

OWNERS MANUAL

**ATOMIC**  
AQUATICS

**BC1**



**BC2**





This Atomic Aquatics BC1/BC2 Owners Manual is copyrighted and all rights are reserved. It may not, in whole or in part, be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form without prior consent in writing from Atomic Aquatics.

Atomic Aquatics BC1/BC2 Owners Manual Doc. # AT.02.05.0001

© Atomic Aquatics, 2019

Salt Lake City, UT USA 84116

888-270-8595

#### **TRADEMARK, TRADE NAME, AND SERVICE MARK NOTICE**

Atomic Aquatics and the Atomic Aquatics logo are registered or unregistered trademarks of Atomic Aquatics. All rights are reserved.

#### **PATENT NOTICE**

U.S. Patents have been issued to protect the following design features: BC1 Weight System (U.S. Patent No. 9,296,451), Airway Seat Saving Orifice (U.S. Patent No. 5,803,073) and BC1 Pull Dump (U.S. Patent No. 9,908,598), SS1 Compatibility Fittings (U.S. Patent No. 6,761,163) SS1 BCD Quick Disconnect System (U.S. Patent No. 6,761,163).

**ATOMIC AQUATICS AUTHORIZED EUROPEAN  
MARKET REPRESENTATIVE:**

Factory BLB019C  
Bulebel Industrial Estate  
Zejtun ZTN3000, Malta

**EC TYPE EXAMINATION CONDUCTED BY:**

DNVGL, Brooktorkai 18, 20457 Hamburg - Germany  
Direct +49 40 36149 6392  
www.dnvgl.com

SGS United Kingdom Ltd, Inward Way, Rossmore Business Park,  
Ellesmere Port, Cheshire, CH65 3EN, United Kingdom:  
phone; +44 (0) 151 350 6666:  
www.sgs.co.uk

BGBAU - Berufsgenossenschaft der Bauwirtschaft, Im Lipperfeld 37,  
46047 Oberhausen  
Direct Dial 0208 8574-359  
www.bgbau.de

**CE CERTIFICATION**

All Buoyancy Control Devices sold by Atomic Aquatics in the EU (European Union) meet the following Personal Protective Equipment requirements, and compliance with the following where applicable:

**BS EN 1809:2014+A1:2016 - Buoyancy Compensator**

**Regulation (EU) 2016/425** of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC.

**Directive 93/68/EEC** (CE Marking)

**EN250:2014** - Respiratory equipment - Open-circuit self-contained compressed air diving apparatus.

# Table of Contents

BC1/BC2 Key Design Features .....	5	Securing the weight pouches into the BC1/BC2 .....	24
BC1 Features .....	6	Tips for using the EZ-LOK weight system .....	25
BC2 Features .....	8	Non-releasable trim weight pockets .....	26
Warranty Registration .....	10	Pre-Dive Inspection .....	27
Precautions and Safety Information .....	11	Accessories .....	28
Adding ballast .....	12	D-Rings .....	28
High Performance Inflator Options .....	14	Accessory Pockets with Sand-Resistant Zippers .....	29
Setting up the inflator on the BC1/BC2 .....	15	Fitting the BC1/BC2 .....	30
Attaching the inflator to the BC1/BC2 corrugated hose ...	15	Sizes and Fit Ranges .....	30
Attaching the low pressure hose with quick disconnect to the regulator .....	16	Waistband adjustment .....	31
Ratcheting CAM-LOK tank band .....	17	Lumbar adjustment .....	32
Placement of the band in the backpack .....	18	Donning and final adjustments .....	32
Attaching the BC1/BC2 to the tank. ....	18	Operation .....	33
Tank buckle operation .....	19	Inflation .....	33
EZ-LOK Integrated Weight Release System .....	21	Deflation .....	33
Maximum lift and weight capacities .....	22	Post Dive Cleaning .....	36
Loading the EZ-LOK weight pouches .....	23	General Care .....	37
		Warranty .....	38

# Congratulations...

The Atomic BC1 (jacket) & BC2 (back inflation) are for the diver who wants the absolute BEST World-Class BC available. As with every Atomic Aquatics product, we design it with the intention of redefining the product category. Just as we did with regulators, fins, masks and computers...we decided it was time to design the ultimate BC. We reexamined every detail of traditional BC design. We started with the realization of the hard punishment the ocean inflicts on dive equipment. Our first priority for a BC was durability. The Atomic BC1 & BC2 were created using exclusive engineering grade plastics, polyurethane coated fabric, and corrosion-resistant metals. The BC1 & BC2 are designed for the roughest ocean environment.

## BC1/BC2 Key Design Features

- The TOUGHEST BC in the world, created using exclusive engineering grade plastics, polyurethane coated fabric, and corrosion resistant metals.
- Unique, attractive double-laminated/coated fabric actually sheds water – a DRY BC.
- Patented EZ-LOK Weight Release System – undeniably the EASIEST integrated weight system ever designed. Weight pouches lock in place with a “snap” and release with a simple tug.
- Ratcheting CAM-LOK Tank Band – an all new Atomic design exclusive that makes it incredibly easy to mount and secure the BC1/BC2 to your tank with minimal effort.
- High performance Atomic Aquatics inflation and Safe Second options.



# BC1 Features



1. Hose routing shoulder strap
2. Shoulder pad
3. Inflator elbow with overpressure relief/ cable dump
4. Backpack handle
5. Backpack pad
6. CAM-LOK tank band
7. Titanium coated 316 Stainless Steel D-rings
8. Knife grommets
9. EZ-LOK weight pouches/ release handles
10. Waist strap and buckle
11. Cummerbund
12. Sand-resistant accessory pocket zippers
13. Power Inflator/SS1

- 14. Chest strap
- 15. Shoulder strap/buckle
- 16. Right shoulder dump knob
- 17. Low pressure hose retainer
- 18. Low pressure hose
- 19. Corrugated hose
- 20. Right shoulder dump/overpressure valve
- 21. Trim weight pockets
- 22. Lower rear dump knob
- 23. Lower rear dump/OPR valve
- 24. Backplate grip surface
- 25. CAM-LOK tank band/buckle
- 26. Tank positioning loop



# BC2 Features



1. Hose routing shoulder strap
2. Shoulder pad
3. Inflator elbow with overpressure relief/ cable dump
4. Backpack handle
5. Backpack pad
6. CAM-LOK tank band
7. Titanium coated 316 Stainless Steel D-rings
8. Knife grommets
9. EZ-LOK weight pouches/ release handles
10. Waist strap and buckle
11. Cummerbund
12. Sand-resistant accessory pocket zippers
13. Power Inflator/SS1

Crotch Strap  
(available as accessory)

14. Chest strap
15. Shoulder strap/buckle
16. Right shoulder dump knob
17. Low pressure hose retainer
18. Low pressure hose
19. Corrugated hose
20. Right shoulder dump/overpressure valve
21. Trim weight pockets
22. Lower rear dump knob
23. Lower rear dump/OPR valve
24. Backplate grip surface
25. CAM-LOK tank band/buckle
26. Tank positioning loop
27. Repairable/replaceable inner bladder



## Warranty Registration

Please take a moment to locate, complete and return your warranty registration card to Atomic Aquatics. This card is very important. It will help you obtain warranty service and it provides us a means to contact you in the event of safety notices, service updates, or changes regarding this product. You may also register your warranty online at: [www.atomicaquatics.com](http://www.atomicaquatics.com)

## Precautions and Safety Information

This section contains information that may affect your safety. Please read it completely before attempting to use the product. If you do not understand this information, contact your Atomic Aquatics Authorized Dealer for clarification or more information.

There are warning messages throughout this manual that require your attention to understand and avoid certain conditions that may be hazardous to you. Use of these symbols indicates the following:

### WARNINGS, CAUTIONS AND NOTES

 **WARNING:** Indicates situation that may, if not avoided or not corrected, result in serious injury or death.

 **CAUTION:** Indicates situation that may, if not avoided or not corrected, result in minor or moderate injury or significant damage to the product.

**NOTE:** Used to direct attention to emphasize an important detail.

### **WARNING**

You must receive training and certification from a nationally recognized scuba training agency before you attempt to use this product. Failure to obtain proper training could result in serious injury or death. Training must include buoyancy control skills and emergency weight ditching training. If you are uncertain as to the meaning of this statement, contact your Atomic Aquatics Authorized Dealer or Atomic Aquatics for clarification.

This manual is intended to help acquaint you with the basic features and operation of the Atomic BC1/BC2, but it is impossible to provide you with all of the information and the hands-on training you need in order to use the product in a safe and enjoyable manner. This is the reason for requiring certified instruction. The information contained here is not sufficient as a substitute for certified training.

## General Precautions and Safety Information



### **WARNING**

**Please read this section carefully as it contains information that may affect your safety. If you don't understand any of the information provided, consult your professional dive instructor, Atomic Aquatics Authorized Dealer or Atomic Aquatics for clarification or additional information.**

The primary purpose of the BC is to provide a means for a diver to adjust buoyancy to remain neutrally buoyant at all times while diving. Maintenance of neutral buoyancy reduces the physical effort required to dive and allows the diver to maintain a controlled position in the water. There are circumstances in which this may be essential for your safety and this skill must be mastered before attempting to dive in open water.

A secondary function of the BC is to provide an option to increase buoyancy to allow you to rest more comfortably on the surface of the water, but you should not rely on the BC as your sole means to remain afloat at the surface.



### **WARNING**

**Your Atomic BC is not a lifejacket or a PFD ( Personal Flotation Device).**

**PFDs have specific operational features that are not compatible with acceptable BC operation. The BC will not guaranty face up flotation for a disabled diver and should not be relied upon to prevent drowning on the surface of the water. Failure to be able to control your position or to receive assistance under these conditions may result in serious injury or death.**

## Adding ballast

The selection of the amount weight or ballast you should add to your body or equipment in order to achieve proper buoyancy control is a very important aspect of preparing for an efficient and safer diving experience.

Proper use of any BC requires that you **adjust the weight (ballast) that you add to yourself or your equipment, so that you will be neutrally buoyant or nearly neutrally buoyant** (less than 5 lbs (2 kg) negatively buoyant) at the surface of the water with no air in the BC and approximately 500 psi (35 bar) in your diving cylinder.

Adding too much weight can create several problems including the need for more frequent buoyancy adjustments and possibly an increased risk of uncontrolled ascent or descent from loss of buoyancy control.

You are considered neutrally buoyant when you can remain motionless in an upright position at about eye level with the surface of the water with your lungs about half full.

The amount of weight needed may change if you make changes to the equipment you use. For example, changing from an aluminum to a steel cylinder may change the buoyancy characteristics of the collection of equipment and you may have to adjust the weight you carry as ballast accordingly. Buoyant force in seawater is greater than in fresh water and you may have to slightly increase ballast for diving in seawater.

You should do a buoyancy check in a confined water environment before you move into open water whenever you have made changes to the equipment you expect to use.

Setting up your weights for optimum ballast will minimize the frequency and degree of adjustments to buoyancy you will have to make as you dive, help conserve air usage and decrease swimming effort caused by drag. If you are unsure how to properly set up your weights, consult with a professional diving instructor for advice.

 **WARNING**

**Proper weighting or addition of ballast to your equipment is very important for effective buoyancy control. Failure to achieve effective buoyancy control could result in your inability to control descent or ascent and possibly lead to serious injury or death.**

There are other limitations to this product that must be observed.

- **DO NOT** use your BC as a lift bag. Using it to bring heavy objects to the surface while you are wearing it creates a hazard. If you should lose your grip on the object while transporting it to the surface, you will experience a sudden change in buoyancy and possibly an uncontrolled ascent leading to an increased risk of serious injury or death.
- **NITROX** – The Atomic BC1 & BC2 are intended for use **with compressed air or EAN (enriched air nitrox)** containing **not more than 40%** oxygen. Use of other gas mixtures may pose a fire hazard or cause accelerated deterioration of materials used in the BC.
- **Cold water use** – Diving in water temperatures of less than 50°F (10°C) can affect regulator performance and temperatures of less than -4°F (-20°C) may affect BC valve operation. Do not use this BC under such conditions without proper training in cold water procedures including the proper emergency response to a free flowing regulator or inoperable valve.

 **WARNING**

**At a depth of 99ft/30m and deeper, the pressure of the surrounding water reduces the buoyancy qualities of a 7mm wetsuit significantly. This change in buoyancy characteristics could result in a negatively buoyant situation that cannot be overcome by the lift capacities of XS and SM size BCD's. Atomic Aquatics strongly advises wearers of SM BCD's to not dive below 99ft/30m with a wetsuit thicker than 6mm.**

## High Performance Inflator Options

Atomic Aquatics offers two popular inflation options for your BC1/BC2: the Atomic Ai Power Inflator; or the Atomic SS1 Safe Second Inflator Regulator. The BC1 & BC2 are supplied with the special inflator quick disconnect already installed on the corrugated inflator hose. Instructions for attachment are the same for either Atomic inflator model. Please consult the specific owners' manuals supplied with these products for complete information. Other inflators not manufactured by Atomic Aquatics could require modification to fit and operate properly. The company accepts no liability or responsibility for the use or installation of non-Atomic Aquatics inflators.



Ai Power Inflator



SS1 Safe Second Inflator

## Setting up the inflator on the BC1/BC2



### CAUTION

These instructions are provided for the convenience of those capable and familiar with set-up of this type of equipment. It is strongly recommended that your professional retailer or scuba repair technician do the final installation and check of the SS1 or Ai Power Inflator.

## Attaching the inflator to the corrugated hose of the BC1/BC2

The corrugated hose attached to the left shoulder of the BC1/BC2 comes fitted with a threaded quick disconnect coupling designed to screw directly to the Ai Power Inflator or SS1 Safe Second inflator regulator. To attach the SS1 or Ai to the adapter, slide the adapter into the threaded fitting on the SS1 or Ai and tighten hand tight. It should be snug enough that it will not become unscrewed accidentally yet not so tight as to damage the plastic parts. Likewise the inflator can be easily removed by unscrewing. The adapter on the corrugated hose is connected via an internal cable to the dump valve at the shoulder. Tugging on the inflator will open the dump valve on the top left shoulder via a cable connection inside the corrugated hose and is one option to let air out of the BC1/BC2.



Threaded quick disconnect coupling

## Attaching the low pressure hose with quick disconnect to the regulator

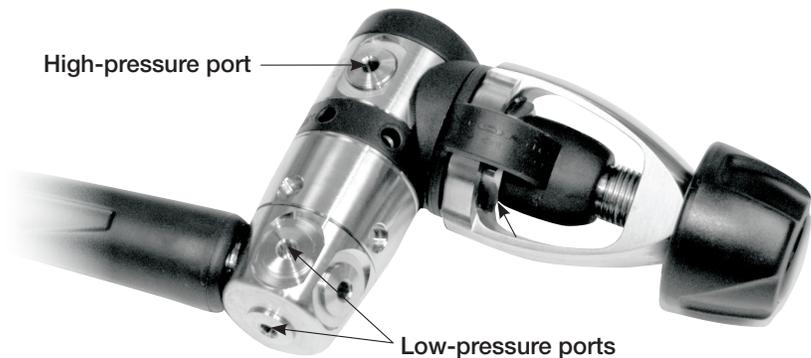
### **WARNING**

**When attaching the low pressure hose for connecting the inflator or SS1 to the first stage regulator be certain to locate the port marked “LP”. If the port is not marked, you may still be able to identify it as it should have a 3/8-24 female thread. If you are uncertain that you have located the correct port do not proceed, but seek the assistance of a trained professional to attach the hose. If the low pressure hose is incorrectly attached to a high pressure port it could rupture and potentially cause serious injury.**

The low pressure hose with quick disconnect fitting installs into one of the low pressure ports of your first stage regulator. It is compatible with any conventional first stage operating with an intermediate pressure of 125-145 psi.

Your regulator first stage will normally have multiple low pressure ports for the attachment of second stages and inflators (usually thread size 3/8-24), and one or more high pressure ports for the attachment of pressure gauges and dive computers (usually a larger thread size 7/16-20). Choose the low pressure port that gives you the best orientation for your particular BC set-up. The low pressure hose and quick disconnect is usually routed over the left shoulder where it follows the corrugated hose of your BC1/BC2. The low pressure port plug is removed by unscrewing with a 5/32 (4mm) hex wrench. Install the low pressure hose with quick disconnect into the port of choice and snug up with a wrench. Do not over tighten as this will not improve the seal and may damage the threads.

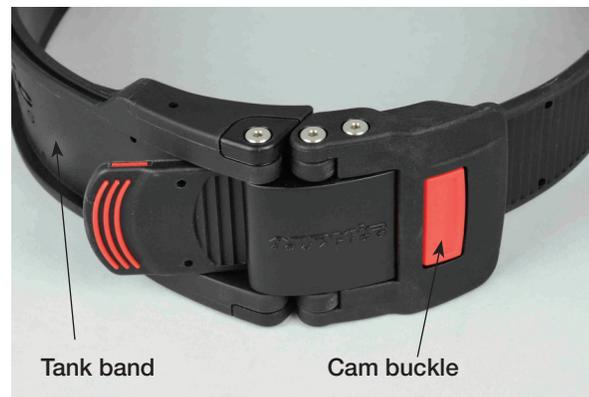
The low pressure hose quick disconnect is attached to the Ai or SS1 inflators by simply sliding back the sleeve and pushing it onto the metal nipple then releasing the sleeve. For easiest installation, connect the sleeve before turning the air on and disconnect it after turning it off and purging the air pressure from of the hose.



## Ratcheting CAM-LOK tank band

Yet another Atomic design exclusive. You will be amazed how easy this is to use, and how securely it holds your tank in place. The concept is similar to the bindings on ski boots and snowboards. The ratcheting band quickly adjusts to accommodate a variety of tank sizes and the over-center buckle locks everything tightly in place with an easy push.

The CAM-LOK tank band is infused with a durable polyurethane coating that seals it from moisture and will not stretch like other bands that loosen when they get wet. There is no need to wet the strap before mounting as with most nylon web bands. This coating also adds a tacky surface that increases traction to aid in securing the tank to the BC. The cam style buckle engages ratcheting teeth that are permanently molded onto the band assembly.



## Placement of the band in the backpack

The tank band will fit all popular tank sizes up to 8" (203mm) diameter. The BC1 & BC2 are shipped from the factory with the band in the position for a standard 80 Cu ft. (10 liter) tank. The band assembly does not need to be changed to accommodate different size tanks. It can be repositioned within the backpack when using small diameter or large diameter tanks to locate the buckle in the optimum position near the tank to shield it from accidental opening or impact. There are external ribs on the band that fit into recesses inside the backpack to lock it into different positions. To change the band position, grasp the free end of the band with one hand and the buckle end with the other. Push the webbing into the backpack with one hand and pull slightly out with the other to move the band. You will feel the ribs slip in and out of place as you move the band assembly. The band can be completely removed from the backpack if needed for storage or while packed for travel.

## Attaching the BC1/BC2 to the tank

Place the webbing tank positioning loop over the valve and tighten or loosen the loop such that the top of the backpack rests on the shoulder of the tank. Once in position the band can be installed around the tank. **Note: twin tank use is not supported with the BC1 & BC2.**



## Tank buckle operation

The tank band is attached to the buckle, which is composed of 4 parts. The band itself, the link which attaches the band to the cam handle that opens or closes the buckle, the ratchet frame which is connected to the cam handle, and the ratchet lock that is used to adjust the band tension.

To feed the tank band into the buckle, first open the buckle completely. If it is locked, lift the cam handle and rotate it open towards the link. Now you will see the ratchet mechanism. Spread the buckle open and insert the toothed end of the band into the slot between the ratchet frame and the ratchet lock (Fig. 1). Push the toothed end through the gap between the link and the cam handle. Do not let the buckle fold backwards (Fig. 2). Keep it spread apart until the toothed end of the band comes out behind the link.

Once the tank band is through the link, pull the ratchet frame snug against the tank until it stops. Close the cam handle to lock the tank tightly into the band. The buckle will lock into place. If the tank is not secure enough, release the handle by lifting it. Pull the band tighter (another click on the ratchet) and close the cam handle again. You do not need to overtighten the band assembly as it will not relax when wet. The inside of the back pack also has a soft, elastomeric surface to grip the tank. Tuck the excess tank band end into the recess channel on the band assembly.



Tuck excess tank band into recess channel



To remove the band from the tank, lift open the cam handle. Depress the ratchet lock to loosen the band. You can loosen it just enough to lift off of the tank, or pull the tank band completely out of the buckle.



Lift cam handle.



Press ratchet lock.

### **WARNING**

Before attempting to wear the BC, check the security of the tank to BC attachment by lifting the BC by the shoulder straps and shaking it while observing for movement of the tank relative to BC back pack. If movement is observed then increase the tension of the tank band to create a secure attachment.

Do not enter the water until you are certain the tank is secure. Slippage of the tank from the BC could separate you from your air supply or cause the tank to strike a bystander. In either case there is a possibility of serious injury or death.



## **EZ-LOK Integrated Weight Release System U.S. Patent # 9,296,451**

Quickly, easily load your weights while in or out of the water. Two zippered weight pouches each hold up to 10 pounds of hard or soft weights. The weight pouches glide into the weight pockets under the arms and lock into place with a reassuring “SNAP.” A simple one-handed tug on the handle is all it takes to release. The same principle has been used for years on our popular Atomic EZ-LOK fin straps.

In the event of an emergency you can choose to jettison one or both weight pouches, thereby creating more buoyancy. The weight pouches can be easily reloaded into the BC1/BC2 pockets while you are wearing the BC for use during training.

### **WARNING**

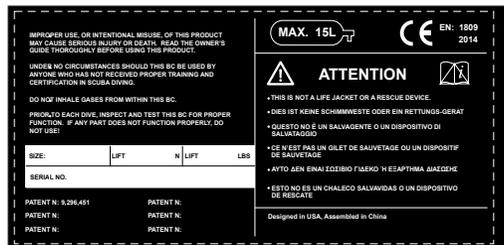
**You must master and be able to demonstrate the skill required to ditch your weights in the event of an emergency before attempting to dive in open water. Be certain the amount of weight you are carrying is correct and it is configured so that you can release at least enough weight to enable you to swim to the surface and remain there with no air in the BC if necessary. Failure to be able to ditch added weights to gain additional buoyancy could lead to a situation in which you would be at risk of serious injury or death.**

## **WARNING**

**Do not add weight to the non-releasable trim pockets if you do not have weight in the releasable pockets. It is unwise to distribute weight for balance at the expense of not being able to gain buoyancy quickly in an emergency. Failure to be able to ditch weights to gain additional buoyancy could lead to serious injury or death.**

### Maximum weight capacity

The maximum lift capacity of the BC1 & BC2 is listed on the permanent label attached to each model, usually on the waist band or pocket.



## **WARNING**

**Do not add more weight to the BCD than the lift capacity can overcome to maintain the divers' airway safely above the water. Refer to the chart below for maximum lift capacity by BCD size.**

SIZE	BC1 BUOYANCY (lb/N)	BC2 BUOYANCY (lb/N)	TANK SIZE
XS	26 lb/115 N	—	15L
SM	30 lb/133 N	30 lb/133 N	15L
MD	32 lb/142 N	34 lb/151 N	15L
ML	36 lb/160 N	40 lb/178 N	15L
LG	39 lb/173 N	45 lb/200 N	15L
X-LG	48 lb/213 N	47 lb/209 N	15L

### Special note about lift and weight capacities

Many BCs themselves may have a certain amount of inherent buoyancy due to materials, entrapped air, foam padding, etc. This means you must add extra weight to your system to achieve neutral buoyancy. The Atomic BC1 & BC2 are designed to be virtually neutral in the water, therefore the amount of weight you need may be less than what you have used with other BCs.



## Loading the EZ-LOK weight pouches

The weight pouches can be filled with either hard “block” weights or lead-filled mesh “soft” weights. Regardless of the type of weight being used, fill each pouch with equal amounts of weight so the BC1/BC2 will be balanced in the water.



### CAUTION

Observe the maximum weight capacity printed on the weight pouch. Each standard size pouch holds a maximum of 10 lbs (4.5 Kg). The extra-large size BC1 & BC2 has larger weight pouches than other sizes and will each hold 14 lbs. (5.4 Kg). Do not use extra-large BC1 or BC2 weight pouches in any smaller size BC1 or BC2 as they will NOT fit properly.

Unzip the zipper completely. Hold the pouch open and insert the weights. Try to distribute the weights evenly inside the pouch, close the flap the fully close the zipper. Tuck the zipper pull into recessed flap in the pouch. Be careful not to overfill the pouch or you may damage the zipper trying to close it. After diving, the weights should be removed, rinsed and dried before storage.



Push weight pouch into place until it “clicks”.



Test tab.

## Securing the weight pouches into the BC1/BC2

Each weight pouch will fit into either left or right weight pocket on the BC1/BC2. With the fabric side of the pouch facing out, slide the pouch into the pocket and push it in until you hear or feel it “SNAP” or “click” into place. To confirm that it is locked in place, tug on the small webbing test tab on the front of the pocket. To remove the pouch, just grasp the large red handle and pull.

## Tips for using the EZ-LOK weight system

You may choose to install the weights before donning the BC1/BC2 or afterwards, whichever works best for you. The weight pouches will load and unload easier if the BC1 is not fully inflated. BC2 weight pouches (10 lbs/4.5Kg) can be inserted and removed even when the BC2 bladder is fully inflated. The BC1/BC2 weight pouches can be easily removed in the water or swim step and handed to someone on board to assist in getting out of the water. Be sure to have a good grip on the handle before releasing so as not to drop it overboard.

When locked in place, the weight pouches are very secure and cannot be accidentally released without pulling the large red handle. Pulling on any other part of the pouch will not release it! The amount of force to release the weights by pulling the handle is controlled by a preset spring at about 10 lbs. (4.5Kg). The amount of weight in the pouches does not affect the release force. Always test that the pouch is locked in place before entering the water by pulling on the webbing test tab.

To jettison the weights, remember that there are two weight pouches and they work independently. You may choose to ditch only one weight to better control your ascent. Grasp the handles and pull them forward until they are out and away from your body before dropping them. Practice until you are confident in the procedure and make sure your buddy knows how to release your weight.

### **WARNING**

**Make sure that your weight pouches and release handles are not obstructed by any straps, lines, etc. DO NOT add weight to the BC1 or BC2 accessory pockets, as this may interfere with the removal of the pouches in an emergency. Failure to ditch weight in an emergency may lead to serious injury or death due to drowning.**

## Prevent accidental releases!

As stated before, the weight pouch will not release unless the handle is pulled. To avoid accidental release, make sure no lines or other pieces of entangling gear can get caught on the handles. If transferring the entire system from one location to another such as from one vessel to a smaller skiff or inflatable, consider removing the weights and transfer them separately. Take care entering and exiting the water so the handles are not caught and pulled inadvertently. Don't pull on the handle to test it or it will release.

## Non-releasable trim weight pockets

On the rear of the BC1 you will see two pocket flaps for non-releasable trim weights. The BC2 has zippered trim weight pockets on the upper sides of the inflatable bladder/bag. Each pocket holds up to 5 lbs. (2.2 Kg) - 3 lbs. on the small size. These are used to "balance" the floatation characteristics of the BC1 & BC2 in the water and cannot be ditched in an emergency situation. Weight in these pockets will assist maintaining an upright or face up position in the water when on the surface. We recommend as a starting point by placing about 1/3 of your total weights in these pockets (half in each of the left and right sides). For example: Suppose you need 14 lbs. total weight to achieve neutral buoyancy. Place 5 lbs. in each removable weight pouch and 2 lbs. in each trim weight pocket for a total of 14 lbs. This should give you good balance on the surface with a standard aluminum 80 tank. Steel tanks may require less trim weights. **Never place all the weights in the non-releasable pockets!**



## Pre-Dive Inspection

You should inspect your BC and its associated equipment before leaving for your dive destination. If in the event you find something that needs attention, this could provide time to remedy the issue and perhaps avoid the disappointment of having to cancel a dive after you have reached your destination.

Additionally you must perform the pre-dive inspection just before you intend to enter the water. It is helpful to perform this with your buddy to ensure he or she is familiar with your equipment and you are familiar with his or hers.

### **WARNING**

**You must perform the pre-dive inspection of your BC just before entering the water to be certain all features are operating properly. This document contains a check list of the items that should be checked at a minimum. Failure to perform this inspection could place you in a situation which if not remedied, could lead to serious injury or death.**

Before entering the water be certain that maintenance is up to date and that you have addressed each item in the list below.

- Confirm BC is securely attached to cylinder. Lift the BC so that its full weight is not otherwise supported and verify cylinder is securely attached to BC.
- With the regulator attached to tank valve and the LP hose attached to the BC inflator, open the tank valve to pressurize the power inflator or SS1. Operate the power inflator to verify the BC will fill with air. Test all of the valves including manual operation of the oral inflator and dump valves to ensure that they will vent and reseal.
- Inspect all straps, fasteners and hoses for damage.
- After filling the BC to full capacity allow it to stand at rest for at least 10 minutes to verify it is holding air.

- Check breathing function of the SS1 if your BC if so equipped.
- Install the releasable weights and check that they remain secure by pulling the test tab. Test the release by pulling the release handle. Check test tab again after reinstallation of the weights.

## **WARNING**

If any of the functional aspects of the BC system checked in the pre-dive inspection are not operating properly, do not go forward with the dive. Any deficiencies discovered in the pre-dive check must be resolved before you dive. Attempting dive under these circumstances could lead to a situation that increases your risk of serious injury or death.

## Accessories

### D-Rings

The BC1 has a total of 10 triangular shaped D-rings, the BC2 has 11, in various locations to accommodate a variety of possible accessories. Heavy duty 1-1/2" 316 Stainless Steel rings with Titanium PVD coating are located on the shoulders and top edge of the pockets. Two 1-1/2" plastic D-rings are located at the rearward, bottom edges at the back of the weight pockets. A hook and loop panel beneath the weight pockets can be opened to reveal an additional accessory plastic D-ring. Finally, another D-ring is located inside each zippered accessory pocket to secure pocket items.



D-ring beneath weight pockets

## Accessory Pockets with Sand-Resistant Zippers

Underneath the arms and directly over the weight pockets are the zippered accessory pockets. They are in an easy-to-access location and maintain their volume even when the BC1/BC2 is inflated. The zippers are water resistant and protect the teeth from sand and debris. Mesh panels inside quickly drain any water from the pocket interior.

The exterior fabric panel of the pocket has 3 grommets to accommodate external mounting of a BC knife. They can also be used to route a line to an accessory retractor. The retractor can be attached to the 1" D-ring inside the pocket and the retractor cable routed through the grommet to the outside of the pocket.



Inside pocket D-ring, grommets for knife attachment

## Fitting the BC1 & BC2

The BC1 & BC2 come in a variety of sizes to fit a wide range of men and women wearing a variety of exposure suit types. All the straps have adjustable length sliding buckles. Once you have selected the basic size appropriate for you, the waistband can be further adjusted if too long or too short. The optimum fit is obtained when the Velcro on the cummerbund overlaps about 6" when pulled tight when wearing the suit with which you will be diving.

SIZES	HEIGHT INCHES	WEIGHT LBS	INCHES OVER THE SHOULDER	WAIST INCHES	TOTAL RELEASABLE WEIGHT	TOTAL / NON RELEASABLE WEIGHT
XS (BC1)	5'0" - 5'5"	100 -125	32 - 38	25 - 27	20 LBS	6 LBS
SM	5'2" - 5'7"	120 -155	34 - 40	27 - 42	20 LBS	6 LBS
MD	5'7" - 5'10"	150-165	39 - 45	30 - 45	20 LBS	10 LBS
ML	5'10" - 6'0"	160-190	41 - 47	31 - 47	20 LBS	10 LBS
LG	6'0" - 6'2"	180-210	43 - 49	35 - 50	20 LBS	10 LBS
X-LG	6'2" - 6'5"	195-240	45 - 51	37 - 52	28 LBS	10 LBS

This size/fit range is a recommendation only. Every person is built differently, please use this guide only as a reference.

## Waistband adjustment

Both the cummerbund and the overlapping webbing waist strap can be shortened or lengthened. To change the cummerbund length, place the BC1 or BC2 backpack down and open it to expose the lumbar pad. Fold back the lumbar pad and you will see the end of the cummerbund looped through an elastic band and then woven through a slot in the plastic lumbar plate. The ends of the cummerbund are secured to the plate by hook and loop. Pull open the hook and loop panels where it passes through the plate, and lengthen or shorten the band as needed. Press the Velcro ends together and repeat on the opposite side if needed.

Over the waistband is the waist strap webbing and squeeze-release buckle. It can also be lengthened or shortened. Look behind the cummerbund between the ends of the lumbar pad. You will see the webbing strap is looped through a slot in the lumbar plate and woven through a plastic slide bar. Slide the webbing end out of the bar and loosen or tighten as needed. Slide the webbing end back through the bars to secure it. Repeat on the opposite side if needed.



## Lumbar adjustment

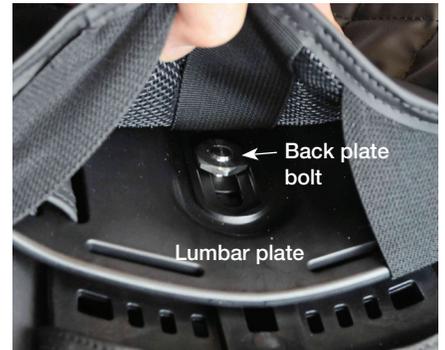
The BC1 plastic lumbar plate has about 1-1/2" of vertical adjustment. The plates are factory set for the specific size of the BC1. However, they can be repositioned. The BC2 does not have a lumbar plate, but has two plastic parts that provide the same function, attaching/adjusting the cummerbund. Grasp the lumbar pad and, using a 1/4" hex wrench, loosen the lower back plate bolt just enough until you can slide the plate up or down. Retighten in the desired position. Avoid completely unscrewing the bolt or it may be difficult to replace without removing the lumbar pad.

## Donning and final adjustments

1. It is easiest to don the BC1 or BC2 by removing the weight pouches first.
2. Open the cummerbund, the waist straps, and chest strap. Fully loosen the shoulder straps and chest strap.
3. Either have the rig sitting upright on a seat so you can sit down and slip into it or have a buddy hold it up for you.
4. Place your arms through the shoulder straps. Tighten the straps until the BC1 or BC 2 is a comfortable height on your back and the cummerbund is slightly above your hips.
5. Snug and fasten the cummerbund hook and loop. Assemble the waist buckle and pull the webbing ends to tighten. The cummerbund has elastic depth compensating panels to keep it snug.
6. Connect the chest strap buckle and pull snug so it is not restrictive yet prevents the BC1 or BC2 from slipping over your shoulders.



Loosen with 1/4" hex wrench.



# Operation

## Inflation

When fitted with the Ai Power Inflator or SS1 Safe Second Inflator, simply depress the smaller inflation button until the desired buoyancy is reached. When on the surface, stop adding air when the BC1 or BC2 is fully inflated and the overpressure valves begin to relieve. To manually inflate, seal the mouthpiece to your lips, depress the larger deflation button and exhale into the BC, then release the button and repeat until enough air is added.

## Deflation

There are several ways to deflate or vent air out of the BC1 & BC2. The effectiveness of any of the methods is dependent upon your attitude in the water and location of the air bubble inside the BC1 or BC2 with respect to the location of the dump valve. The valve must be positioned higher than the air inside to vent effectively.

**Deflation using Inflator:** Maintain upright position in the water, hold the inflator hose above the BC1 or BC2 and depress the large deflation button. If you are face down, the inflator will be lower than the air bubble in the BC1 or BC2 and it will not vent.

**Overpressure relief valves:** There are 3 combination overpressure/dump valves on the BC1 & BC2. They are on the left shoulder, right shoulder and rear right hand side. In addition to manual venting of the BC1 & BC2, these valves will relieve any overpressure in the BC thereby preventing damage or bursting.



**Cable pull/overpressure/dump using the inflator hose:** You can also pull firmly downward on the end of the inflator hose to vent the BC1 & B2. A cable inside the inflator hose is attached to the combination overpressure/dump valve in the module where the hose is attached to the BC1 & BC2. Do not pull or stretch the inflator hose unless you deliberately intend to vent the BC1 or BC2. The valve will open without excessive force and it only requires less than one half inch of travel. Once full opening has been reached, pulling harder will not cause the BC to vent faster.

**Right shoulder overpressure/dump valve:** This is probably the most convenient way to dump air from the BC1 & BC2. The pull knob on the right shoulder will activate venting of the BC1 or BC2 in the upright or swimming position. The unique patented design of the anti-floating pull knob keeps the knob in a consistently easy to find location.



Inflator hose cable pull/overpressure valve



Right shoulder pull valve



Rear overpressure/dump valve

On the back of the BC1 & BC2 on the lower right side is a manual dump valve with a short cable and anti-floating pull knob. Pull this knob to vent the BC1 or BC2 if in an inverted upside down position.

 **CAUTION**

The proper function of either overpressure relief valve is vital to prevent damage to the BC bladder. Unauthorized service or tampering may render these valves inoperable, and could cause the bladder to leak or burst. This type of damage is not repairable, and is not covered under warranty.

 **WARNING**

Most training agencies recommend that you should descend in an upright, feet-first position, in order to maintain a slower and more controlled descent. This is especially true if you experience difficulty equalizing your ears, or if you are descending in low visibility conditions.



Lower rear overpressure/dump valve

## Post Dive Cleaning

With proper care, your BC1 or BC2 will provide many years of reliable service. The following care guidelines should be performed to extend the life of your BC1 or BC2:

1. After diving: Remove the weight pouches. Hold the BC1 or BC2 with one of the overpressure/dump valves down and open the valve to drain any water that may have entered the BC.
2. Remove the weights and rinse the weight pouches. Flush the handle, zippers and locking mechanism to clean out any sand or debris. Leave the pouch open and allow the weights and pouch to thoroughly dry before storing. Install the weight pouch into the weight pocket to make sure it locks and releases properly.
3. Rinse or soak the BC1 or BC2 exterior thoroughly with fresh water only. If possible leave the inflator pressurized and rinse it at the same time. Rinse all overpressure/dump valves to clean of any sand or debris. Open the accessory pockets and rinse. Leave the zippered weight pouches and accessory pockets unzipped until dry.
4. Fill the BC1 or BC2 bladder about 1/4 of the way with clean fresh water through the oral inflation mouthpiece. Inflate the BC and shake to rinse inside the BC. Hold the BC upside down, depress the deflation button on the oral inflator, and drain the water out of the bladder.

Alternately, you may fill the BC1 or BC2 by unscrewing the Ai Power Inflator or SS1 at the quick disconnect coupling on the inflator hose and attach a garden hose (the thread is the same). Shake to rinse, unscrew the hose and drain the water out of the BC. If you choose this method, be certain that you also rinse the oral inflator that you have separated from the BC. Open the oral inflator and pass fresh water through it to rinse out sand, seawater or debris. Replace and tighten the inflator.

5. Fill the BC1 or BC2 with air and drain again a couple of times. Let the BC dry out of direct sunlight before storing.

## General Care

1. Avoid prolonged exposure to direct sunlight and extreme heat. Plastic and fabric materials can quickly fade when exposed to the sun, and extreme heat may damage the welded seams.
2. Avoid repeated or prolonged use in heavily chlorinated water, which can cause the BC fabric to discolor and decay prematurely.
3. Do not allow the BC to chafe against any sharp objects or rough surfaces that could abrade or puncture the bladder. Do not set or drop heavy objects such as block weights on the BC.
4. Avoid any contact with oil, gasoline, aerosols, or chemical solvents.
5. Store the BC partially inflated, away from direct sunlight, and in a clean, dry area. Do not store the BC in a space such as a car trunk or near a window, where temperatures may fall below 0°F (-18°C) or rise above 120°F (49°C).
6. Routine Service Checks  
It is highly recommended the BC1 & BC2 be checked annually by an authorized dealer for air leakage, condition of the hoses and general operation. This process generally is a simple inspection and can prevent your having to cancel a dive due to an operational problem you may not recognize with your BC.

## Warranty

### **2 YEAR OR 200 DIVES LIMITED WARRANTY (U.S.A.)**

Atomic Aquatics warrants the BC1 & BC2 Buoyancy Compensator against defects in materials and workmanship for a period of 2 years or 200 dives. For the Ai and SS1 inflators, refer to their separate owners' manuals for warranty details.

Atomic Aquatics will, at its option, repair or replace any components it finds defective.

This warranty covers only BC1 & BC2 Buoyancy Compensator purchased from authorized Atomic Aquatics dealers. To activate this warranty you must complete and return the warranty registration card within 30 days of purchase. Warranty registration is also available at [www.atomicaquatics.com](http://www.atomicaquatics.com).

This warranty is not contingent upon proof of service and is limited to the original owner. It is recommended however that maintenance include an annual safety inspection to be performed by an authorized Atomic Aquatics dealer or by the factory.

To obtain warranty service, you must deliver the BC1 or BC2 Buoyancy Compensator to Atomic Aquatics or one of its authorized repair facilities. If you send the BC1 or BC2 Buoyancy Compensator to the factory, you must pay the shipping charges. If it is determined that the problem is due to material or manufacturing defect, there will be no charge for parts, labor or return shipping within the continental USA.

This warranty does not cover damage or defect due to neglect, misuse, alteration, or attempted repairs by someone other than an authorized dealer.

Atomic Aquatics shall not be liable for loss of use of this product or incidental or consequential costs or damages incurred with the use of this BC1 or BC2 Buoyancy Compensator. Some states do not allow this exclusion so the above may not apply to you.

This warranty gives you specific legal rights and you may have other rights, which vary from state to state.

**Special note on Rental use:** This warranty does not extend to commercial or rental use. BCs used for rental/diving centers, professional purposes or other intensive use must be checked at least every 6 months by a qualified professional dive equipment technician. The conditions of the primary components necessary for safe operation such as the bladder, overpressure valves, elbows, weight system and corrugated hose, must be inspected. If any of the above parts shows wear or diminished performance it should be replaced immediately or removed from usage, if replacement is not possible.



## **WARNING**

**It is dangerous for untrained and uncertified persons to use the equipment covered by this warranty. The use of this equipment by an untrained person renders any and all warranties null and void. Use of SCUBA equipment by anyone who is not a trained and certified diver could lead to serious injury or death.**



Toll Free: (888) 270-8595  
[www.atomicaquatics.com](http://www.atomicaquatics.com)