further information.