



HISTORY:



Before the buoyancy compensator (BC), divers found neutral buoyancy to be a fleeting experience; difficult to achieve and nearly impossible to maintain throughout the course of a dive. Yet it is only by becoming neutrally buoyant that a diver can experience the exhilaration of true weightlessness, and move about with total freedom underwater.

The BC, as we know it today, is very different from the original models that were adopted from the "Mae West" – a vest that was designed to be an inflatable life preserver for airplane pilots during World War II. Its purpose then, for divers who began using it, was simply to provide surface flotation at the beginning or end of a dive, or a means of self-rescue for an injured or disabled diver. Very soon, however, divers began to experiment with this new device, and found that by adding air to it underwater, they could offset the loss of buoyancy that occurred at depth when their wetsuits became more compressed. A revolution was born, but it was one that took many years to culminate in the real benefits we all expect and enjoy from the BC as it is designed today.

With the advent of the power inflator, the BC underwent a dramatic transformation in a short period of time. The jacket-style design was born, which integrated the BC into a complete system that included the cylinder and regulator, and could be donned or removed all at once.

In addition to providing a more comfortable harness system to hold the cylinder, the most significant advantage of this modern design was its ability to provide a more balanced distribution of the air inside its bladder. This gave the diver the ability to swim underwater or rest on the surface in an equally comfortable and relaxed position, without struggling against buoyancy that pulled them in only one direction.

Since our development of the original ADV (Advanced Design Vest), Sea Quest has lead the industry in the development of more patented designs and features than any other manufacturer; features that make your diving more comfortable and enjoyable, and allow you to experience the true freedom of exploring inner space. We continue to do so today, and we invite you to compare our extensive line of BC's to anyone else's.

First, though, we would like to provide you with the following tips and information to help you make the most informed decision possible about selecting the BC that's right for you.

ANATOMY OF A BC:



Before you go shopping, it is important to understand the basic construction and design features that should be found in any BC, regardless of its price tag. Remember that it's okay to forego certain optional features in order to find a BC that fits your budget, but you should never need to sacrifice quality.

HARNES SYSTEM - The harness system is made up of several components that work together to support the cylinder while you are wearing it on land, and hold it securely against your back when you are swimming underwater.

BACKPACK ASSEMBLY – A quality backpack should be contoured to fit closely against the diver's back on one side and to cradle the cylinder securely against the other. Look for a rubberized traction pad to prevent slippage, along with a heavy duty cam buckle and stretch-proof band. These are standard features that no BC should be without. One unique feature found on the [Pro Unlimited](#) is an adjustable



Pro Unlimited



Black Diamond



Pro QD



lumbar support that can slide up or down for an absolute fit. Also, certain models may be converted for use with double cylinders, but you should check first with your dealer before attempting to perform this modification. Not all back packs have the structural strength to support the extra weight of double cylinders.

SHOULDER STRAPS – The shape and length of the shoulder straps will determine the range of adjustment and comfort they will provide. Check to make sure that the buckle is made of a strong, quality plastic, and engages securely when the male and female sections are snapped together. The webbing should be heavy enough to provide adequate strength and prevent twisting, but flexible enough to slide through the buckle easily when you are adjusting the shoulder strap in either direction.



WAISTBAND – Whether it's a simple strap of nylon webbing or a padded cummerbund, it is important to make sure the waistband can be easily used. The size and shape of the **BLADDER** will determine how much lift your BC provides, and also how much drag will be created when it is deflated while you are wearing it underwater. The bladder should be constructed of a quality, abrasion and puncture resistant material that can be patched in the event a minor puncture occurs. The seams should be heat-sealed with state-of-the-art radio frequency welds to prevent the possibility of separation. Last, a quality bladder should be



designed to allow the uninhibited transfer of air from one section to another, and should be contoured around the diver's body to expand outward when inflated, in order to prevent any squeeze or discomfort.

The **POWER INFLATOR, EXHAUST VALVES,** and **OVER PRESSURE RELIEF VALVES** make up a system that allows you to add and release air with ease, in order to control your buoyancy more precisely and with minimal effort. The power inflator should feature a sensitive variable flow adjustment that allows you to fine-tune your buoyancy with a light touch of the button, and an integrated rapid-exhaust valve for when you need to vent air quickly while in a swimming position. Certain model BC's also feature rear dump valves with pull strings and more convenient right shoulder pull dumps for divers who prefer to make faster head-first descents.



OPTIONAL FEATURES:

- A
- B
- C

Now that you know what to look for in the basic features of a BC, there are many factors to consider when selecting additional options. Most importantly, you should consider your personal weight, size, and body shape, in addition to the type of diving you will be doing and the activities you may wish to pursue. If you will primarily be traveling to warm water destinations for casual recreational diving, you may be happiest with a more basic and streamlined model that is lightweight and easy to pack for the trip. Do you intend to pursue cave diving or wear double cylinders that, when full, can create many pounds of

Balance

Pro

Spectrum 1



negative buoyancy? If so, an important concern may be the amount of lift that your BC provides, as well as its harness system and the attachment points for accessories. If you will be diving from a beach or hiking for any distance with your tank on your back, you will definitely need a BC with a harness system that is specifically designed to provide greater support on dry land. Read on to learn more about the various options available and the benefits they can provide.

BLADDER STYLE – The traditional jacket style BC is designed to distribute buoyancy around the diver's waist, as well as over the back and up the shoulders. Some divers, however, prefer a back mounted design, such as the [Black Diamond™](#), [Balance™](#), and [Libra™](#), which feature a bladder that is located entirely on the rear of the jacket, on both sides of the cylinder. This provides a more streamlined effect along the front of the torso and allows a broader range of adjustment in the shoulders and waist, as well as more options for the attachment points of accessories. Some BC's feature larger bladders that provide more lift, while others are smaller and more streamlined for more casual and tropical use. A typical disadvantage of larger-lift bladders is that they tend to create excessive drag underwater. Sea Quest has solved this problem with two unique and patented bladders. A 3-D (three dimensional) bladder design found on the [Black Diamond™](#), [Balance™](#) and [Libra™](#). And an internal expanding gusset system that maintains an extremely low drag profile for even our largest bladders when the BC is deflated. This feature is found on the [Pro Unlimited™](#) and [Pro QD™](#).

BACKPACK / HARNESS SYSTEM – If your diving requires little more effort than a backward roll off a boat to enter the water, you will be satisfied with any of the harness systems offered on every Sea Quest BC. For beach diving, however, or any other type of diving that requires

you to "pack in" your gear on dry land, you will appreciate our many patented harness features. These include our **CONTOURED SHOULDERS** and **SWIVELING BUCKLES**, **TRIANGULAR LOAD DISTRIBUTION SYSTEM**, **MULTI- SET WAISTBAND**, and our latest invention, the **SELF-ADJUSTING LUMBAR SUPPORT (SLS)**. The SLS is a unique system that automatically conforms to your lower lumbar area, providing unmatched support and comfort (patent pending).



INFLATION/ DEFLATION SYSTEMS – The power inflator is a standard feature on nearly all BC's manufactured today, but not all are created equal. The Sea Quest [Powerline™](#) inflator system features a sensitive variable flow adjustment that allows you to fine-tune your buoyancy with a feather-light touch of a button, and an integrated rapid-exhaust valve for when you need to vent air quickly. If you would like to streamline your air delivery system, talk to your dealer about the option of installing the [Air Source™](#), which features a precision touch power inflator with a high-performance octopus second stage.



INTEGRATED WEIGHTS – Perhaps the most exciting innovation for the BC in recent years is the integrated weight system, which can dramatically simplify the way you dive - it took Sea Quest to perfect it. Our top of the line BC's feature the unique and patented Integral Weight Holster Release System, which can be used to either supplement or replace a conventional weight belt. This feature allows you to quickly remove and jettison either one or both of two weight modules in the event of



Diva LX

Diva QD

Libra



an emergency, thereby maintaining better control over your rate of ascent. These weight modules can also be easily reloaded into the BC while you are wearing it. This makes Sea Quest weight integrated BC's much easier to don than other models which must be fully loaded with weight prior to donning. To supplement the combined capacity of the releasable weight modules, some models are also designed to carry up to 10 pounds of auxiliary weight in two fixed pouches (maximum 5 pounds each).

WOMEN'S ONLY DESIGN – Ladies, if you have found it impossible to feel comfortable wearing a “unisex” BC, you now have the choice between three distinctive and unique fully featured models. The [Diva LX™](#), the [Diva QD™](#), and the [Libra™](#). These BC's are designed specifically for women divers — not just in styling and color, but also in comfort, fit, and actual function. This design is based on several years of research and development, and listening to the feedback we've received from women who actively dive including members of the Women's Scuba Association. The bladder and harness of these models are specially shaped to fit the contours of a woman's bust, waist, and torso, even when fully inflated. All of our womens BC's are weight integrated for your comfort and diving enjoyment. The [Libra™](#) is designed for women who prefer a back mounted bladder design, while the [Diva LX™](#) (luxury edition) is our premier women's BC that features many of the options mentioned above, including a patented **SPORTS BRA**



and the new **SELF-ADJUSTING LUMBAR SUPPORT SYSTEM (SLS)**.



Finally, look for many of the small but innovative touches that Sea Quest puts into many of our BC's, including:

NEUTRAFOAM PADDING – Gives you the comfort of foam, without the unwanted extra buoyancy.

ROLLED NEOPRENE COLLAR & “SLICK SKIN” ANTI ABRASION PANELS – For close contact against bare skin, prevents nasty abrasions. Two “must haves” for warm water divers!

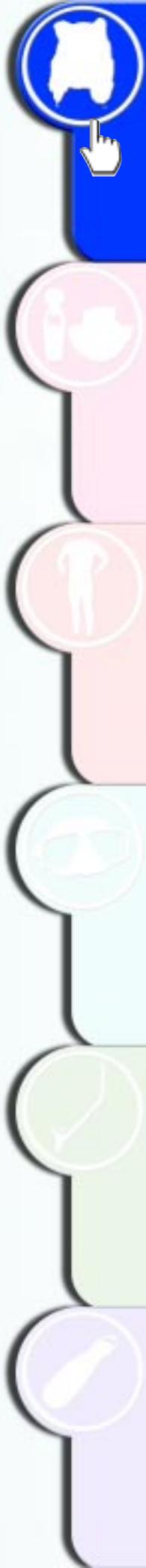


For the ultimate combination of features and unmatched quality and comfort, we at Sea Quest suggest that you check out our [Pro QD™](#) and [DivaLX™](#) models, and - our latest release - the [Pro Unlimited™](#). Better yet, try one on at the authorized Sea Quest dealer nearest you!

Eva



Wave Jr.



HOW TO TRY ON A BC:



Follow these simple tips to make sure your BC fits you as well in the water as it does in the showroom:

When trying on the BC, it is important to wear the heaviest exposure suit you will be using it with, in order to ensure that it will fit correctly in the shoulders, chest, and waist. If you are looking for a BC that can be used for both cold and warm water, you will need to select a model that offers a wide range of adjustment. (This is one benefit of certain back mounted designs).



Unless you are shopping for a weight integrated model, try the BC on over a weight belt that contains a moderate amount of weight. Check to be sure that the waistband does not overlap the weight belt or interfere with its release in any way. Some models are longer in the torso area than others, and may not fit your body style if you have a shorter upper body. In this case, you may consider choosing a weight integrated model, to avoid the discomfort of wearing your weight belt low and over your hips.

Fully inflate the BC, and check to be sure that you do not experience any type of "squeeze" or discomfort.

BC SPECIFICATIONS

MODEL	WEIGHT INTEGRATED	MATERIAL <small>ASC = Armor Shield Cordura D = Denier</small>	STYLE	AIR SOURCE	POWER LINE INFLATOR	SLS <small>(see page 4)</small>
Pro Unlimited	42 lbs (XL/XXL) 32 lbs (S-ML)	ASC / 1050 D	Jacket with inner gusset	Optional	Standard	YES
Black Diamond	42 lbs	840 D	Back Inflation	Optional	Standard	NO
Pro QD	32 lbs	ASC / 420 D	Jacket with inner gusset	Optional	Standard	NO
Balance	32 lbs	ASC / 840 D	Back inflation	Optional	Standard	NO
Spectrum 1	NO	420 D	Jacket	Optional	Standard	NO
Diva LX	32 lbs	ASC / 840 D	Wrap around back inflation	Optional	Standard	YES
Diva QD	32 lbs	420 D	Jacket	Optional	Standard	NO
Libra	32 lbs	ASC / 840 D	Back inflation	Optional	Standard	NO
Wave Jr.	12 lbs	ASC / 1000 D	Jacket	Optional	Standard	NO

Finally, attach the BC to a full size cylinder, checking to be sure that the valve is at the correct position in relation to the backpack. With the salesperson's assistance, don the BC and cylinder and adjust the shoulder straps and waistband so that they feel comfortably snug. Stand up straight, and walk around to determine whether the BC provides enough support for the cylinder to suit your needs. Check to be sure that the shoulder strap buckles are located in a comfortable position, and that the straps can be easily adjusted or disconnected while you are wearing the BC.



MODEL	LIFT IN POUNDS (lbs)
Pro Unlimited	S:30, M:36, ML:38, L:51, XL/XXL:63
Black Diamond	S:50, M:50, ML:50, L:50, XL:50
Pro QD	S:30, M:32, ML:34, L:46, XL:54
Balance	S:30, M:32, ML:34, L:46, XL:54
Spectrum 1	XS:18, S:23, M:26, ML:30, L:40, XL:45
Diva LX	XS:29, S:32, M:38, ML:40, L:40
Diva QD	XS:18, S:23, M:28, ML:31
Libra	S:30, M:36, L:36
Wave Jr.	One Size: 18 lbs

ADJUSTABLE BACK PACK	# OF POCKETS	# OF PULL DUMPS	D-RING # AND TYPE	ACCESSORIES	MULTISET WAISTBAND	DEPTH COMPENSATING
YES	3 zipper	3 (1 remote)	5 pre-bent SS	Knife, Retractor	YES	YES
NO	2 zipper 1 velcro	3	6 SS	Knife Optional	YES	NO
NO	2 zipper	3	6 SS	N/A	NO	YES
NO	1 drop	2	3 pre-bent SS	N/A	NO	YES
NO	1 velcro	1 (lower dump)	2 plastic	N/A	NO	NO
NO	3 zipper	3	4 SS	N/A	YES	YES
NO	2 zipper	3	3 plastic	N/A	YES	YES
NO	1 drop	2	3 pre-bent SS	N/A	NO	YES
NO	2 velcro	2 (lower right optional)	2 SS	N/A	NO	NO