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Manuel d'instructions	GILETS STABILISATEURS
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浮力调整背心操作指南	



CRESSI BCDS

Congratulations on your purchase of a CRESSI product. You have selected an excellent product. Its design is the result of continuous research and development and it has been carefully constructed in compliance with CRESSI quality standard, thus ensuring pleasant and absolutely safe diving for a long time.

INTRODUCTION

BCDs are of utmost importance for underwater diving activities due to the fact that they make dives with diving regulators more comfortable, more practical and safer. In fact, they can be used to transport cylinders and to control the position, when diving and on the surface, through the inlet or release of air into/out of the cell. In this way, the diver's specific weight will vary, making him/her lighter and more dynamic. Its function accounts for the abbreviation "BCD", i.e. Buoyancy Control Device, the name that is given to these jackets.

GENERAL WARNINGS

CAUTION!

FAILURE TO COMPLY WITH THE PRECAUTIONS LISTED BELOW COULD CAUSE SERIOUS DAMAGE OR EVEN DEATH.

In order to properly use the diving equipment described in this manual, you must be properly trained (theory and practice), which can only be achieved by obtaining a diver certification from a recognised certification agency. The use of this device by people without a certification is highly dangerous and may cause serious injuries or even death. It is also essential to have fully read and understood this manual.

CAUTION! This manual does not replace the training foreseen by the suitable diving courses given by recognised schools in any way.

CE CERTIFICATION

The CE mark governs the conditions for bringing Personal Protective Equipment to market and the health and safety requirements for this equipment. This mark thus indicates the lawfulness, safety, and quality of the products that must comply with these regulations.

CRESSI Buoyancy Compensators are Personal Protective Equipment, compliant with the dispositions of EU Regulation 2016/425 and national standards that transpose the harmonized standard EN 1809:2014+A1:2016 (and all previous editions).

The EU Declaration of Conformity for this PPE can be viewed at: www.cressi.com, in the "DOWNLOAD" area.

The appropriate mark can be found on the product. As prescribed by EC standards, CRESSI BCs are certified for use down to 50 meters in depth.

CAUTION!

- THE BC IS NOT A LIFE VEST AND ON THE SURFACE DOES NOT GUARANTEE IT WILL KEEP THE HEAD OUT OF THE WATER.
- THE BC IS NOT A BREATHING SYSTEM. NEVER INHALE THE GAS IN THE BUOYANCY BAG, BECAUSE THIS COULD CAUSE SERIOUS PHYSICAL HARM.
- THE BC MUST NEVER BE USED TO LIFT THINGS OR PEOPLE TO CARRY THEM TO THE SURFACE, BECAUSE THIS COULD CAUSE SERIOUS PHYSICAL HARM.

FEATURES

In order to meet the varied needs of divers, Cressi BCDs have different features depending on the various models offered in the catalogue. We will explain each of such features below so that they can be properly used.

AIR CELL

The air cell is the watertight part of a BCD that is inflated and deflated in order to vary the diver's position.

A harness, or part of it, is added to the air cell so that it can be worn and the cylinder can be positioned on it. There are different types of cells according to their shape, the type of containing cell and the ascending buoyancy that they are able to exert.

STANDARD AIR CELL

The Standard air cell is the most traditional and comfortable one. Its shape is similar to a gilet; therefore, the air contained in it is distributed both at the back and to the sides and front of the diver. Its main feature is that it wraps the diver and makes him/her keep in vertical position.

BACK AIR CELL

These types of BCDs are characterised by an air cell located in the rear part of the diver so as to release the front part and make the BCD lighter and less voluminous. In addition, when it is inflated, it does not tighten the body, while it is kept independent from the straps, thus giving you a sensation of complete freedom of movement.

CAUTION: In the BCDs with back air cell, while being on the surface, the air mass tends to position the diver horizontally with his/her down. In case of loss of consciousness, the head remains immersed. Therefore, they are to be used by expert divers who have taken specialisation courses.

Standard
air cell



Beck air cell



BACKPLATE

The backplate of a BCD is the rear part that enables a correct assembly among the cylinder, the harness and the air cell, so between the BCD and the diver. It is a very important part because it bears the entire weight of the diving regulator (fig. 11-12-13).

SINGLE STRAP RIGID BACKPLATE

Cressi rigid backplate has been manufactured with very resistant and light engineering plastics, and it can correctly hold the cylinder by using one single strap. It has several slots to adjust the harness and a practical handle to carry the entire unit.

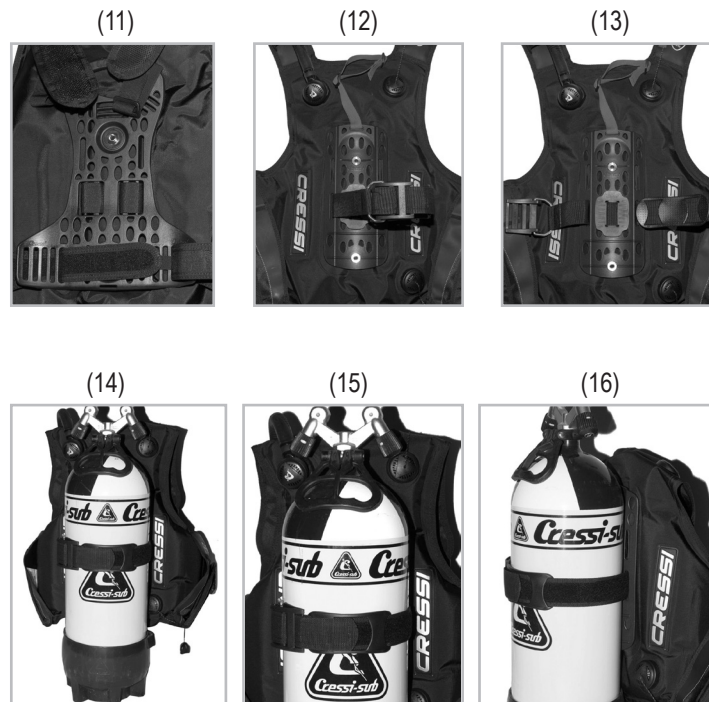
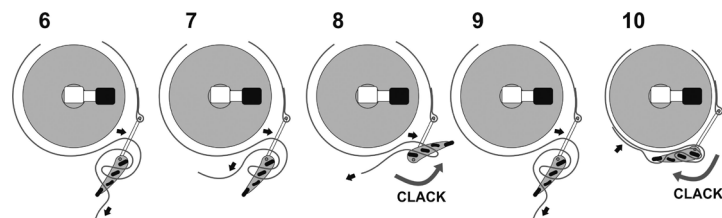
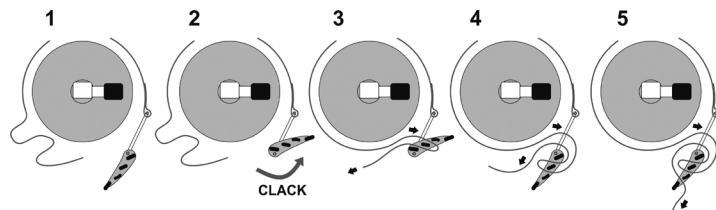
Securing the cylinder with the rigid backplate

In the back of Cressi rigid backplate, there is a strap to secure the cylinder. This is an essential component of the BCD because it bears the entire weight of the cylinder, and it is extremely important to tighten it properly by means of its special locking buckle. Such buckle is supplied already correctly fitted (fig. 12); however, it is still important to learn how to do it properly. To such end, see the figure below, drawings 1 to 5, which explains how to do it, step by step.

Once the buckle is fitted, install the cylinder by following the procedure indicated below: Release the strap from the Velcro closure and loosen it as shown in drawing 6. Position the cylinder, threading it from below with the valves facing the BCD. Unthread the strap from the first slot of the buckle (drawing 7). Open the buckle by turning it until it snaps open and tighten the strap so that it holds the cylinder firmly (drawing 8). Close the buckle partially and thread the tip of the strap back into the first slot (drawing 9). Close the buckle completely and secure the strap with the Velcro closure (drawing 10). Now the cylinder is correctly positioned (fig. 14-15).

CAUTION - Always wet the strap before using it to fasten the cylinder. This is crucial for the diver's safety- if the strap is dry, it could stretch when submersed and so the cylinder may slip off.

Once the cylinder has been attached, keep the upper side of the backplate from 5 to 10 cm below the valves (fig. 16), so that the diver's head does not bump against the regulator.



DOUBLE STRAP SOFT BACKPLATE

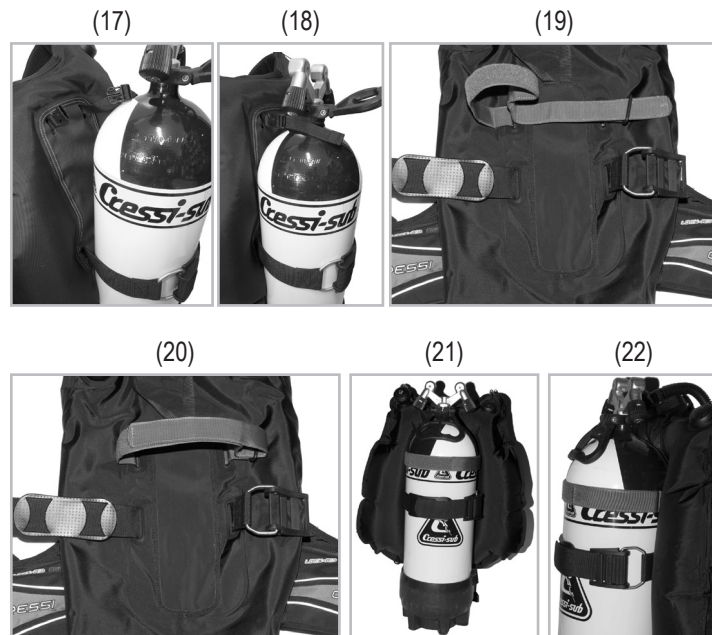
With respect to the rigid model made of plastic, the soft backplate can be folded, thus making the BCD more compact and lighter so as to be carried more easily. It has been manufactured with particularly resistant fabrics that guarantee not only optimal grip of the cylinder, but also low weight (fig. 17-19-20).

Securing the cylinder with the soft backplate

Unlike the rigid backplate, Cressi soft backplate has two straps for securing the cylinder. The first one – and main one – is located at the lower part and it is very important because it bears the entire weight of the cylinder; it is essential to tighten it properly by means of its special locking buckle. The procedure has been described above in the section dealing with the rigid backplate. The second strap, which is located at the upper part, is an auxiliary strap and it has a simple Velcro closure or a buckle closure. Its purpose is to keep the cylinder perfectly adhered to the high part of the BCD backplate. Once the cylinder has been secured to the main strap, tighten and close properly the auxiliary strap. There are two types of auxiliary straps: the first type wraps the cylinder completely and is locked thanks to a Velcro strap and a ring with which its length can be adjusted (fig. 19-20-21-22). Whereas the second type is locked thanks to a quick-release buckle. In this case, you have to make the strap pass through the cylinder neck (the part where the valves are screwed) (fig. 17-18).

CAUTION - Always wet the straps before using them to fasten the cylinder. This is crucial for the diver's safety- if the straps are dry, they could stretch when submersed and so the cylinder may slip off.

It is recommended to keep the auxiliary Velcro strap in the cylinder constant diameter area (a little bit below the end of the neck curvature) to prevent it from slipping off, thus losing effectiveness.



COMPATIBLE CYLINDERS

All diving cylinders with 10/12/15/18 Litre capacity or with 171 to 216 mm diameters are compatible.

INTEGRATED WEIGHT POCKETS

Several BCD models have systems that enable to introduce the ballast directly in some special pockets. Thanks to this solution, divers do not have to wear the entire weighing system in the waist belt and, in case of emergency, release is easier and more gradual.

CAUTION - For safety reasons, it is recommended to keep the weight belt at the waist with a minimum amount of weight in order to make the diver's position manageable even in those situations in which the BCD weight pockets have been completely released so as to avoid dangerous uncontrolled ascents.

FLAT LOCK AID INTEGRATED WEIGHT POCKETS

The system consists in inserting the weight pockets horizontally in two suitable compartments located to the sides of the BCD. This system is locked by means of suitable quick-release buckles that have been specifically designed. In case of emergency, the latter may be released instantaneously or alternatively.

THE POCKETS: Both lead-holding pockets (Fig. 23) are interchangeable in order to make their positioning easier; however, one of their sides, marked by a label with the writing "this side out", must always be positioned towards the outside.

Maximum amount of ballast that may be inserted in each pocket (Fig. 24) is 4.5 Kg / 10 lbs. Both may hold a total amount of 9 Kg / 20 lbs.

Cressi-sub recommend to load each pocket with the same amount of ballast, in order to obtain a correct balancing during your dive.

Once the ballast is inserted in the pocket, close the zip fully and tuck it in to avoid interference with the release system (Fig. 25-26-27)

POSITIONING AND LOCK: The pocket may be positioned even while wearing your jacket. Please follow these indications: catch the special "d-shaped" ring of the pocket on the opposite side and pull, in order to get the inside edge of the pocket to come off and make the positioning easier. Then insert the pocket into the space provided.

Push the pocket inside holding it from below, making sure it slides freely without any hindrance (Fig. 28). Keep pushing.

Use the handle and keep pushing (Fig.29). Keep pushing until you hear the unmistakable click (Fig.30). Now, make sure the positioning is correct and complete. If you don't hear the sound of the "click", check that the male buckle, which is fixed to the pocket, is inserted correctly into the female socket which is fixed to the inside space (Fig.31).

To release the ballast rapidly, catch the special handle fast and push firmly forward (Fig. 32).

WARNING: Before carrying out this procedure make sure the handle and pocket are not hindered by any rope, strip or anything else that might prevent its release. Do not put lead or bulky objects in the next pockets which might interfere with the release system.

The sound of the device release must be heard. Do not stop and keep pushing so that the pocket starts sliding (Fig. 33).

Keep pushing until you feel the ballast weight on your arm (Fig. 34).

WARNING: Before diving, it is highly recommended to try the system many times in order to get well acquainted with it.

Before diving make sure the system is correctly assembled and acquaint your partner with its use and functioning. In case you have a great amount of ballast, please pay particular attention while putting on your wet suit. We recommend assistance to avoid any accidents.

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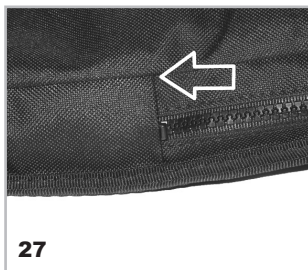
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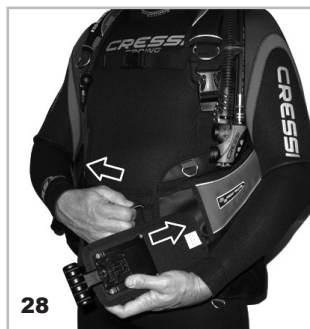
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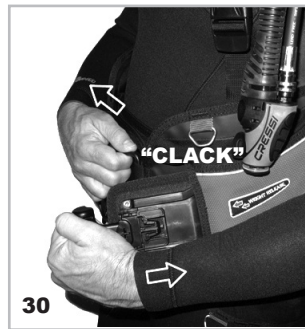
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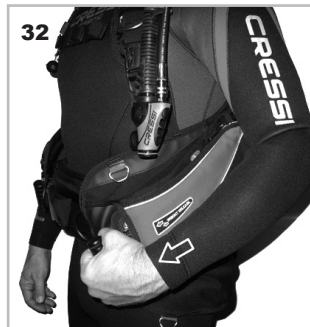
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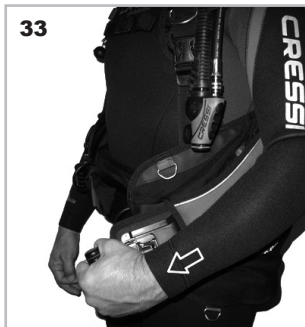
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C-TRIM INTEGRATED WEIGHT POCKETS

C-Trim is a system of integrated weight pockets that consists in inserting the weight pockets vertically in two suitable compartments located behind the two accessory pockets. To release the pockets, you need to grasp the handle and exert force towards the outside so that the strap uncouples from the automatic push-button and from the Velcro closure (fig. 39-40). Then, continue the movement, always outwards, but now also upwards so as to detach the pocket from its Velcro strap and remove it from its compartment (fig. 41). If you continue pulling, it will be completely removed (fig. 42). To put the pocket back, you just need to insert it into its compartment making sure that the two Velcro straps are in line (fig. 35). Once in place, move the flap with the handle close to the external part of the compartment and make the Velcro strap coincide with the automatic push-button. Close the automatic push-button (fig. 36-37-38). The maximum weight to be inserted will be 5.0 Kg per pocket.



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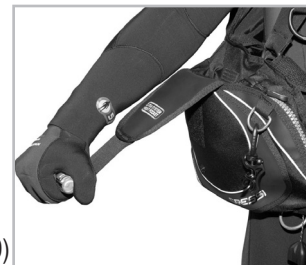
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FIXED GRAVITY INTEGRATED WEIGHT POCKETS

This system is very simple; it consists in two fixed pockets located next to the accessory pockets. When they are overturned downwards, the BCD ballast falls down. Therefore, to release the ballast, you just need to open the quick-release buckle that closes the pocket by using two fingers (fig. 43-44) and help the pocket overturn (fig. 45-46). The ballast will fall down due to gravity. This system obviously presupposes a vertical position with the diver's head towards the surface, as it is the force of gravity what will release him/her from the weight. The maximum ballast weight that can be inserted will be 2 Kg per pocket for sizes XXS-XS-S and 3 Kg for the other sizes.

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ABDOMINAL ADJUSTMENT

ABCD, once it is put on, must enable easy and broad abdominal adjustment. The body circumference at this point may vary several centimetres due to factors connected with the equipment (wetsuits of different thickness or weight belts) or with the physical condition (rented BCD or weight gain). It is therefore important for the harness to be significantly adjustable.

STANDARD WAIST BAND WITH BUCKLE

The waist band is a wide strap having its end covered with Velcro, which enables to close the BCD in the belly area. The Velcro enables length adjustment according to the diver's normal requirements. Two belts are added on the top of such Velcro; they are fixed near the pockets and they can be united and adjusted by means of a quick-release buckle. Putting it on is very intuitive: close the waist band at the belly, couple the buckle and pull the belts until finding the desired length (fig. 47 to 54).

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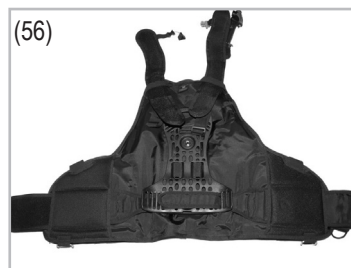
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ADJUSTABLE WAIST BAND WITH BUCKLE

This type of waist band is very similar to the standard one; its distinctive feature is that it can be adjusted also at the back, in the coupling point with the backplate. It is put on like a standard waist band with buckle; however, in order to adjust it, it is necessary to take off the BCD, remove the backplate soft cover and open the Velcro strap that unites the two ends (fig. 55 to 58). Below them, there are two belts coupled by a quick-release buckle (fig. 59). Loosen or tighten the belts to the desired length by using the buckle. Close back the two ends with Velcro (fig. 60) and place the backplate soft cover back in its place. Thanks to this adjustment, the BCD can be adapted to different requirements, such as having more comfort when wearing a waterproof wetsuit and the waist bands are short.

SPWB (SELF PIVOTTING WAISTBAND) CUMMERBUND

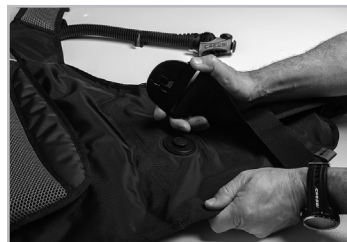
This type of system makes it possible to achieve better performing adjustment of the cummerbund around your waist. Thanks to the special patented SPWB system, it's possible to adjust to fit every physique because the cummerbund can be easily assembled to the desired lengths, and users can also rotate the piece to ensure optimum adjustment.

“A” TYPE

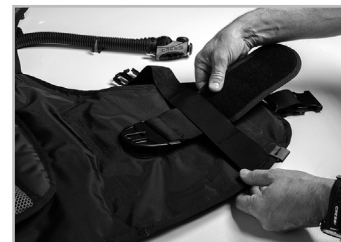
The “A” type is made of two pieces with the sewn swivel buckle (female) that can be easily assembled as described below (fig. 61 through 76).

The piece with the Velcro hook (male) and male swivel buckle must be mounted on the user's right (fig. 75); the piece with the Velcro loop (female) and female swiveling buckle must be mounted on the user's left (fig. 76).

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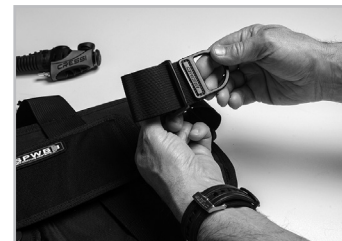
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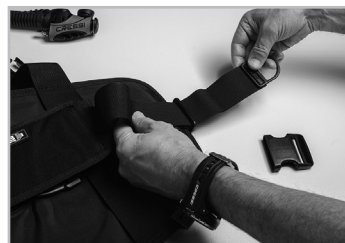
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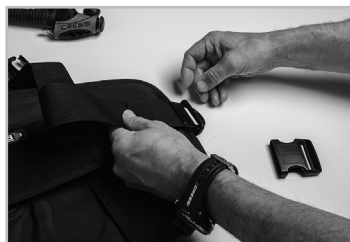
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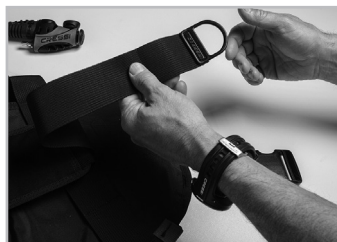
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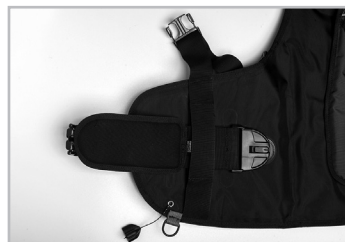
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“B” TYPE

The “B” type is made of two pieces that can be easily assembled as described below (fig. from 77 through 87).

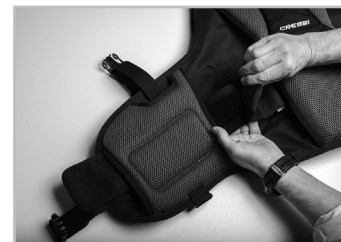
The piece with the Velcro hook (male) must be mounted on the user's right (fig. 87); the piece with the Velcro loop (female) must be mounted on the user's left (fig. 87).

To adjust the belt from 40 mm, see fig. 85-86.

(77)



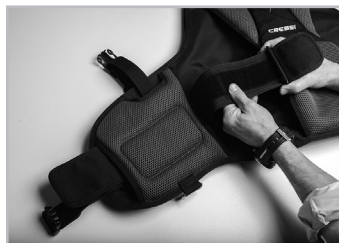
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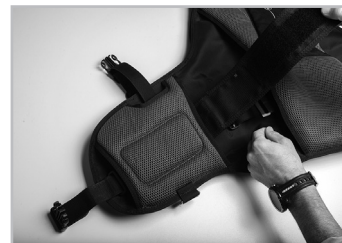
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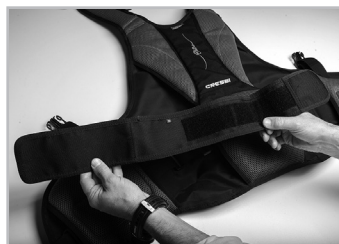
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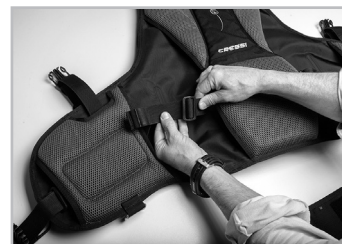
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BUCKLE

In the lightest and most compact BCD models, abdominal adjustment is made by means of an adjustable quick-release buckle. Once the BCD has been put on, close the buckle and tighten the belts to the desired length (fig. 88 to 90).



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STERNAL ADJUSTMENT

When wearing the BCD with regulator, the diver must withstand a considerable weight. Most of it is distributed on the shoulders, causing discomfort. The sternal coupling is used to distribute such weight to the thoracic area, thus significantly relieving the stress on the shoulders.

In addition, while diving, it improves comfort by helping the diver keep the right tension in the shoulder straps at all times. It consists in two straps to be attached to the two shoulder straps at the height of the sternum, and which can be united and adjusted by means of a quick-release buckle (fig. 91 to 93). For a correct adjustment, put on the BCD and immediately couple the coupling buckle, tighten the shoulder straps and close the BCD abdominal part. Only at the end, tighten the two adjustment straps so as to feel the load relief on the shoulders. This operation is easier if the cylinder is rested somewhere or held by somebody else. Finally, balance the tension on the shoulder straps with the sternal adjustment tension so as to obtain as much comfort as possible.

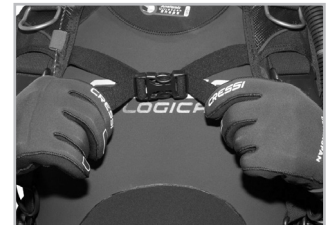
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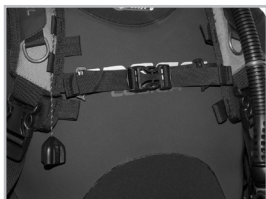


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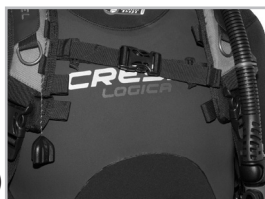


MOVABLE STERNAL ADJUSTMENT

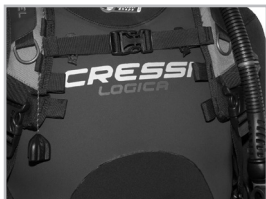
In the movable sternal adjustment, the straps are attached to the shoulder straps by means of buckles or tracks that enable its vertical movement along the shoulder strap tag (fig. 94 to 96). In the first case, the buckles must be opened and moved to the adjacent slot (fig. 97 to 99), while in the second case, you just have to make the strap coupling slide along the track. This adjustment enables to adapt the sternal coupling according to the diver's anatomy and equipment.



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FIXED STERNAL ADJUSTMENT

In the fixed sternal adjustment, the coupling cannot be moved vertically; it can only be adjusted horizontally by moving it closer to or away from the shoulder straps.

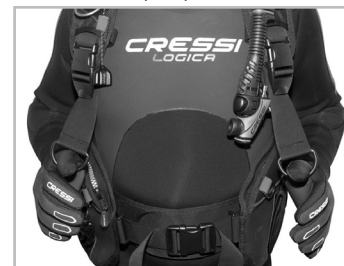
SHOULDER STRAP ADJUSTMENT

The shoulder straps of a BCD have two quick-release buckles that can be adjusted according to the diver's physical condition, and completely opened to take off the BCD.

STANDARD ADJUSTMENT

To adjust them, just take the two "D" rings located at the ends and pull with your arms downwards. In this way, the shoulder strap will tighten on your body. To loosen it, use the buckle by putting one finger under the lower part and exerting force towards the outside of the chest and upwards. To open it, press the buckle with two fingers in the relative tabs that will release the male from the female (fig. 100 to 102).

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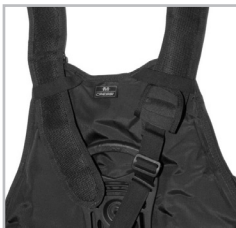
LENGTH ADJUSTING SYSTEM (LAS)

Some BCD models enable the length adjustment of the shoulder straps either by means of the buckles located at the front, near the tags, or by means of the rigid backplate to which the shoulder straps are attached. The operation is very simple. Stretch out the BCD on a surface and remove the top part of the backplate soft cover. Then, lift the padded bottom part of the shoulder strap (fig. 103). Below such part, there is a strap connected to the backplate loops by means of a buckle. Adjust the strap to lengthen or shorten the shoulder strap (fig. 104 to 107). Once the desired length has been reached, it is also necessary to adjust the buckle that connects the shoulder strap to the top end of the air cell (fig. 108).

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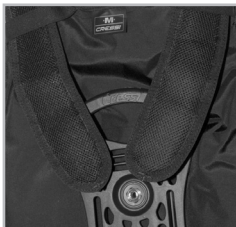
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CONTROL UNIT

The control unit is the heart of all BCDs. The air charge and discharge functions in the air cell are connected to such unit. It is made up of the By-Pass, the Corrugated Hose and the Dump Valve (fig. 112). BY-PASS: The By-Pass is the end part where all the charge and discharge push-buttons and mechanisms are located (fig. 111). It must always be within the diver's grasp because it controls all the necessary operations in a BCD. The low pressure whip coming from the 1st stage is connected to the By-Pass by means of a quick coupling. This whip enables the By-Pass valve to blow in the cylinder air. Such valve has been designed to be able to work with a relative pressure ranging from 1 to 15 bars; however, it is recommended to use it with a relative pressure of between 8 and 12 bars.

CAUTION: The low pressure whip must be screwed in the first stage of the regulator by means of the suitable LP or MP (LOW-MEDIUM PRESSURE) low pressure outlet with 24 UNF 3/8" thread or 20 UNF 1/2" thread using an adapter. The other outlets of the regulator are HP (HIGH PRESSURE), and they have a 20 UNF 7/16" female thread. NEVER connect the BCD low pressure whip to the HP (HIGH PRESSURE) outlet, not even with the aid of reducers. This would entail serious risks to personal safety.

CAUTION: It is recommended to replace the medium pressure whip in the following cases:

- When there are air leaks from the rubber part or in the joints with the metallic parts.
- When it shows anomalies while it is either pressurised or at rest. The whip must always be perfectly cylindrical along its entire length.
- If it has a surface with alterations due to abrasion, rubbing or small cuts.
- If it has been subjected to any stress going beyond its regular use, such as lifting the regulator or the fact that it remains entangled during abrupt movements.

- When it has been subjected to crushing or bumps, even if there are no evident signs. There might be internal damage.
- When the nipple with the regulator is damaged.

To connect the whip to the by-pass, the end knurled bushing of the quick coupling must be grasped and pulled backwards. At the same time, completely insert the female coupling of the whip in the by-pass small cylinder. Release the bushing and make sure the whip is correctly connected by pulling it gently. To disconnect it, pull the bushing backwards removing the whip from the by-pass (fig. 109-110).

CAUTION: Use only the original Cressi whips supplied. In case of replacement, it is also recommended to use original Cressi whips.

CORRUGATED HOSE: The Corrugated Hose is the cylindrical rubber part acting as a duct for air, as a guide for the cable that activates the dump valve, and as housing for the whip (fig. 112).

DUMP VALVE: Finally, the quick dump valve is the end plastic part that is connected to the air cell and which is in charge of emptying it by discharging the air (fig. 114).



CONTROL UNIT FUNCTIONS:

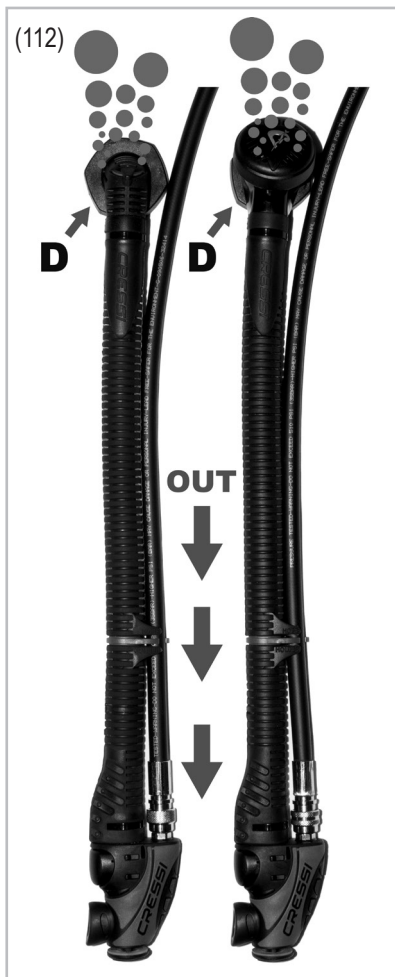
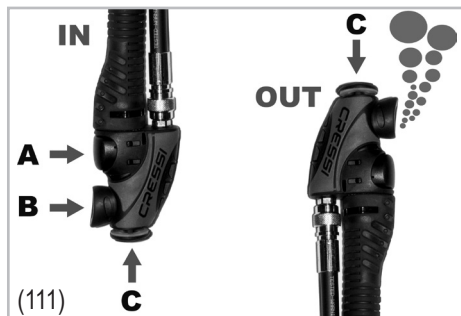
So, as we have seen, by means of the control unit, a large number of functions can be controlled. Such functions are listed below:

1 - Charging by means of push-button A (fig. 111). By pressing the push-button, air is let in.

2 - Mouthpiece: Rest your mouth in slot B (fig. 111). Blow a small amount of air to eliminate any residual water from the duct. Continue blowing while fully pressing push-button C. As soon as push-button C is pressed, the air will get into the cell. To interrupt it, release the push-button. Repeat the operation if necessary.

3 - Discharge by means of D quick dump valve, which can be activated by pulling the corrugated hose downwards (fig. 112). The diver's position must be vertical.

4 - Traditional discharge: with your body in vertical position, lift the corrugated hose towards the surface and press push-button C (fig. 113).



STANDARD CONTROL UNIT

The distinctive feature of this control unit is that it has a quick dump valve that can be manually activated while also acting as an over-pressure valve at the same time in case there is excessive pressure in the air cell (fig. 114).

FLAT CONTROL UNIT

With respect to the standard model, the size and weight of the quick dump valve are considerably lower. It is not fitted with over-pressure valve (fig. 114).



VALVES

In order to enable air release from the cell, all Cressi BCDs have a control unit with two valves, as we have just seen, and two additional independent quick dump and over-pressure valves. In this way, total safety is guaranteed to divers for managing immersion in emergency situations. These last two valves are activated manually by pulling a knob, and they must be easily accessible to enable the air cell emptying in most diver's positions. In addition, as it has been mentioned above, they are also over-pressure valves, i.e. valves that let air go out of the cell when pressure is excessive.

LOW VALVE: It is located at the back, in the lower right external or lower right internal area (in some BCDs with rear volume) and the knob to be used for activating it can be located at the front under the accessory pocket or immediately under the valve itself, near the edge of the cell (fig. 117-118-119-120). It is used to discharge air when the diver has his/her head down or is in horizontal position and, whenever necessary, at the end of the diving activity, to discharge the water that has gotten into the cell.

HIGH VALVE: It is located in the upper right external area near the shoulder strap and its knob is located along the shoulder strap (fig. 115-116). It is used to discharge air when the diver is in vertical position with his/her head up.



FIXING HANGING PARTS OF THE SCUBA:

There are some Scuba components that have to be placed in the front part of the body to facilitate their handling by the diver. These are:

- The octopus emergency regulator or an alternative source of air.
- The manometer or the console with the integrated instruments.
- Illuminators and emergency torches.
- Several whips.
- Emergency buoys.
- Knife.
- Swivels and reels.
- Other accessories.

Cressi has equipped its BCDs with suitable pockets, "D" rings and clips, thanks to which these components can be placed in a rational and practical manner (fig. 121 to 125).



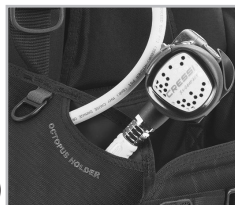
(121)



(122)



(123)



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ACCESSORY POCKETS - WEIGHT POCKETS

To put objects or equipment components, Cressi BCDs have two handy pockets on the sides (with Velcro or zip closure) or, in the lightest and most compact models, one single roll-up pocket with Velcro closure (fig. 126-127). In the rear part, there may be two pockets with zip or Velcro closure, which are used to put equipment components (such as the battery body of a torch) or the ballast (fig. 128).

CAUTION: When the ballast is put in these pockets, it is important to know that in an emergency situation, such ballast cannot be released, and that it must be supplemented with a main ballast system. In addition, its weight must be reduced so that, by releasing the main ballast, the diver is put in positive buoyancy position.



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PUTTING ON THE BCD:

The BCD is put on just like a regular gilet, making sure to put first the arm having the instruments and then the other one, afterwards closing the waist band Velcro closure and the belly buckle. While holding the heavy cylinder, it is advisable to place the BCD on an elevated surface with respect to the ground so as to carry out this operation as comfortably as possible. Make sure that the shoulder straps are wide enough to facilitate this operation. To put it on in the water, inflate it and sit on it with the fins facing the bottom of the cylinder. Make your arms pass under the shoulder straps and let yourself slide along the backplate towards the bottom. Close the waist band, the belly buckle and the sternal coupling. Once you have put it on, to adjust it, just pull the belts of the shoulder straps downwards, and the sternal and belly belts towards the sides. In any case, for each single adjustment, refer to the previous chapters.

EMERGENCY BCD REMOVAL:

In those situations in which the BCD has to be taken off quickly, just release the buckle located in the belly area, open the waist band, and finally release the sternal coupling and the quick-release buckles of the strap shoulders. This operation can also be performed in normal situations, mainly if you are a little bit uncomfortable.

CHECKS BEFORE THE IMMERSION:

- 1 - Check the correct coupling of the low pressure whip.
- 2 - Make sure that the valves locking rings are properly tight.
- 3 - Make sure that the cylinder is perfectly secured.
- 4 - Inflate the BCD and check the air cell efficiency.
- 5 - Test the Control Unit functions several times.
- 5 - Check the activation of the over-pressure and quick dump valves.

WHILE DIVING:

Diving begins with a preparatory stop on the surface during which it is essential to inflate the BCD. In this way, floating and swimming is facilitated and the preliminary operations are safer. Once you are ready, to make the descent, complete emptying will be necessary. During the descent it is advisable to inflate the cell a little bit at a time so that your buoyancy is not excessively negative and speed does not increase excessively. Once you have reached the bottom position or the first stop position, inflate the cell more until obtaining neutral buoyancy. This makes swimming easier. Be very careful and do not go too far; it is preferable to keep slightly negative. As a matter of fact, a deep breath or an upward fin bump could be enough to change your buoyancy from neutral to positive and, if you are distracted, this could put you in an extremely dangerous situation. This could generate a very dangerous quick and uncontrolled ascent. To ward off such danger, you need to be very fast in understanding the buoyancy variation and, consequently, discharge the BCD immediately by using the valves. Once the time for remaining on the bottom has gone by, you have to ascend to the surface thinking – first of all – about the air discharge, which must not be complete but rather partial and proportional to the ascent position. In a diver's head, the ASCENT-BCD (and waterproof wetsuit) DEFLATION action association must be indelibly marked. Deflation must be carried out in such a way that the positive buoyancy that the BCD exerts in your body is never felt. Once you reach the surface, inflate the BCD again.

As it has been said above in the “Control Unit” section, the inflation operations are performed by means of the by-pass push-button or with your mouth through mouthpiece and push-button. It is advisable to have a lot of practice with both methods, even if the use of the first one will be more

immediate and simpler. The diver’s position is not relevant for the purpose of this operation. The deflation operations are carried out by means of the control unit, by pulling it downwards or lifting it from its bottom towards the surface and pressing the relative push-button, and by means of the quick dump valves located at the back by pulling the specific knobs. During the deflation operations, the diver’s position is very important for the purpose of the manoeuvre. The diver shall be in vertical position with respect to the surface to make the discharge with the control unit or the high rear valve. Whereas in order to make the discharge through the low rear valve, the diver must have his/her head down and, more precisely, the lower part of the BCD upwards. When making the discharge, attention must be paid so as to close the devices as soon as no more air comes out. Otherwise, the water that is not obstructed by the air will start getting into the cell, altering its floating capacity.

WARNINGS: In the rear volume BCD models, while being on the surface, the air mass tends to position the diver horizontally with his/her down; therefore, in case of loss of consciousness, the head remains immersed. Therefore, they are to be used by expert divers who are perfectly aware of their characteristics.

WARNINGS:

As pointed out in the previous section, an incorrect control of the BCD may lead to extremely dangerous quick and uncontrolled ascents, which almost always result in serious or mortal accidents due to decompression. In order to prevent these situations, it is recommended – during ascents – to release the air gradually from the BCD so as to always keep a slightly negative buoyancy. If you are in vertical position, this operation is performed by activating the upper valves; whereas – less often – when the body position is upturned with the head down, the low valve is used. **In any case, as a general rule, it is always valid the principle of using the valve that is closer to the surface to release air.**

LIMITS OF USE AND DURATION:

- 1 - The use of this BCD must be limited to the first 50 metres of depth.
- 2 - This BCD must be exclusively used with components of the SCUBA diving regulator having CE marking.
- 3 - This BCD can be used in waters with temperature ranging from -2°C to +40°C. The external (ambient) temperature range in which it can be used is between -20°C and +50°C.
- Immersion in extreme conditions with water temperature below 10°C are risky for the human physiology; it is therefore necessary to have taken and passed specific courses for such conditions.
- 4 - A BCD is not a lifejacket and, as such, it does not guarantee a head up position of wearer.
- 5 - If used with Nitrox enriched mixtures, with O₂ levels of not more than 40%, the buoyancy compensator in this manual will require more frequent and thorough maintenance than it does when used with breathable air.
- 6 - No change may be made to this BCD, not even minor changes. This is forbidden for the sake of personal safety and health.
- 7 - For the purpose of personal safety and health, it must not be used in polluted waters or waters with high suspension, nor in any other liquid having chemical-physical characteristics different from those of water.
- 8 - Using the BCD in chlorinated water damages the materials. Therefore, it is advisable not to use it in water with high levels of chlorine.

MAINTENANCE:

For correct maintenance, it is important to follow the instructions given below:

- 1 - Carry your BCD always inside a bag that protects it.
- 2 - Avoid contact with cutting or sharp objects, or objects that may cause abrasions.
- 3 - Avoid long exposures to sunrays.
- 4 - At the end of each immersion into the Sea, Lake or Swimming Pool, always rinse the BCD with fresh water both inside and outside. For the inside, fill around 1/3 of the cell through the control mouthpiece (while keeping the discharge push-button pressed down) and then inflate it partially and shake it. Empty it by opening the lower quick dump valve.
- 5 - Every 4 or 5 immersions, clean and then lubricate the whip quick coupling and the by-pass coupling with silicone grease.
- 6 - Replace the whip gaskets once a year in an authorised Cressi centre.
- 7 - It is recommended to have the BCD inspected once a year by an authorised Cressi centre. In case of extensive use (diving centres, rental, professional use or other), it is recommended to take the BCD to maintenance every three/six months in an authorised Cressi centre.
- 8 - In case of whip replacement, the new one shall be of the same type than the one supplied when the BCD was purchased. In case of doubts regarding its characteristics, contact the manufacturer or the authorised sales centre.

STORAGE:

- 1 - It is recommended to store the BCD, perfectly dry and partially inflated, in a fresh and dry place. Preferably hanging.
- 2 - The storage room must not have sources of heat or direct sunlight.
- 3 - Avoid storing the BCD in rooms where it may get in contact with chemical products or corrosive agents that could limit its safety characteristics.
- 4 - Avoid storing the BCD above other objects.
- 5 - Leave the control unit stretched out. The corrugated hose must not be folded or flattened.

SIZES:

For the sizes, see the final table in the Wearability column.

NITROX:

Do not use this BCD with Nitrox mixtures having more than 40% of oxygen. The use of mixtures with higher percentages of oxygen or with the addition of helium or other gases (Trimix) could cause the corrosion, deterioration or premature ageing of the BCD or its components until they break down. This would entail the loss of control of the BCD buoyancy or tightness, causing consequent serious physical damages. In addition, mixtures with a high oxygen content may generate risks of fire and explosion. In order to use Nitrox or Trimix mixtures, it is necessary to have obtained, in addition to the regular diving with air certification, a specific certification issued by a teaching institution recognised at international level.

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**MARKING:**

A Variable Buoyancy Device for diving is personal protective equipment that satisfies European individual health and safety regulations.

The EC mark can be found on the product, signifying compliance with the essential health and safety found in Attachment II of (EU) Regulation 2016/425;

The EU Declaration of Conformity for this PPE can be viewed at: www.cressi.com, in the "DOWNLOAD" area.

EN 1809:2014+A1:2016 European Regulation concerning the regulation of Buoyancy Compensators for the purposes of individual protection. The product bearing this mark meets the requirements of that regulation.

The labels on the product (inside the left pocket or behind the left rear pocket, fig. 129-130-131) provide the following information:

the first label:

the serial number of the BCD

the second:

WARNING!

THIS IS NOT A LIFE VEST, AND DOES NOT GUARANTEE THAT YOUR HEAD WILL REMAIN ABOVE WATER

- You must complete a specific course from a qualified instructor to use this vest.

- In the event of an emergency, buoyancy on your back on the surface is not guaranteed for all users in all conditions.

- Before using, check that the BCD is in good condition, operates properly, and has no holes or other damage.

- See the instructions provided in the manual.
- Do not inhale the gas contained in the bladder.
- Do not remove from the vest.

Model: _____ Year of manufacture: _____

Table of buoyancy values (expressed in Newtons) for each size of vest.

Pictogram indicating the maximum cylinder liter value and the maximum diameter.

CRESSI'S EUROPEAN WARRANTY

In accordance with Directive 1999/44/EC Cressi guarantees its products against inherent and operation defects. To improve the service offered to clients and consumers and to assert the efficiency and quality of the company's manufacturing processes, Cressi have decided to extend the warranty terms as follows:

Our BCDs are guaranteed for two (2) years from the date of purchase (for rental or teaching purposes: 24 months for operation defects and 24 months for inherent defects). Exceptions: consumable parts, damaged due to scratches, pricks, abrasion, or chemical products (including chlorine), damage due to exposure to sun, to negligence, shocks or normal wear and tear.



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