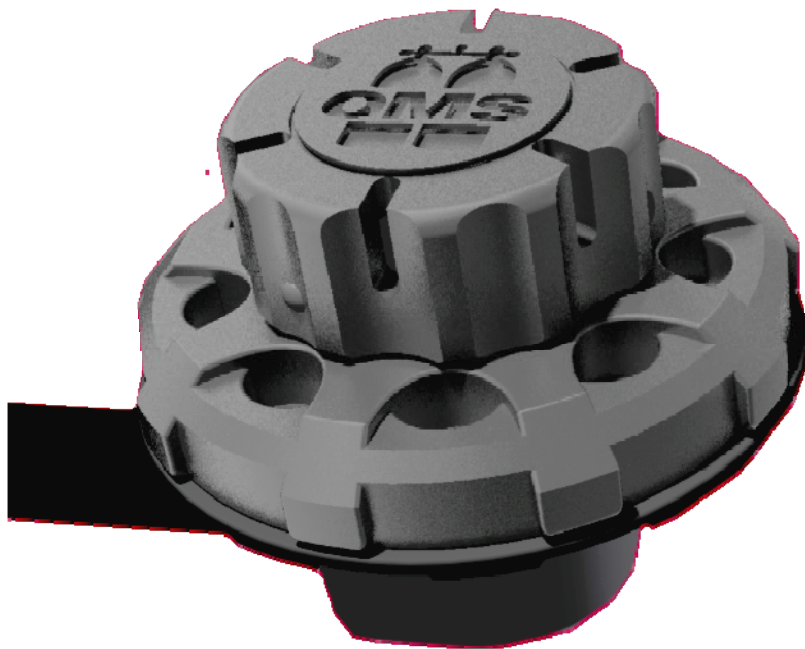




# OMS Bayonet Mount P-Valve

## Instruction Manual





Dear Customer,

Your OMS® Team appreciates your confidence in choosing our product.

Our products are designed to offer comfort, reliability and safety and are manufactured with only high-quality materials and the utmost care. In addition, each product is thoroughly tested before delivery to ensure reliability.

At OMS® we are continuously working to improve our products. For this reason, we would appreciate it if you would pass on any thoughts or comments on the use or design of our products to *Support@OMSDive.com*.

The OMS® Bayonet Mount P-Valve incorporates three unique innovative benefits.

- The bayonet mount system allows the valve to be quickly and easily removed from the suit for routine maintenance. The bayonet mount allows the valve to be removed and a blanking plug installed for dives when a P-Valve is not needed.
- The valve's balanced design uses a traditional Protective Vacuum Breaker Valve backed with a semipermeable membrane, an OMS® original feature. The membrane prevents debris from entering the valve and fluid from entering the suit in the event of a valve failure.
- The Fast Lock Cap opens and closes with a simple quick 1/3 turn when a quick response is needed, versus the common two or more full turns.

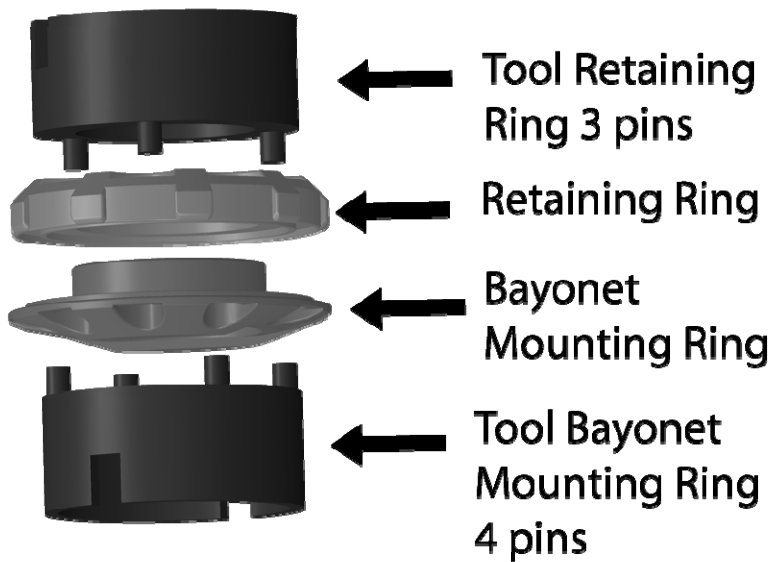
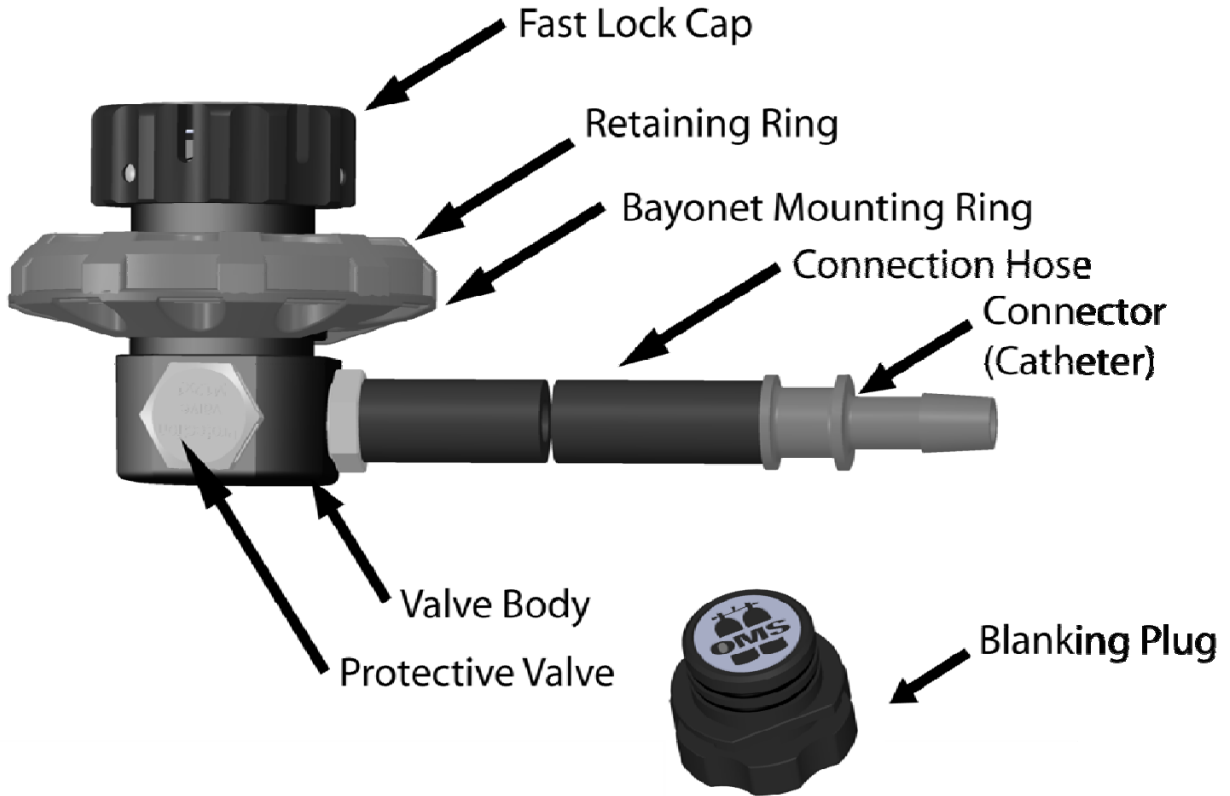
Before installation and use of this product, please take the time to read this manual in detail. With the contents of this manual, you are equipped for proper operation and long term performance.

You can contact us with any questions about our products at any time

Your OMS® Team



### Bayonet Valve Overview (What is in the box)





## **Installation**

### **Materials Needed**

The installation of the P-Valve must be carried out only by authorized persons.

You will need the following:

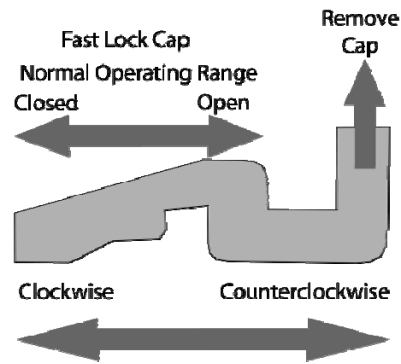
- OMS® P-valve
- Aquaseal® (Aquaseal® CotoI-240™ Combo pack contains Aquaseal®, CotoI-240™ and application brush) (Aquasure® is a replacement in Europe)
- OMS® P-Valve body wrenches
- Marker: Wax, Crayon, Chalk
- Punch 38 mm or 1-1/2 inch
- Punch block or piece of wood
- Hammer
- 60 to 80 grit sandpaper



### **Installation Process**

Disassemble P-Valve (from the out of box assembly)

1. Rotate the Fast Lock Cap fully clockwise to the fully closed position and you will feel a solid stop, then rotate cap 1/3 of a turn counter-clockwise, till you feel a stop. Then press down and rotate the cap an additional 1/3 counter-clockwise. The cap should become loose. Pull the cap up and it will come free. Only a little force is needed to do this.
2. Remove P-Valve body from the bayonet mount ring assembly. While holding the bayonet mounting ring assembly press the P-Valve body down, compressing the spring mechanism and then rotate the valve body 90 degrees clockwise or counter clockwise and the valve body will come free.
3. Unthread the bayonet mount ring assembly



### **Determine Position and Connection Hose Angle for P-Valve Installation**

This is the most important step in the process; a poorly placed P-Valve will lead to kinked connection hoses and poor performance. A proven installation position is on the front of the thigh, slightly offset inwards 30-45 degrees. The inward rotation is needed because the valve protrudes and offsetting it reduces snagging problems, however too far inwards and the valve can interfere with kicking and/or leg movement. In addition, accessibility to the Fast Lock Cap is critical for the valve's proper operation.

Ideally, the diver should don both their drysuit and divewear to make this critical positioning decision. First, don the divewear, all the layers they plan to wear. The first decision is which



thigh to mount the valve on, either the left or right. For men it is simply how do you wear your pants “dressed left” or “dressed right”? For women it is more a question of personal preference and divewear features. This preference dictates the preferred thigh for valve placement and once this decision has been made there are two additional factors to consider. The first is the position of the valve on the thigh and the second is the planned routing of the connection tube between the valve and the external catheter. Is the routing straight up, so that the connection hose passes through the base of the undergarment’s zipper or if routed at an angle so that it can pass through the P-Valve connection tube ports built into the undergarments. Sometimes these ports are up by the base and/or the side of the zipper and other times they are located on the thigh of the undergarment.

To optimize these decisions, it is best to start by dressing out in your undergarment and any other items to be worn under the undergarment so that the routing of the connection tube can be established. It is critical that the connecting tube does not make any sharp turns which could kink, which could restrict or block flow.

After the routing placement and connecting hose angle has been determined, don the drysuit and mark the P-Valve position with chalk or a wax marking pen. An additional factor to consider is that a “good” position is always away from and not on a seam.

### **Cut the hole in the drysuit**

The marked hole can be cut with scissors or punched with a punch and hammer. A sharp punch produces the best results. The ideal hole diameter should be 1-1/2 inches (38 mm). When punching the hole, it is very important to have a stable punching block on the underside of the layer being punched through to ensure that the underlying suit material is not punched through or damaged in the process.

Some suit materials are quite resilient, therefore it is recommended to hit the punch with several blows, without lifting the punch between strikes. Lifting the punch can lead to more than one hole and partially punched holes developing.

### **Installation of Bayonet Base**

Items needed: Bayonet Base, Retaining Ring and Tools

Turn the drysuit inside out before proceeding with the installation of the valve base. You want the suit laying out in such a manner that you have access to both sides of the punched hole. This needs to be done so that a proper connection hose angle can be controlled.

Before finally mounting the bayonet system, the drysuit and the parts to be assembled should be cleaned and free of grease for better applying Aquaseal®. CotoI 240™ is ideal for cleaning these surfaces. The sealing surfaces of the bayonet base can be lightly sanded to improve the bond. Remember to clean after sanding.



A film of Aquaseal® should be applied to the sealing surface of the bayonet base. Do not apply the Aquaseal® all the way to the outer edge of the bayonet base. Apply it about ¼" (6 mm) out from the threads.

Place the bayonet base in the punched hole on the inside of the suit taking care to adjust the two parallel lines on the bayonet base to the desired direction you wish the connection hose to be routed.

Bayonet Base

Two parallel surfaces determine direction of connection line



Thread the locking ring in place on the outside of the suit and thread on till hand tight, all the while taking care that the two parallel surfaces on the bayonet locking ring stay aligned. Once finger tight, use the supplied wrenches to snug the rings in place, always paying attention to the alignment of the bayonet locking ring. Wipe up any excess adhesive that extrudes from under the bayonet locking ring. It is a good idea to wait a few hours before proceeding to the next step. If the adhesives have not been allowed to cure the alignment of the bayonet locking ring could shift.

Thread the locking ring in place on the outside of the suit and thread on till hand tight, all the while taking care that the two parallel surfaces on the bayonet locking ring stay aligned. Once finger tight, use the supplied wrenches to snug the rings in place, always paying attention to the alignment of the bayonet locking ring. Wipe up any excess adhesive that extrudes from under the bayonet locking ring. It is a good idea to wait a few hours before proceeding to the next step. If the adhesives have not been allowed to cure the alignment of the bayonet locking ring could shift.

### Installing the P-Valve Body and Fast Lock Cap

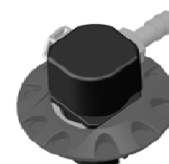
The Fast Lock Cap should be removed if you have replaced it. From the inside of the suit, align the two straight parallel sides with valve body with the parallel straight sides of the bayonet mount. Press in place then rotate clockwise to 90 degrees. Once you start rotating, release the downward tension and valve body will lock in place once it reaches 90 degrees. Once locked in place the valve body will not rotate unless you apply downward pressure.



Turn the suit right side out to install the Fast Lock Cap. Before installing the cap make sure the spring is still in place. Align the three guide pins with the three guide channels in the valve body. While maintaining downward pressure, rotate the cap 1/6 of a turn clockwise. Once a stop has been reached, stop pressing down. The cap spring will push the cap up which is the normal open position. To move to the closed position continue to rotate the valve 1/3 clockwise.

### Valve Operation

When the Fast Lock Cap is turned fully clockwise and snug against stop, the valve is completely closed and inoperable. No fluids can be discharged or enter the suit. When the cap is turned counterclockwise approximately 1/3 of a turn, the valve is operational and in fully automatic dive mode. In dive mode, fluids can be discharged at will, but water cannot re-enter the valve due to the one-way check valve. The





Fast Lock Cap is only closed in the event of one-way check valve failure. It is best to check the function of the P-Valve system before fully gearing up and entering the water by simply urinating.

### **Failure Modes**

Inability to pass fluids through valve

- Cap is closed
- Connection Hose Kinked: The use of the noreprene 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 OMS® P-Valve hose for any replacements.
- Kink or twist in 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 valve over time and interfere with their function. Following a periodic maintenance and cleaning schedule is recommended.

Sea Water Entering the System

- Close Fast Lock Cap

Catheter Squeeze

- Failure of Vacuum Breaker Check valve, abort dive and/or service or replace Vacuum Breaker Check Valve

### **Maintenance and Cleaning**

The OMS® 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 bacterial growth that could contribute to a urinary tract infection. Several careful rinses of the P-Valve with a mild vinegar/water solution are recommended after each dive. Many users have found that a large squeeze bottle or large bore medical syringe works well to introduce the solution through the catheter interface, and flush the valve thoroughly.

### **Check Valve Replacement**



To inspect or replace the main umbrella valve, remove the 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 balanced 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 over-tighten the fitting.

### Warranty Information

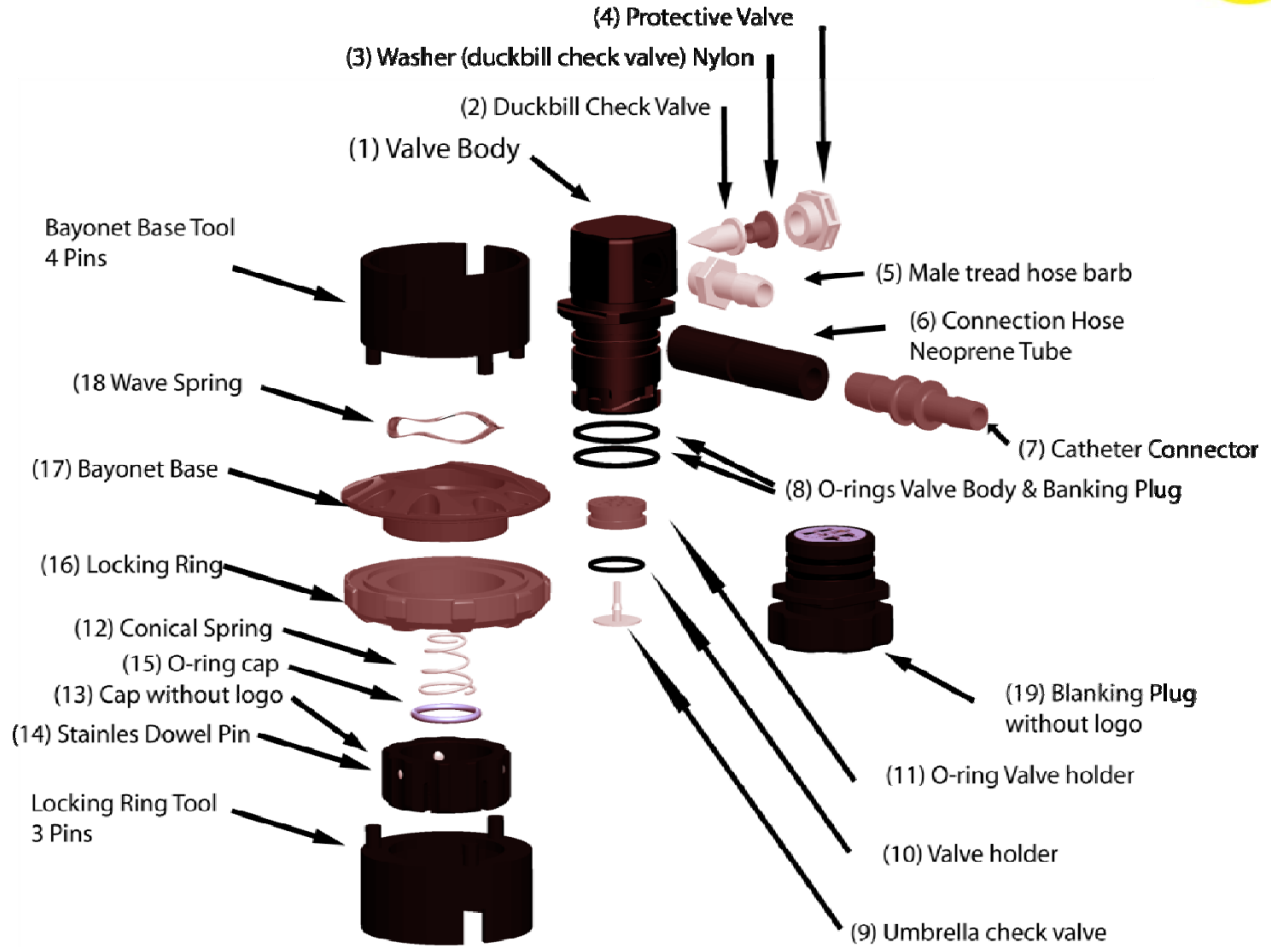
All warranty requests must be accompanied by proof of original purchase from an Authorized OMS® Dealer. Be sure to save your sales receipt, and present it whenever returning your OMS® gear for warranty service.

OMS® warrants, to the original purchaser only, that the OMS® P-Valve will be free of defects in materials and/or craftsmanship under normal diving use for two years 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 OMS® discretion) free of charge excluding shipping and handling charges.

### OMS® P-Valvespares parts

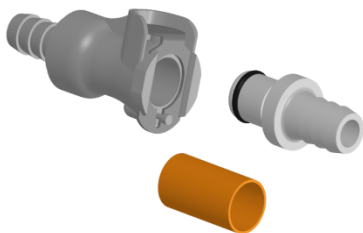
1	20918002	Valve body
2	20918003	Duckbill check valve
3	20918004	Washer (duckbill check valve) Nylon FG black
4	20918005	Protection valve
5	20918006	Male thread pipe fitting barb hose tail connector with O-ring
6	20918007	Neoprene Tube A-60-G
7	20918008	Coupling insert - inHose/hose barb
8	20918009	Coupling body - inHose/hose barb
9	20918010	O-ring (Basic body/Blind plug)
10	20918011	Umbrella check valve
11	20918012	Valve holder (umbrella check valve)
12	20918013	O-Ring (Valve holder)
13	20918014	Conical spring
14	20918015	Cap W/O Logo
15	20918016	Stainless steel dowel pin
16	20918017	O-Ring (Cap)
17	20918018	Lockring
18	20918019	Bayonet base
19	20918020	Wave spring washer
20	20918021	Blind Plug w/o Logo





**Accessory Kit**

Accessory Quick Disconnect Kit replaces the Catheter Connector



**OMS® Catheters** 20916902 OMS® Catheters Med 29 mm Silicon