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# Vacuum System - User Manual

### Pre-Dive Vacuum System of Leak Detection

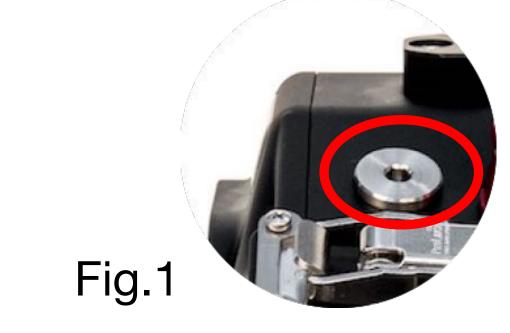
Thank you for choosing Vacuum System, the vacuum pre-dive detection system for water infiltration, for underwater housings.

Please read this manual carefully before installing and using the Vacuum System.

### **Installation Guide**

The Vacuum System can also be installed after the purchase of the housing. The user can decide to install the Vacuum System autonomously or request installation at Easydive, sending us the housing for the intervention, or asking for the installation at the time of purchase. The Warranty Easydive on the product will be applied only in case of Installation by Easydive.

- 1) Installation performed by the user:
- Remove the Protection Cup (Fig.1) with an Allen key, to find out the M14 threaded hole, compatible for the installation of the Vacuum System and other compatible accessories.
- In the Leo3 / Leo3 Plus and Leo3 Wi Housing, there are two M14 threaded holes, install the Vacuum System in the position that is considered most usefull.
- Insert the Vacuum System into the threaded hole and tighten with an Allen key perfectly, from the inside part of the housing.
- Test the perfect seal of the housing, following the instructions for use in the following sheets.
- 2) Installation performed by Easydive (Recommended):
- The installation and the related leak test will be carried out by our technical staff. The cost of the installation is included in the price of the Vacuum.



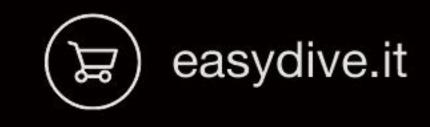




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### Instruction for Use

The Vacuum System is a pre-dive system, to be used always before diving, and in dry situation. During the dive, the Vacuum must not be switched on, but must be switched off before entering in dive.

Follow the Instructions for Use:

- 1. Vacuum System mounted. (Fig. 1)
- 2. Remove the protective cap. (Fig. 2)
- 3. Press the red button on the rubber valve downwards until the switch clicks. (Fig. 3)
- 4. The LED will light up Green and then Blue, finally the red starts flashing, indicating that the circuit is active. At this time, the pressure is measured and stored. (Fig. 4)
- 5. Disconnect the hose from the pump cap. Screw the pump cap into the valve body. Connect the hose to the pump cap. (Fig. 5)
- 6. Start pumping.
- 7. The LED starts flashing blue, indicating that the pressure variation is detected and that the circuit is active. If you stop pumping before reaching the set vacuum, it will flash red.
- 8. After a certain number of pumping necessary to obtain the correct depression (depends on the housing volume), the flashing green LED remains active (Fig.6). Please do not pump further or the control time may be higher than the standard one. The LED will flash green for 3 minutes.
- 9. Remove the hose from the pump cap. Remove the pump cap.
- 10. Replace and tighten the protective cap. (Fig. 1)

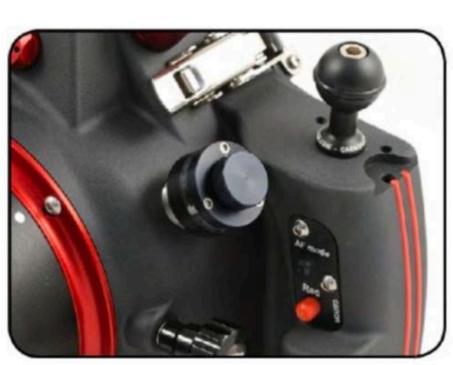


Fig. 1







Fig. 2

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To Be Continued

Fig. 5

Fig. 6





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Watch the LED. If the green LED become still after 3 minutes, this indicates that no leak is present, so the housing is ready for diving. If you find the vacuum with a red LED actived, this indicates the presence of a leak, so the dive will not be safe. It is necessary to start the procedure of localization and elimination of the possible infiltration and, once removed, repeat the procedure just described.

In case of positive verification, continue with the procedure:

- 11. Remove the protective cap.
- 12. Gently move the red rubber valve sideways to balance the pressure. The hissing sound is heard. Take care, do not pull the valve too hard, if it comes out of its seat, remove the upper part of the Vacuum and reposition the valve. Also check that the o-rings are in good condition. Otherwise replace them.
- 13. Turn off the circuit by pressing the red rubber button. (The Vacuum go off automaticaly anyway in 20 minutes
- 15. Replace the protective cap.

16. After dive, rinse and dry the body of the Vacuum System. Make sure that the part of the vacuum is completely dry before removing the protective cap. The presence of a single drop, when the valve is moved (as in point 12), could cause the malfunction of LED electronics. Therefore always carry out the operation in a dry place and far away from possible splashes of water.

Follow the instructions just listed, do not use the vacuum during the dive. Also do not dive with the pressure in vacuum in the housing, but always re-balance the pressure of the housing before starting the activity in the water. Easydive housings are equipped with water alarms and the use of vacuum in dive, as well as being a waste for the vacuum battery, could lead to false alarms due to the difference in pressure that occurs during the dive.





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## Warranty

Easydive releases the warranty on the Vacuum System for a period of 2 years.

The warranty covers all manufacturing or assembly defects (if carried out by Easydive), provided that the product is used correctly and has been carefully maintained according to the indications and recommendations contained in this manual and in the video tutorials dedicated to the Vacuum, on Easydive.it website.

The warranty does not cover damage due to accidental events (collisions, falls) or natural (fire, calamity) or prolonged exposure to high temperatures or to sunlight.

The warranty does not include components not produced directly by Easydive or those subject to wear after their life cycle (LEDs, batteries, accumulators, etc.).

The warranty does not imply in any case the compensation for direct or indirect damages of any nature caused to people or things due to possible periods of inactivity of the product.

Finally, the warranty is void if the equipment is used improperly or incorrectly, or if modifications or repairs are carried out by unauthorized personnel or by using non-original spare parts.

To take advantage of the warranty, the installation must be carried out by Easydive. The purchaser understands and agrees that, due to the nature of this product, he uses Vacuum System at his own risk and agrees to hold Easydive exempt from liability, except as indicated above.

## Replacing the Battery

Always use CR1632 or equivalent batteries. The battery life with the circuit on is more than 100 hours. Always turn off the circuit when it is not in use. To replace the battery:

- Unscrew the three bolts with the hex key provided and lift the upper cover and the transparent window.
- Remove the bottom o-ring and the electronic circuit. Use a toothpick or a suitable tool.
- Replace the battery with a new one. The positive (+) pole of the battery is facing the outer metal casing, the negative (-) pole is facing to the printed circuit.
- Apply a thin layer of silicone grease to both O-rings. If necessary, clean all parts (except the printed circuit) with a soft cloth.
- Put the printed circuit board in its housing in the lower aluminum part (pay attention to the position of the indicator LED).
- Insert the o-ring around the printed circuit and press gently into the cavity. Replace the transparent ring and the aluminum upper part, corresponding to the holes.
- Insert the screws and tighten them in sequence, in order to guarantee an optimal tightening and tighten the bolts.
- Start the normal test procedure to check the seal.



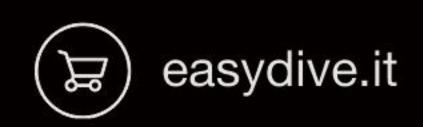


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## **Safety Precautions**

Never dive or immerse the housing in water without the protective cap. The rubber valve is not watertight, it serves only to maintain pressure during the vacuum process. Diving with the housing without the protective cap means flooding the housing, the camera and the Vacuum System.

Replace the protective cap immediately after the vacuum test. Always use CR1632 or equivalent batteries. Check the polarity, the positive (+) side is on the metal case, the negative (-) side is on the printed circuit board. A wrong polarity can damage the circuit and invalidate the warranty.

If the Vacuum System is installed directly by the user it is important to follow the standard procedure of the pre-dive test immediately after installation to confirm there are no leaks.

All Vacuum System are thoroughly tested before shipping. If the test detects there is a leak, check the tightness between the Vacuum System and the housing.

It is the sole responsibility of the user to guarantee the seal between the Vacuum and the housing. Easydive is not responsible for any damage that may result from incorrect installation and use of the product. If the problem persists, please do not use the product and contact Easydive.

If the Vacuum is installed by Easydive, simply check that the system works properly, becouse Easydive tests each Vacuum System individually.

The Vacuum System is always used before dive. Please turn off the vacuum system before starting the dive, do not dive with the Vacuum "on".

Always do the test procedure in a dry place. The rubber valve is not watertight and splashes of water may damage the circuit. Dry well around the cap before removing it, and pay attention to the drops that may be on the cap's o-ring.

If water enters in the Vacuum elettronic circuit, it is possible to change the damaged electronic part, by purchasing the spare PCB and following the Video Tutorial found on the Easydive.it website.