Aqua Lung
Military & Professional

Conshelf XIV
Conshelf XIV Supreme

User's Manual

Rev 03/16
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CONSHELF XIV User’s Manual PN 108102

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Warnings, Cautions and Notes:
Pay special attention to information provided in Warnings, Cautions and Notes that are accompanied by one of these symbols:

⚠️ **A WARNING** indicates a procedure or situation that, if not avoided, could result in serious injury or death to the user.

⚠️ **A CAUTION** indicates any situation or technique that could cause damage to the product and could subsequently result in injury to the user.

🔍 **A NOTE** is used to emphasize important points, tips and reminders.
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GENERAL PRECAUTIONS & WARNINGS

WARNING: Before using this regulator, you must have successfully received training and certification in the technique of SCUBA diving from a Military or government operated diving school (or any recognized certification agency). Use of SCUBA equipment by uncertified or untrained persons is dangerous and can result in serious injury or death.

WARNING: Always pressurize the regulator gradually by opening the cylinder valve SLOWLY.

WARNING: DO NOT use any type of solvent, aerosol spray or hydrocarbon based products to clean or lubricate your regulator, doing so may cause permanent damage to certain components. The regulator does not require any lubrication under normal circumstances, except that which is performed during annual service by an Authorized Aqua Lung Technician.

WARNING: Factory prescribed service for this regulator must be performed annually by an Authorized Aqua Lung Technician. Service and repair must not be attempted by untrained or unqualified personnel.

WARNING: DO NOT use the regulator first stage as a carry handle when lifting or transporting the cylinder as this can damage the regulator or the cylinder valve.

WARNING: When diving in cold water (below 50°F or 10°C), you must have received training and certification in the techniques of cold water diving from a recognized training agency.

WARNING: DO NOT attempt to perform any disassembly while the regulator is under pressure. Disassembly of any regulator components should only be performed by an Authorized Aqua Lung Technician.
USING ENRICHED AIR NITROX

**WARNING:** Before attempting to use this regulator with enriched air nitrox, it is imperative that you have received training and hold a certification of competency in the technique of scuba diving using enriched air nitrox issued by an accredited agency for such certification. Use of the regulator by persons uncertified or untrained for this purpose is dangerous and can result in serious injury or death.

**NOTE:** The maximum diving depth and the maximum exposure time is determined by the oxygen content of the mixture.

**WARNING:** To reduce the risk of oxygen ignition, gas cylinder(s) should always be opened slowly.

**WARNING:** DO NOT attempt to use a Conshelf XIV Supreme regulator containing silicone fluid with enriched air nitrox (EAN). Doing so could result in serious injury or death.

Your regulator was developed for use with enriched air nitrox, provided that the percentage of oxygen does not exceed 40%. Every regulator is assembled in a clean workshop, using compatible components and special lubricants. Furthermore, each regulator is designed to meet adiabatic compression tests to ensure its safety and compatibility with high oxygen percentages.

If you intend to use your regulator with enriched air nitrox (oxygen percentage not exceeding 40%), it is essential to ensure that the regulator is kept clean inside.

If you want to use your regulator alternately with breathing air, the breathing air must be oxygen-compatible or double-filtered and the content of hydrocarbons should not exceed 0.1 mg/m3. Your Authorized Aqua Lung Dealer can help you determine whether the supplied breathing air meets these criteria.

In Europe, air in accordance with standard EN 12021 and in the United States, standard breathing air classified as Grade E, do not meet these criteria. Grade E breathing air or air in compliance with EN 12021 may contain traces of hydrocarbons, particularly traces of compressor oil; they are not considered harmful to breathe, but can pose a risk in the presence of elevated oxygen content.

Over time, a hydrocarbon build-up may occur in valves and regulators. When this hydrocarbon build-up comes into contact with oxygen-enriched air under pressure, it may cause a reaction leading to combustion. Therefore, if a regulator was used with Grade E or EN 12021 breathing air, it is imperative that it get brought to an Authorised Aqua Lung Dealer for a complete overhaul, including cleaning and degreasing, before returning it to service for use with enriched air nitrox.

Even if the regulator’s second stage components are not exposed to high-pressure enriched air nitrox, Aqua Lung recommends that the same cleaning and degreasing procedures should be followed for the entire regulator. This limits the risks of cross contamination between the regulator’s stages and guarantees the cleanliness of the entire regulator.
PRODUCT DESCRIPTION

The Conshelf XIV consists of a basic first stage and second stage regulator assembly. It is available in a standard version or supreme (cold water) version. The Conshelf XIV standard version is U.S. Navy AMU listed.

Conshelf XIV Components (Fig. 1)

- Conshelf XIV first and second stages are machined from marine brass and chrome plated for durability. Comes standard with a 30 in (76 cm) MP hose.
- Available in standard version or supreme version (cold water, silicone filled environmental dry chamber).
- First stage dry environmental conversion kit available for cold water diving (secondary piston environmental dry chamber).
- Yoke or DIN version connectors available.
- Multiple mouthpieces available for a comfortable fit.
- Optional free-flow control device (FCD) isolates free-flowing second stages to preventing air loss.
PREPARATION AND SET UP

Aqua Lung America, Inc. requires that only an Authorized Aqua Lung Technician install any accessory items such as instrumentation, MP inflator hose, alternate air source, DIN connector or FCD to the regulator.

Attaching the Yoke Connector to the Cylinder Valve

1. Partially loosen the yoke screw on the first stage regulator so that the dust cap can be removed from the air inlet.

2. Remove the protector cap from the cylinder valve.

3. With the cylinder valve facing away from you, release a small amount of air from the cylinder by turning the handwheel counter-clockwise to open the valve only slightly. When air is heard exiting, immediately close the valve. This will clear any moisture or debris that may be inside the cylinder valve outlet opening.

4. Check the condition of the cylinder valve o-ring.

5. Place the first stage regulator over the cylinder valve so that the inlet fitting aligns with the o-ring of the cylinder valve and the MP hose of the primary second stage will be routed over the right shoulder. While holding the first stage in place, turn the yoke screw clockwise. Ensure that the yoke screw mates into the small dimple on the backside of the cylinder valve and tighten until finger tight (Fig. 2).

Figure 2
Attaching the DIN Connector to the Cylinder Valve

1. Unscrew the protector cap from the end of the DIN connector on the first stage regulator.

2. Remove the protector cap from the cylinder valve.

3. With the cylinder valve facing away from you, release a small amount of air from the cylinder by turning the handwheel counter-clockwise to open the valve only slightly. When air is heard exiting, immediately close the valve. This will clear any moisture or debris that may be inside the threaded cylinder valve opening.

4. Check the condition of the o-ring located in the end of the DIN connector.

5. Position the first stage regulator near the cylinder valve so the MP hose of the primary second stage will be routed over the right shoulder. Thread the first stage DIN connector into the cylinder valve by turning the handwheel counter-clockwise until finger tight. DO NOT use tools to tighten (Fig. 3).

**NOTE:** The Conshelf XIV does not come standard with a DIN Connector. A DIN Adapter Kit (PN 107455) is available and can be installed by an Authorized Aqua Lung Technician.

![Figure 3](image-url)
PRE-DIVE INSPECTION

1. Carefully inspect all hoses at their fittings to ensure they are securely connected into their respective ports on the first stage. If hose protectors are present, slide the protectors back to expose the hose fittings. Inspect the length of each hose to ensure that the hoses are not blistered, cut or otherwise damaged.

2. Visually inspect both the first and second stage regulators (including the octopus regulator) for any signs of external damage.

3. Visually inspect the mouthpiece on both second stage regulators (primary and octopus). Check to ensure there are no tears or splits and it is securely fastened to the second stage body.

4. Check that the needle on your submersible pressure gauge reads zero.

5. Attach your regulator to the cylinder valve, checking that the hoses are oriented properly.

6. If a submersible pressure gauge is attached to the regulator, ensure that the gauge dial faces away from you.

7. **SLOWLY** open the cylinder valve counter-clockwise to pressurize the regulator. When the valve is completely open, turn it back one quarter turn clockwise.

   **NOTE:** When properly maintained, the Conshelf XIV Supreme external diaphragm should be slightly indented when unpressurized. Upon pressurization, the external diaphragm will flex slightly outward.

8. Check that there are no audible leaks from any hoses or accessories attached to the regulator. NEVER DIVE with a regulator that shows any signs of leakage when placed under pressure. If there is a leak between the regulator and the cylinder valve, check that the regulator is correctly attached and that the o-ring is in good condition.

9. Check to ensure that the submersible pressure gauge is displaying an accurate measurement of air pressure inside the cylinder and is appropriate for your planned dive.
10. Switch the FCD to the **open position**. Depress the purge button momentarily to ensure that sufficient airflow is provided to blow out any dust or debris which may have entered the second stage.

11. Perform a breathing and FCD function test as follows:

   - Switch the FCD to the **closed position**. Slowly inhale from the second stage regulator, there should be no air flow.
   - Switch the FCD to the **open position**. Slowly inhale from the second stage regulator, there must enough air delivered for you to breathe easily without noticeable resistance.

   **NOTE:** If a FCD is being used on the primary and octopus second stages, both must be tested prior to the dive to ensure proper function.

12. Ensure the FCD is in the **open position** prior to starting the dive *(Fig. 4).*

![Figure 4](image)

**NOTE:** A breathing and FCD function test must be performed on both the primary and octopus second stages prior to the dive to ensure they are working properly.
DIVING WITH THE REGULATOR

- Underwater, the second stage may start to free-flow when it is out of the diver's mouth. If this occurs, turn the second stage so that the mouthpiece faces downward.

- If using an alternate air source, such as an octopus, it is recommended one be chosen suitable for the first and second stage being used. The Conshelf XIV octopus is recommended to be used in conjunction with the Conshelf XIV first and second stage regulator.

- Check your pressure gauge at regular intervals throughout the dive to verify your cylinder pressure.

Cold Water Diving

The use of a specialized regulator with an environmental dry chamber will reduce the possibility of regulator first stage failure. It is also vital to use a regulator second stage intended for this type of diving. An optional free-flow control device (FCD) positioned between the second stage and MP hose can switch off the flow of air in the event of regulator freeze up. The diver should be trained and have mastered the techniques of cold water diving so as to be able to take all precautions necessary to avoid freezing of the regulator.

1. In order to reduce the risks of the regulator freezing when diving in cold water (below 50°F or 10°C), consider the following recommendations and respect your dive training program procedures:

2. Protect your regulator from any accidental entrance of water into the first or second stages.

3. Protect your equipment from the cold before the dive. More precisely, keep your regulator and all its accessories in a warm dry place.

4. Carry out all pre-dive checks of your equipment in a warm dry place, before even going to the dive site.

5. Avoid breathing through the regulator or pressing the purge button in very cold air before entering the water.

6. Avoid removing the regulator from your mouth during the dive, or when on the surface. This will prevent cold water from entering the regulator second stage.

7. As far as possible, avoid excessive effort during the dive.

8. Ensure your cylinder is filled with air that meets EN 12021 standards and is dry.

9. As far as possible, do not purge the second stage during the dive.
POST-DIVE INSPECTION

**NOTE:** If fresh water is available, rinse your regulator completely before depressurizing it. This will help to prevent any contaminants from entering sealing surfaces inside the regulator.

**NOTE:** It is very important to use care when removing the regulator first stage from the cylinder valve to ensure that moisture does not enter the inlet opening.

General Procedures

1. Shut off the cylinder air supply by turning the cylinder valve handwheel clockwise until it stops. DO NOT over tighten.

2. Ensure the FCD is switched to the open position and depress the purge button on the second stage. Observe the submersible pressure gauge, when it reads zero psi and airflow can no longer be heard from the second stage, release the purge button.

Removing the Yoke Connector from the Cylinder Valve

1. Turn the yoke screw counter-clockwise to loosen and remove the first stage from the cylinder valve.

2. Dry the dust cap with a towel or other lint free cloth. While you may use air from your cylinder valve to blow the water off the dust cap, you run the risk of blowing water into the filter.

3. Place the dust cap over the first stage inlet fitting and seal it securely in place by tightening down the yoke screw.

4. With the cylinder valve facing away from you, open the valve slightly to release a short burst of air, and then immediately close the valve. This will clear any moisture that may have entered the valve opening. Immediately place the protector cap over the opening of the valve to prevent the entrance of moisture or debris.
Removing the DIN Connector from the Cylinder Valve

1. Turn the DIN handwheel clockwise to loosen and remove the first stage from the cylinder valve.

2. Dry the protector cap with a towel or other lint free cloth. While you may use air from your cylinder valve to blow the water off the dust cap, you run the risk of blowing water into the filter.

3. Place the protector cap over the first stage threaded inlet fitting and seal it securely in place by turning the DIN handwheel counter-clockwise.

4. With the cylinder valve facing away from you, open the valve slightly to release a short burst of air, and then immediately close the valve. This will clear any moisture that may have entered the valve opening. Immediately seal the protector cap over the opening of the valve to prevent the entrance of moisture or debris.

USER CARE AND MAINTENANCE

It is important to provide the proper preventative maintenance in order to ensure the best possible performance and maximum life of your Aqua Lung Regulator. The following maintenance procedures should be performed routinely after each use to ensure that the regulator is cleaned, inspected and prepared for the next use or for storage.

Aqua Lung America recommends that the second stage regulator be disinfected periodically using an FDA approved solution.

As soon as possible after diving, the regulator should be rinsed thoroughly with fresh water while it is attached to a cylinder and pressurized with air.

Rinsing alone, however, will not sufficiently clean the regulator. To clean the regulator as thoroughly as possible, Aqua Lung recommends using the following procedures:

**CAUTION:** DO NOT depress the purge button, loosen the first stage yoke screw or DIN handwheel if the regulator is submerged unpressurized. Doing so will allow the entrance of moisture and will require that the regulator be returned to an Authorized Aqua Lung Technician for service.
1. Attach the regulator to a charged SCUBA cylinder and open the cylinder valve to pressurize the regulator. Thoroughly soak both the first and second stages in a bath of fresh water for at least one hour to loosen and dissolve salt and mineral deposits.

**WARNING:** If you use a garden hose, DO NOT use the high pressure jet as this could damage the diaphragm and the internal valve.

2. After the regulator has been properly soaked, it is important to rinse it vigorously by flushing the main spring cavity of the first stage regulator (non-environmentally sealed models only), second stage mouthpiece and the openings in the second stage front cover with a pressurized stream of water. This will remove the deposits of salt and minerals that were loosened during soaking.

3. Disconnect the regulator as described in the *Post-Dive Inspection* section of this manual and wipe it as dry as possible. Hang it by the first stage to ensure that all the remaining moisture drains from the second stages and accessories.

4. DO NOT leave the regulator exposed to direct sunlight for prolonged periods of time.

5. When the regulator is completely dry, store it in a clean equipment box or sealed inside a plastic bag. Do not store it where it may be exposed to extreme heat or an electric motor, which produces ozone. Prolonged exposure to extreme heat, ozone, chlorine and ultraviolet rays can cause premature degradation of the rubber parts and components.

6. When transporting your regulator, take the necessary precautions to ensure that it is surrounded by a protective cushion to prevent undue shock or impact.

7. Never store the regulator while it is still connected to the cylinder valve.
INSPECTION & SERVICE

1. It cannot be assumed that a regulator 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 o-ring seals.

2. You must obtain factory prescribed service for your regulator annually from an Authorized Aqua Lung Technician, regardless of the amount of use it has received. Your regulator may require this service more frequently, depending on the amount of use it receives and the environmental conditions in which it is used.

3. If the regulator is used for training purposes, it will require complete overhaul and factory prescribed service every three to six months. Chlorinated swimming pool water is an especially damaging environment for SCUBA equipment, due to high levels of chlorine and pH balancing chemicals that cause certain components to rapidly deteriorate.

4. DO NOT attempt to perform any disassembly or service of your regulator. Doing so may cause the system to dangerously malfunction. All service must be performed by an Authorized Aqua Lung Technician.

Obtain service for your regulator annually, from an Authorized Aqua Lung Technician. Your personal safety and the mechanical integrity of your regulator may depend on it.

WARRANTY INFORMATION

For detailed information on product warranties, please refer to the Terms and Conditions Section of the Aqua Lung Military and Professional Buyers Guide.

The buyers guide can be viewed or downloaded from the Aqua Lung Military and Professional website at www.aqualung.com/militaryandprofessional
## TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Regulator Model</th>
<th>Conshelf XIV</th>
<th>Conshelf XIV Supreme</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Stage</td>
<td>Balanced Diaphragm</td>
<td>Balanced Diaphragm (cold water version)</td>
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<tr>
<td>Second Stage</td>
<td>Balanced</td>
<td>Balanced</td>
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<td>DIN: 4350 PSI / 300 BAR</td>
<td>DIN: 4350 PSI / 300 BAR</td>
</tr>
<tr>
<td>Medium Pressure</td>
<td>140 ± 5 PSI / 10 ± 0.35 BAR</td>
<td>125 ± 5 PSI / 8.6 ± 0.35 BAR</td>
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<tr>
<td>Number / Port Size</td>
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<td>1 HP 7/16&quot;, 4 MP 3/8&quot;</td>
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<td>Hose Length</td>
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<td>Regulator - 30 in / 76 cm</td>
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<td></td>
<td>Octopus - 39 in / 99 cm</td>
<td>Octopus - 39 in / 99 cm</td>
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<tr>
<td>Mouthpiece</td>
<td>Comfobite (Black)</td>
<td>Comfobite (Black)</td>
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<tr>
<td>Free-Flow Control Device (FCD)</td>
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<td>Optional</td>
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<tr>
<td>Nitrox Compatible</td>
<td>40% max with kit</td>
<td>40% max with kit dry environmental conversion kit</td>
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</table>

*Not Nitrox compatible with silicone environmental conversion kit*
CONSHELF XIV PARTS

DIN Protector Cap

Conshelf XIV DIN Connector
PN 107455

820040 o-ring

MP Hose

Yoke Screw

Dust Cap

820120P o-ring

First Stage

Mouthpiece

Free-Flow Control Device (FCD)

Second Stage