



Streamline P-Valve _Installation Guide

HALCYON

HALCYON™ WORLDWIDE
DIVE SYSTEMS EST. 96



Streamline P-Valve Installation Guide

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Introduction

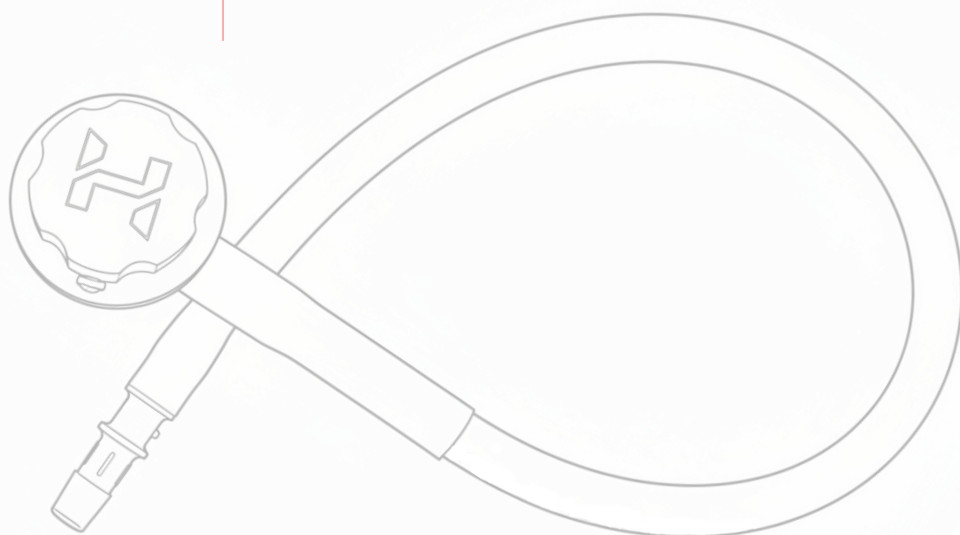
Congratulations on your purchase of the Halcyon P-Valve. You can be confident that every effort has been made to ensure flawless performance in all diving conditions. Its streamlined design is the result of years of testing and refinement, drawing on thousands of dives by Halcyon staff, test divers, and explorers worldwide. Extreme exploration dives, including 14-hour immersions in systems like Chip's Hole, are made possible with the Streamline P-Valve.

The Halcyon Streamline P-Valve is a balanced system machined from a single solid piece of Delrin®, featuring a threaded external cap that protrudes 5/8 in (15 mm) from the suit. Internal and external components screw together and are bonded with Aquaseal to ensure long-term watertight reliability.

The external cap allows the diver to vent the suit through a condom catheter and flexible tubing, or to fully seal off external water by tightening the cap against a captured O-ring. The cap may be left open during the dive for immediate availability or kept sealed and opened only when needed.

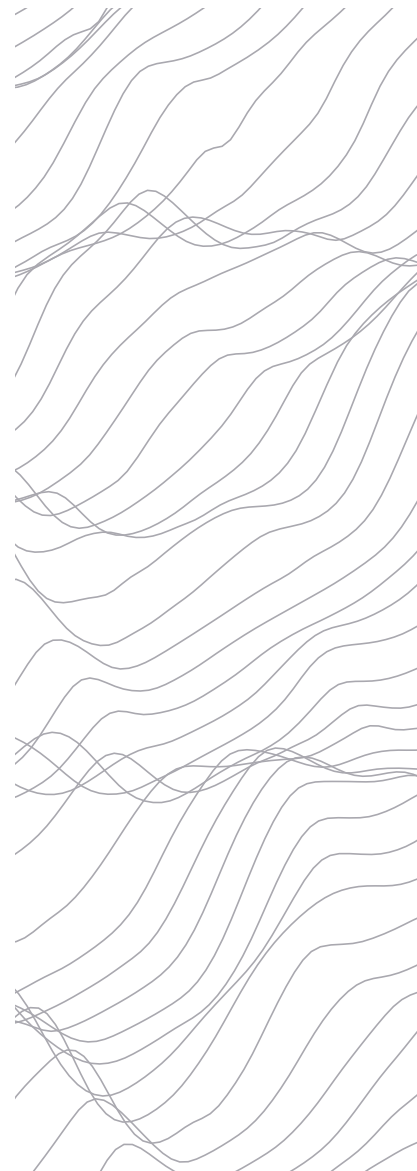
A one-way check valve mounted in the Delrin base allows fluid to flow out of the suit while preventing water from entering the connection assembly, even in the event of a catheter failure. As a final fail-safe, should the check valve malfunction, the external cap can be locked down to isolate the surrounding water. In practice, water ingress would require both the connection hardware and the check valve to fail simultaneously.

A second check valve within the Delrin base allows gas in the drysuit to equalize with air in the catheter assembly, eliminating pressure resistance during use and reducing the risk of connection failure. This balanced check-valve design increases redundancy, improves ease of operation, and prevents ambient water from entering the system—an important benefit in cold water or questionable environments. The low-pressure design also increases the suitability of the Streamline P-Valve for use by women when paired with an external female catheter.



Tools

- 1 Halcyon Streamline P-Valve
- 2 Ruler
- 3 Aquaseal (supplied)
- 4 Empty rinse bottle (supplied)
- 5 Microfiber cloth
- 6 Scissors
- 7 60 or 80 grit sandpaper (supplied)
- 8 Halcyon P-Valve installation wrench (supplied)
- 9 White Pencil
- 10 Gloves (when handling sealant)
- 11 Device capable of creating a hole in your suit such as a 3/4" (19mm) punch or pencil soldering iron
- 12 Rubber Mallet
- 13 Hard Surface



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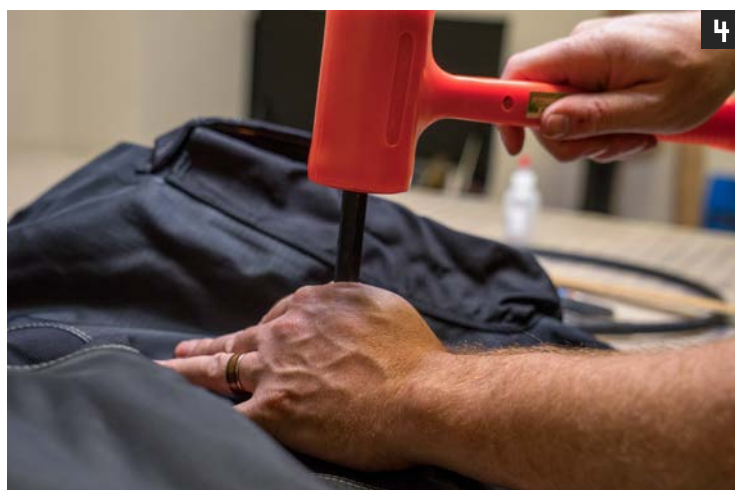
_Create the hole

1. Measure the outside of the suit to determine P-Valve location.



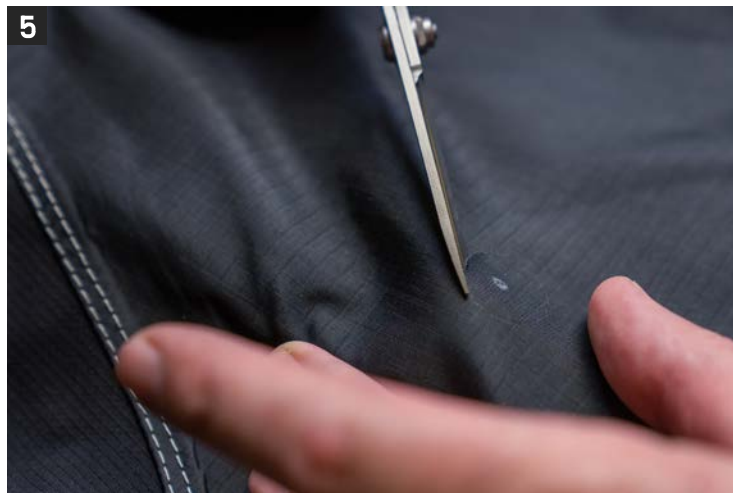
2. Mark outside of the suit for placement.

3. Using a hard surface underneath, you can line up the mark before punching a hole through the suit.

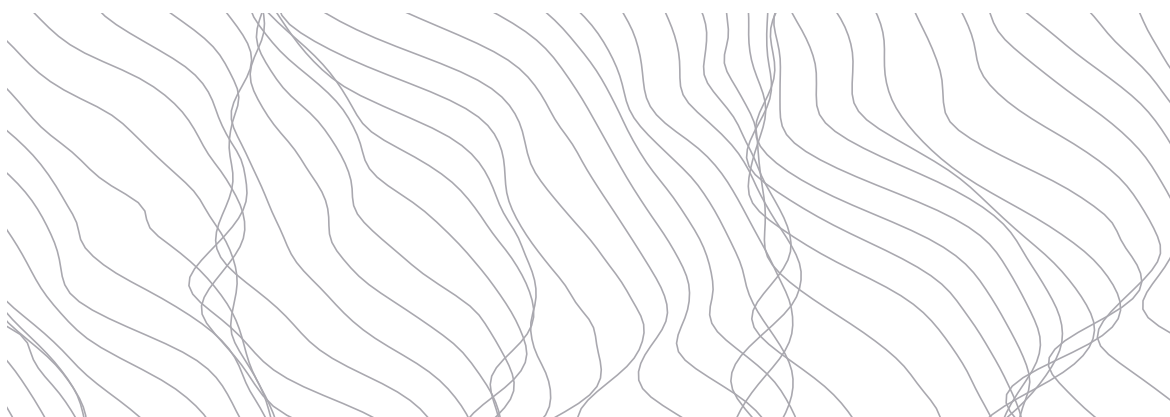


4. Using a Rubber mallet, strike the punch the desired times to get through the fabric.

5. If there is any fabric still attached, clean up with sharp scissors.



6. Final look of the suit with a hole punched and cleaned and ready for install.



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_Prepare the P-Valve

7. Prep the P-Valve by lightly sanding the smooth edges that face toward the suit.



8. Sanding should be uniform all around the pieces.

9. Example of rough to smooth edge.



10. Completed Sanded area on both parts of the P-Valve.

11. Lightly sand the surrounding area of the suit material to allow a greater bond for the glue.



12. Follow the edge of the material and move outward to match the P-Valve diameter.

13. With a microfiber towel clean the surface of the suit with a light solvent.



14. Using a microfiber towel clean the P-Valve bases as well.

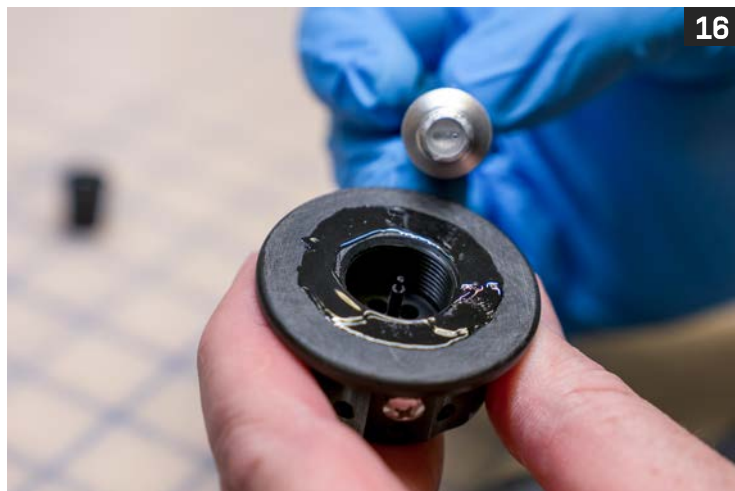
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_Place the P-Valve

15. Apply a light layer or bead of Aquaseal to each end of the P-Valve.



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16. Smooth out the bead of Aquaseal to ensure smooth and equal coverage.

17. Apply same bead and strategy to the opposing end of the P-Valve. These will allow bonding to the suit and prevent leaks.



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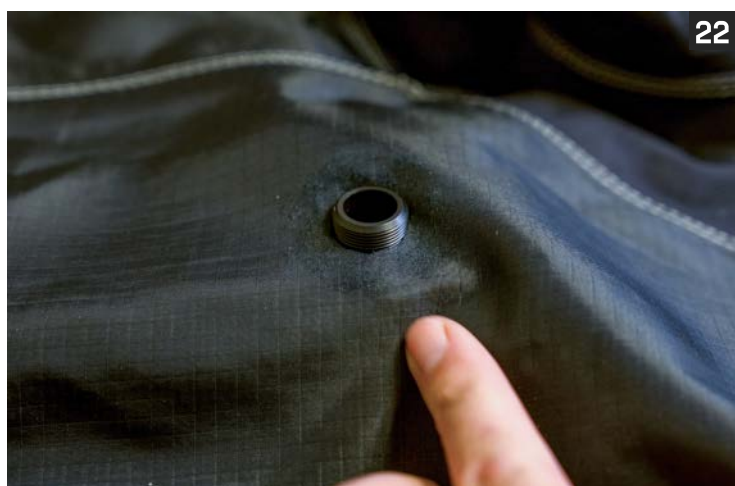
18. Smooth out Aquaseal for best application.

19. Placing a finger at the top of the P-Valve opening, you can now steer and direct the valve into the drysuit without a mess.

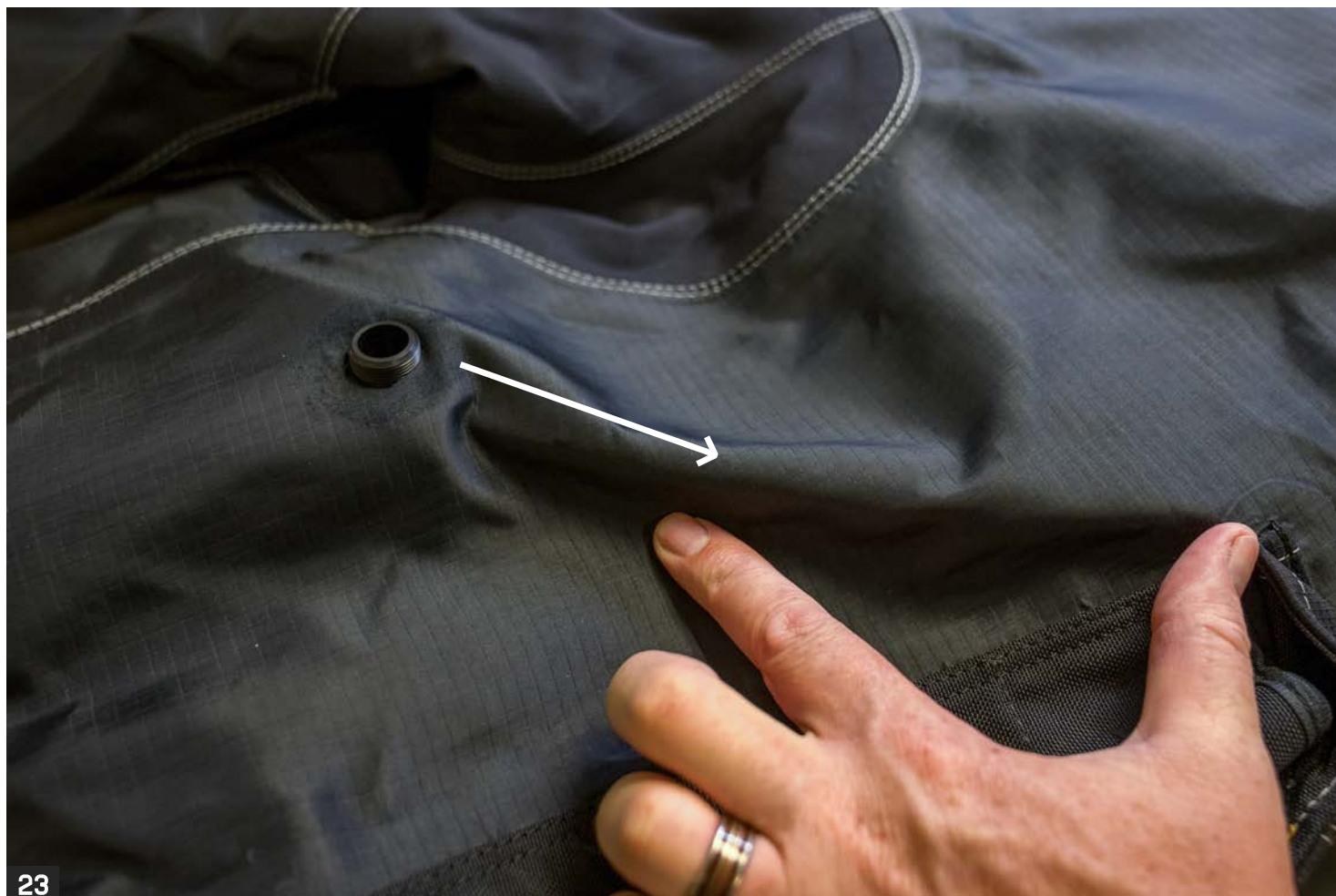


20. Line up your finger and the valve to the opening in the suit.

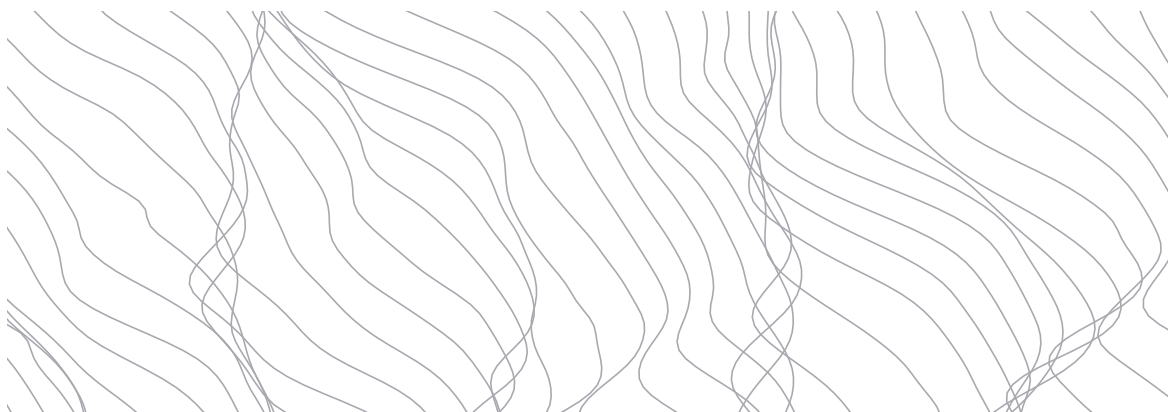
21. Remove your finger from the valve and place the P-Valve base through the hole keeping pressure towards the suit with the opposing hand.



22. Rotate the base of the P-Valve slightly to get the desired angle. Angle of the hose should travel towards the top edge of the drysuit pocket.



23. Make sure the hose is angled correctly.



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_Final assembly

24. Take the cap of the P-Valve and place it over the base and lightly attach together.



25. Using finger tight assembly, make sure the base of the valve is tightened and secured. Do not just screw down the cap portion of the assembly.

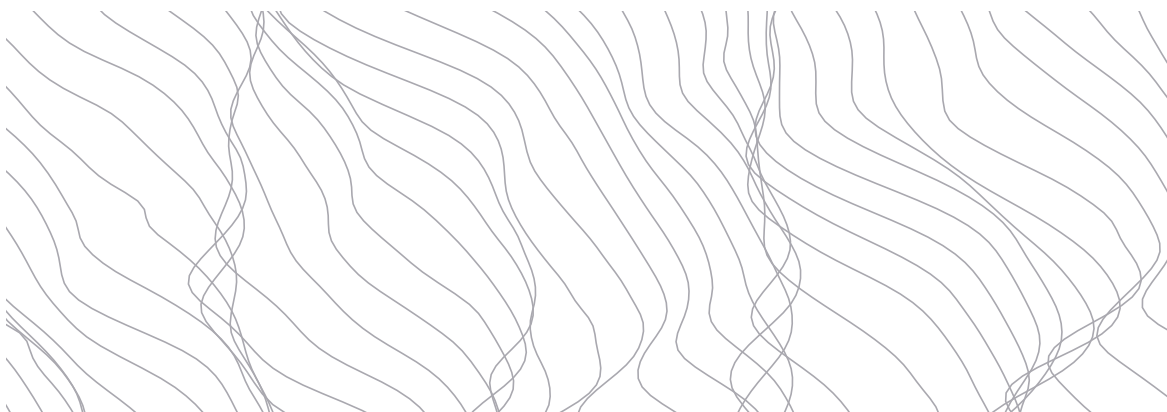
26. Using the supplied wrench, and making sure there is enough of a gap from cap to top assembly, you can secure the pieces together. make sure to hold the base from inside the suit so the entire valve does not rotate out of position.



27. This same pressure can be applied from the top of the suit as long as you trap the hose into place to keep the bottom assembly from rotating.



28. Do a final check on the placement of the hose towards the pocket, also clean up any residual Aquaseal that has been pressed from under the valve with a microfiber towel and solvent. Let stand and cure for up to 18-24 hours before use.



Valve Operation

When the cap is turned clockwise and snug against the suit shoulder, the valve is completely closed and inoperable. No fluids can be discharged or enter the suit. When the cap is turned counterclockwise approximately two turns, the valve is operational and fully automatic. Fluids can be discharged at will, but water cannot re-enter the valve due to the one-way check valve. The valve is designed to be used with the cap in the open position during diving, and really need only be closed in the event of failure. Normal valve travel is approximately two turns from the closed to fully open position.

Failure Modes

Kinked Hose

The use of the norprene tubing has drastically reduced the likelihood of a kinked hose. The valve is best positioned to avoid sharp bends in the hose routing to further reduce the risk of kinking. Use only Halcyon P-Valve hose for any replacements.

Kinked/blocked Condom Catheter

This may occur in the event that the catheter was not properly/completely installed. Blockages in flow may be due to a sharp bend at the end of the catheter, or a restriction created by the adhesive within the catheter. Be sure to follow the catheter instructions carefully.

Check Valve Failure

Debris or deposits can build up on the check valves over time and interfere with their function. Follow a periodic maintenance and cleaning schedule as recommended in this manual. Replace any worn or damaged check valves.

Maintenance and Cleaning

The Halcyon Streamline P-Valve, like all valves used in scuba diving, must have a basic maintenance check on regular intervals. If not cleaned properly, organic and inorganic deposits will, over time, reduce the valve's ability to function properly. Additionally, regular cleaning of the Streamline P-Valve is essential in preventing

Check valve replacement

To inspect or replace the main umbrella valve, unscrew the button cap set screw (if used) and remove the threaded cap. Lift the edges of the umbrella valve to expose the center stem. Grasp the stem firmly, and gently work it free with a side-to-side rocking motion.

To install a new umbrella valve, slip the center stem into the retaining hole in the middle of the valve face. Apply gentle pressure to the center of the umbrella valve, until it becomes fully seated.

To inspect or replace the balance check valve within the internal valve body, use a coin to unscrew the retainer. The duckbill valve can then be removed for inspection/ replacement. When reinstalling the retainer, be sure not to overtighten the fitting.

P-Valve parts

Code	Name
40.044.018	Duck bill balance valve support
22.088.003	Dummy plug for 90 degree heater bulkhead connector
40.044.020	H P valve cap with o ring kit
40.040.013	P valve service kit
40.000.002	P-Valve Connector for Catheter
40.044.002	P-valve hose (cost / ft)*
40.044.009	Streamline P-valve duckbill check valve
40.044.017	Streamline P-valve rinse cylinder
80.000.199	Streamline P-valve stainless set screw
40.044.012	Streamline P-valve umbrella "flapper" valve

**for any Halcyon P-valve. Order 2 ft - 60cm for a standard p-valve hose.*

Warranty Information

All warranty requests must be accompanied by proof of original purchase from an Authorized Halcyon Dealer. Be sure to save your sales receipt, and present it whenever returning your Halcyon gear for warranty service.

HALCYON warrants, to the original purchaser only, that the HALCYON Streamline P-Valve will be free of defects in materials and/or craftsmanship under normal diving use for one year from the date of purchase, provided proper care is performed on all materials as described within this manual. Should your P-valve prove to be defective for any reason it will be repaired or replaced (at HALCYON's discretion) free of charge excluding shipping and handling charges. All correspondence concerning this warranty must be accompanied by a copy of the original sales receipt. Repair or replacement is HALCYON's only responsibility and your only remedy under this warranty.

ALL WARRANTIES, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO A PERIOD ENDING ONE YEAR FROM THE DATE OF PURCHASE.

Some states in the U.S. and certain foreign countries do not allow limitations on the duration of implied warranties, so this may not apply to you. This warranty gives you specific legal rights. You may have rights which vary from state to state and country to country.

HALCYON MANUFACTURING DISCLAIMS AND EXCLUDES ANY LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. SOME STATES IN THE U.S. AND CERTAIN FOREIGN COUNTRIES DO NOT ALLOW EXCLUSIONS OR LIMITATIONS OF LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS MAY NOT APPLY TO YOU.

The following restrictions apply to this warranty:

1. This warranty does not extend to damages caused by improper use, improper maintenance, neglect, unauthorized repairs, modifications, accidents, fire, or casualty.
2. Cosmetic damage, such as scratches, fraying, and nicks are not covered by this warranty.
3. This warranty does not extend to equipment used for rental, commercial, governmental or military purposes.
- 4 . This warranty covers products purchased in the United States. For warranties that may apply elsewhere, please contact your local representative.
5. Failure to meet any of the above requirements will render the warranty null and void.



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