

**KRAKEN**

**SIDEMOUNT SYSTEM**



# The Carbon & Titanium Series 1 Sidemount Harness and BCD

## USER MANUAL

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# INTRODUCTION

Congratulations and thank you for choosing Nammu Tech Ltd.

The Carbon Series 1 Sidemount Harness and BCD (buoyancy control device) meet all existing standards for quality and performance and have been designed and manufactured with the greatest care using the highest quality components and manufacturing techniques.

We hope our products meet your requirements and expectations regardless of whether you are a recreational diver or an experienced technical diver. This manual is valid and compatible with both the carbon fibre and the titanium series harnesses. Note that the photos used in this manual are of the carbon fibre harness, but the same adjustment and operational steps are used on both harnesses.

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# PRE-USE GUIDELINES

**Before you use any of the products described in this manual, carefully read all the information contained herein.**

**Becoming familiar with this information is a prerequisite for the safe and long-term use of the products described in this manual.**

**This manual is intended as a guide for correctly trained divers, and so a number of matters relating to diving are described superficially and not in detail.**

**In no way can this manual act as a substitute for professional diver training and certification. Therefore, before you start using any of the products described in this manual, make sure that you have the relevant qualifications issued by a registered diving organisation.**

**If any of the information contained in this manual or if any information label placed on the Buoyance Compensation Device is not clear, please contact the manufacturer for additional information.**



## CE CERTIFICATION

The products described in this manual have been subject to certification by a recognised notified body that complies to EU 89/686/EEC Personal Protective Equipment Directive and of the norm EN1809:2014+A1:2016.

In addition, the harness component of this product conforms to EN 250:2014. The certification process for the Carbon Series 1

Sidemount and Titanium Series 1 Sidemount Harness and BCD has been conducted by: SGS Finland Oy, Takomotie 8, Helsinki, 00380, Finland, T+358 9 6963 70

## WARNING

In non-EU countries additional conditions, law requirements and BCD norms may exist. Double check the current requirements in the country in which you intend to use it.

## WARNING

The BCD is not a life jacket, it does not guarantee a correct head-up position on the surface.

## WARNING

This BCD is designed for use with compressed air or Nitrox/EAN (enriched air nitrox) mixtures not exceeding 40% oxygen. Any use of gas mixtures with increased oxygen content or the addition of helium or other substances may cause corrosion, deterioration and/or premature aging of the BCD leading to component failure of the metal and rubber parts. The component failures could lead to a loss of buoyancy control and/or pressure integrity of the BCD resulting in injury or death. Nonstandard breathing mixtures may also present a risk of fire or explosion. The use of Nitrox/ EAN requires additional training. Failure to observe this warning may result in injury or death. Use only nitrogen/oxygen mixtures containing no more than 40% oxygen.



# DANGER

**THE NAMMU TECH BCD HAS BEEN DESIGNED WITH USER SAFETY AND CONFORT A PRIORITY. IMPROPER USE MAY RESULT IN AN ACCIDENT, THEREFORE PLEASE COMPLY WITH ALL OF THE FOLLOWING RULES TO ENSURE SAFE DIVING.**

**Before every dive, carefully inspect all elements of the equipment, including the BCD.**

**Your BCD has built-in redundancy through the addition of a redundant buoyancy chamber, please ensure you are completely familiar with the inflation techniques required to utilise this.**

**Do not dive with the BCD if there are signs of defective operation, damage or wear. such a BCD should be withdrawn from use until it is repaired.**

**Do not lift or move the BCD by pulling the inflator hoses as such practise may result in damage to the BCD.**

**Do not use your BCD to bring heavy objects to the surface. Doing so may result in a serious accident due to damage done to the BCD or due to an uncontrolled ascent.**

**For bringing objects heavier than 2kg, use appropriate equipment, such as a lift bag. During diving perform a buddy-check, visually inspecting the BCD against any leakages or other irregularities.**

**Arrange checkout procedures with your buddy and practice relevant diving signs once again before diving.**

**To prevent the BCD from damage, avoid prolonged exposure of your BCD to direct sunlight or extreme heat and keep it away from sharp objects.**

**In case of an uncontrolled ascent, you should immediately start releasing air from the BCD in order to stop or slow down the rate of ascent, ensuring that your body position allows for the dump valve to be higher than the rest of the BCD.**





# DANGER

**Do not inhale air from the BCD. It may contain harmful contaminants, gases or dangerous bacteria which evolve in damp conditions.**

**A BCD is not a lifejacket and does not guarantee a head-up position of the user on the surface. Therefore, you should always dive with a buddy in case of losing consciousness on the surface.**

**When diving in cold water (below 10 degrees Celsius), you should take into account that the inflator may freeze, as a result of which, it may supply air in an uncontrolled way, or other irregularities in its operation may appear. Before diving in cold water, it is necessary that you practise emergency procedures should the inflator freeze.**





# ELEMENTS OF THE CARBON SERIES 1 SIDEMOUNT HARNES & BCD

## THE SIDEMOUNT HARNES

The harness allows for easy adjustment for different body sizes, and thanks to its lightweight and minimalist construction provides perfect freedom of movement.

## THE CARBON SERIES 1 WEIGHT SYSTEM

The unique modular weight system allows total flexibility, regardless of the exposure suit worn, and provides for weight placement around the center of gravity which aids optimum trim.

## THE CARBON SERIES 1 BCD

The Sidemount Harness may be used with one of the following two types of BCDs:

- **Standard Oral Inflation version** – Independent from the harness, two chambers each providing over 200N of lift with the main chamber using a standard power inflator and the redundant bladder having a lockable oral inflation valve.
- **Dual Power Inflator version** - Independent from the harness, two chambers each providing over 200N of lift with both chambers using standard power inflators.

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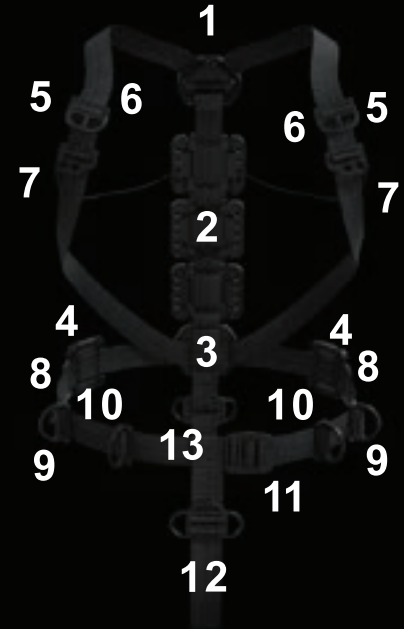
# THE HARNESS ASSEMBLY

## List of components: Harness

1. Upper backplate
2. Weight plate
3. Lower backplate
4. Single weight plate
5. Shoulder D-ring
6. 4-way (or 2-way) tri-glide
7. Chest bungee attachment
8. Back anchor point
9. Low profile waist D-ring
10. 50mm tri-glide
11. Low-profile waist buckle
12. Front crotch strap ring
13. Tri-glide wing fixing

## List of components: Harness

1. Main power inflator
2. Backup oral inflator
3. Backup power inflator  
(Alternate model)
4. Main over-pressure dump valve
5. Backup over-pressure dump valve
6. Wing grommet
7. CE rating label (underside)
8. Wing to harness attachment points
9. Central bungee attachment





# ADJUSTMENTS

1. Adjust the spine to the correct height by raising or lowering the upper backplate, the plate should rest between the shoulder blades and the bottom backplate at the level of the hips.
2. Adjust the shoulder straps using the waist to chest attachment points making sure to account for space for your exposure suit (we recommend being able to slide your fists under the shoulder straps).
3. Adjust the waist strap by lengthening or shortening the webbing through the low profile waist buckle to allow for enough space for your exposure suit.
4. Adjust the crotch strap ring making sure it is a snug fit without causing discomfort.

Shoulder  
blade  
level

Waist  
level





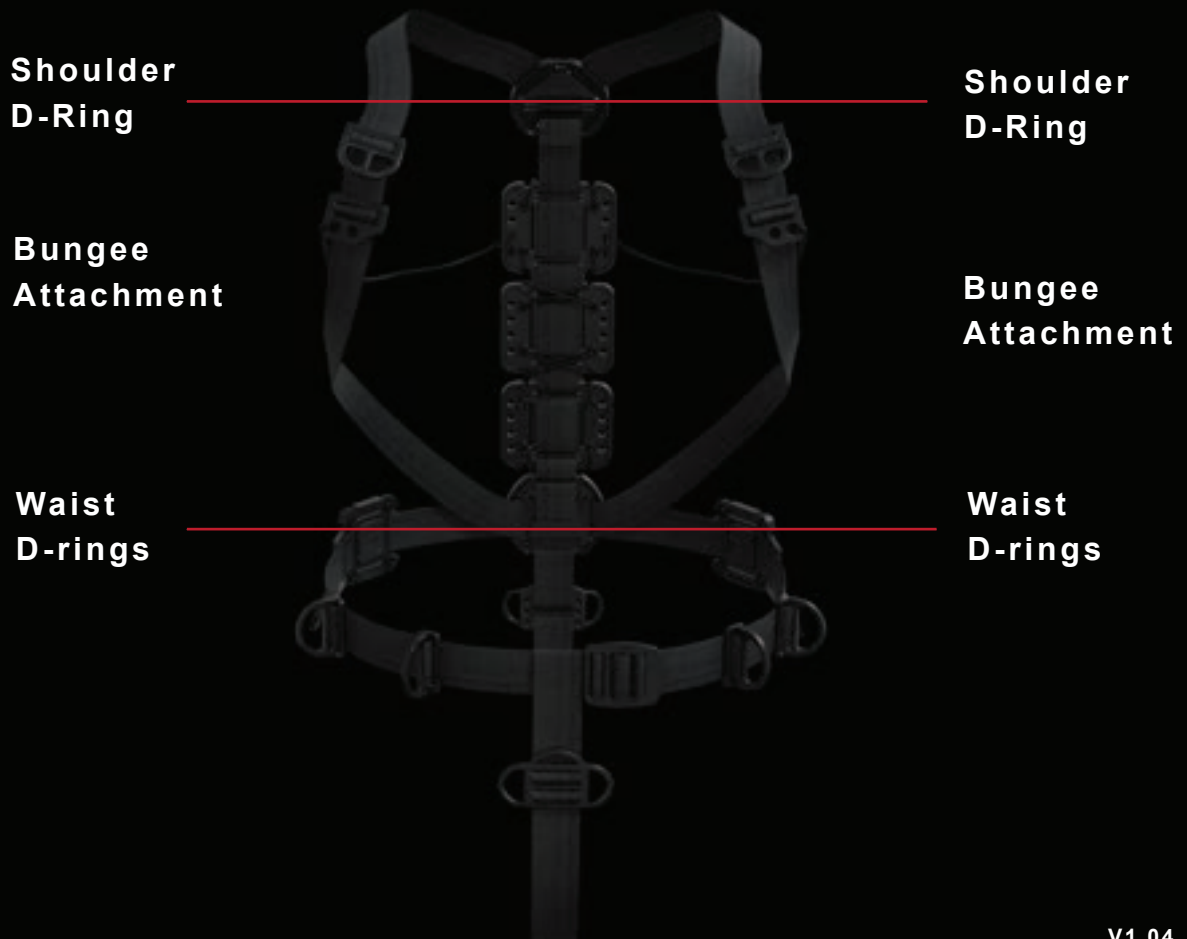


# ADJUSTMENTS

5. Position all of the waist D-rings to suit your personal diving configuration (we recommend doing this over multiple test dives in a controlled environment).

6. Adjust the shoulder D-rings to the correct height (we recommend the rings sit just above the armpit) using the 4-way tri-glides.

7. Adjust the chest bungee attachment points (we recommend placing them in line with your diaphragm) .



## ADJUSTMENTS

8. Adjust the bungee length on the weight plate on the spine (you should be able to pull the bungee from the chest attachment to the center of your chest feeling moderate resistance).

9. Using the wing to harness bungee attachment points, adjust the length of the bungee to create a tight fit between the harness and the wing. We recommend adjusting the wing position over multiple test dives in a controlled environment to ensure optimum trim.

10. Using the main bungee anchor, adjust the length of the bungee to be able to connect it around yourself (we recommend leaving some slack to account for different exposure suits).





# PRE-DIVE INSPECTION

Before every dive it is necessary to follow these inspection procedures for checking the correct operation of all BCD elements, this means before EVERY DIVE.

1. Check to see if the BCD shows any signs of wear, paying particular attention to the condition of the webbing, D-Rings and attachments, the wing over pressure dump valves, welded wing seams and the inflator hoses.

2. Check to see if all fittings are attached correctly, these include:

- Hose clamps
- Inflator valves
- Inflation wing fittings
- Over pressure dump valves
- Over pressure dump valve toggles
- Wing attachment anchor points and bungee
- Harness fittings

3. Orally inflate both chambers of the BCD to ensure that there are no obvious leaks.

4. Inflate both chambers of the BCD using either both power inflators or with the oral inflator backup valve and power inflator, until the over pressure dump valve opens. Then check that the over pressure dump valve has closed properly and the wing is holding its shape.





# OPERATIONS

## WEIGHTING

Using the roll of industrial velcro provided, follow the image below to adjust and secure your weights to the weight plate on the spine of your harness, we recommend using scissors to cut the lengths of velcro (no dive knives needed).

## NEUTRAL BUOYANCY

Maintain neutral buoyancy for a given depth during the dive, using the inflator purge buttons and/or over pressure dump valves as needed.

In order to ensure precise control over buoyancy you should press the inflator button in short bursts.

If more air needs to be added to the BCD, repeat the short bursts until you are neutrally buoyant.

During release of air from the BCD, hold the inflator over your head so that the air may escape freely or, if in the horizontal trim position (recommended) then feather the main over pressure dump valve toggle to purge air out of the BCD.





## INFLATION & DESCENT

Inflation is done via the power inflator inflate button or in case of emergency the back up oral inflator or the back up power inflator.

Note that you can also inflate the wing by orally inflating through the power inflator.

To descend, press the purge button holding the inflator over your head or, if in a horizontal position on the surface, pull the main over pressure dump valve toggle. Use the purge button or over pressure dump valve with care, as releasing too much air may result in an uncontrolled descent.

## ASCENT

Inflation is done via the power inflator inflate button or in case of emergency the back up oral inflator or the back up power inflator.

Note that you can also inflate the wing by orally inflating through the power inflator.

To descend, press the purge button holding the inflator over your head or, if in a horizontal position on the surface, pull the main over pressure dump valve toggle.

Use the purge button or over pressure dump valve with care, as releasing too much air may result in an uncontrolled descent.



## BACKUP REDUNDANT WING

In the event that you lose your primary wing buoyancy due to a puncture or valve failure, the BCD comes with a fully redundant backup which is operated via a second standard K Valve power inflator or an oral inflator valve depending on which model you are using.

To operate the secondary oral inflator ensure that the locknut mechanism is open then place the plastic end between your teeth and push down on the valve and at the same time breath out into the valve.

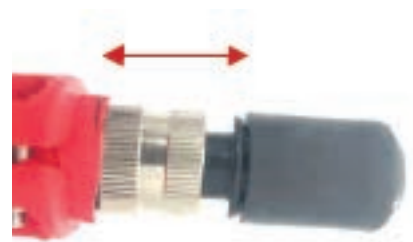
It is strongly recommended that this procedure is practised before you dive.

## DANGER

BEFORE ENTERING INTO ANY BODY OF WATER FROM A BOAT OR THE SHORE, ENSURE THAT YOU INFLATE THE BCD USING THE INFLATOR BUTTON. GETTING INTO THE WATER WITH THE BCD NOT FULLY INFLATED MAY RESULT IN DROWNING.

## DANGER

ASCENDING OR REDUCING THE DEPTH LEVEL TOO QUICKLY MAY RESULT IN DECOMPRESSION SICKNESS OR LUNG OVER EXPANSION INJURY. ALWAYS PAY CAREFUL ATTENTION TO BUOYANCY CONTROL AND FOLLOW THE RATE OF ASCENT LIMITS.







# POST DIVE MAINTENANCE

Avoid prolonged exposure of the BCD to direct sunlight and extreme heat. The BCD material can deteriorate with prolonged and continuous exposure to the sun's ultraviolet rays and extreme heat may damage the welded seams.

Avoid repeated or prolonged use in heavily chlorinated water, which can cause the BCD material to decay prematurely.

Do not allow the BCD to chafe against any sharp objects or rough surfaces that could abrade or puncture the wing. Do not set or drop heavy objects such as block weights on the BCD.

Avoid the BCD coming into any contact with oil, gasoline, aerosols or chemical solvents. To preserve the life of the wing, rinse it inside and out with fresh water after every day of use, using the following procedures :

1. Using a garden hose, direct water through the oral inflator mouthpiece of both wing chambers to flush the interior of the wing and then thoroughly rinse the exterior of the BCD.
2. Completely drain the wing of water either through the oral inflator or through the over pressure dump valves.
3. After rinsing, inflate the BCD and allow it to dry inside and out in a cool and dry environment.



## TECH SPECS

|                                 |                                      |
|---------------------------------|--------------------------------------|
| Wing Buoyancy Chamber 1         | 200N                                 |
| Wing Buoyancy Chamber 2         | 200N                                 |
| Wing Fabric                     | Chiorino PU3-USN/N                   |
| Wing Weight Dual Power Inflator | 1.40kg                               |
| Wing Weight Oral Inflator       | 1.20kg                               |
| Harness Weight                  | 0.79kg                               |
| Power Inflator Type             | K Valve                              |
| Oral Inflator Type              | Mouth push to inflate sealable valve |
| Supply Pressure                 | 8- 20 bar                            |
| Operating Water Temperature     | 0 - 40                               |
| Operating Air Temperature       | -20 - 60                             |
| Maximum Tank Parameters         | 2 x 12L Steel + 3 x 12L Aluminium    |



## STORAGE

Store the BCD partially inflated in a dry environment at room temperature away from direct exposure to sunlight.

## Maintenance, service and repair

1. The BCD has been designed specifically to allow for complete component replacement in the event of any individual component failure, this will ensure that the BCD has a longer operating life.
2. It cannot be assumed that the BCD is in good working order on the basis that it has received little use since it was last serviced. Remember that prolonged or improper storage can still result in internal corrosion and/or deterioration of the seals and valve springs, as well as wing seam degradation.
3. It is imperative that you obtain manufacturer servicing for your BCD at least once a year from NAMMU TECH LTD, including an air leak inspection and complete overhaul of the power inflator and over pressure dump valves, as well as a full check of the welded seams. Your BCD may require this service more frequently, depending on the amount of use it receives and the environmental conditions it is used in.
4. If the BCD is used for rental or training purposes in salt, chlorinated or silted fresh water, it will require dealer service every six months. Use in chlorinated water will greatly accelerate the deterioration of most components and require more frequent servicing.
5. DO NOT attempt to perform any disassembly or overhaul service of your BCD. Doing so may cause the BCD to dangerously malfunction and will render the warranty null and void. All servicing and repair must be performed by NAMMU TECH LTD





# WARRANTY AND GUARANTEE

YOU HAVE A STANDARD TWELVE MONTH WARRANTY FOR YOUR BCD FROM  
THE DATE OF PURCHASE,