

Divator MKIII

User manual

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Safety terminology and symbols

In this document, the terms WARNING and NOTICE are used to indicate potential hazards. Read the accompanying information carefully and follow the safety instructions.



WARNING

The WARNING type of hazard statement signifies that there is a risk of serious injury or death.



NOTICE

The Notice type of hazard statement signifies that there may be a risk of damage to equipment or property.

Introduction

Safety notice

These products, supplying breathing gas to the user, has been tested in accordance with EN250:2014/ EN13949:2003 and EN15333-1:2008, including requirements for buddy breathing and cold water diving, and is to be used according to local regulations.

Manufacturer: Interspiro AB, Box 2853 18728 Täby Sweden

The depth of the equipment certification is 50 meter (164 feet).

Maximum diving depth for any Nitrox mixture is limited by the partial pressure of Oxygen. Prior to dive, the maximum diving depth shall be limited by PPO2 not exceeding 1.4 bar or according to diving organization regulations, for actual Nitrox mixture.

It is approved for use together with the following products, described in the user manuals listed below:

- Divator MKIII Regulator – Document number 99885
- Divator Full face mask (facepiece) and breathing valve – Document number 95283
- Divator cylinders - Document number 30340
- Divator DP1 – Document number 96708

Interspiro is not responsible for:

- combinations of products, unless put to market by Interspiro
- changes or adaptations made to the product by a third party

Declaration of conformity is found here:

<https://interspiro.com/en-gb/service-support/downloads/certificates-approvals>



WARNING

Before using the Divator / OX10 / IS-Mix system, the user must have received full training in its use, have read and understood these operating instructions and demonstrated proficiency to a responsible trainer or supervisor. Failure to do so may result in injury or death for the user and can have serious consequences for people to be rescued and/or items of value to be saved.



WARNING

All users of the Divator / OX10 / IS-Mix system must be certified by a nationally or internationally recognized scuba certification agency. Furthermore, all users of the Divator system must be adequately trained in its use by a certified diving instructor with knowledge and experience in the use of the Divator diving system.



WARNING

All users of the Divator / OX10 / IS-Mix system must periodically undergo training in emergency procedures in shallow water to maintain preparedness in the event of an actual emergency.



WARNING

High pressure gas systems must be handled with care. Damage to high pressure gas system components may result in injury or death. Interspiro is not liable for damages incurred as a consequence of failure to follow the instructions in this manual.



WARNING

The breathing gas shall meet the requirements according to EN 12021 for Breathing Air or EN 12021 Oxygen Compatible Air for Nitrox.



NOTICE

The hand wheel on the cylinder valve must not be tightened with more than 8 Nm (which is equivalent to what is possible to tighten by hand).

Technical description



1. External coupling for supply hose diving with DP1
2. Pressure gauge
3. Reserve valve handle (CDR)
4. Primary breathing hose (two parts)
5. Secondary breathing hose (octopus), with octopus breathing valve
6. Dry-suit hose (optional)
7. BC hose (optional)
8. Clamp for secondary breathing valve
9. Holder (one or two depending on model)
10. Regulator block with anti-freezing caps



NOTICE

Always pressurize the Divator system fully before entering the water.



WARNING

All modifications of the hose configuration must be performed by an Interspiro level 3 certified service technician according the service manual.

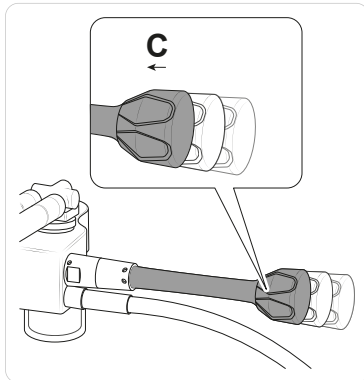
Reserve valve

The reserve valve handle is used to switch between different air supply units. Air is added either from the DP1 Supply Hose System, from the diver's cylinder pack.

The reserve valve handle / CDR handle have 3 positions:

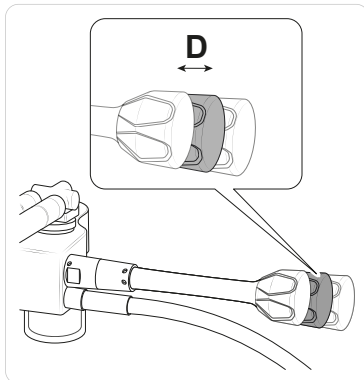
- **Closed position**

When diving with surface air, e.g. DP1, the reserve valve handle should be in closed (**C**) position in order to ensure that only air from the surface is used. If the surface air supply is interrupted, the diver will receive a warning since air is not being supplied from the cylinder pack. If the surface air supply is interrupted, the diver can pull the reserve valve handle to activate the air supply from the cylinder pack.



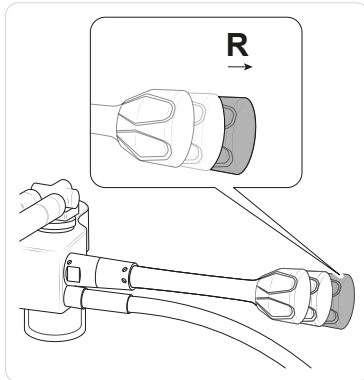
- **Dive position**

For independent diving when only air supply from the cylinder pack is used, the reserve pressure handle must be opened by pulling it out to diving position (**D**) so that the air supply from the cylinder pack is activated.



- **Reserve position**

When the cylinder pressure falls to about 65 bar (943 psi), the air supply warning is activated (indicated by increased breathing resistance). In this case, the diver should pull out the reserve valve handle to the reserve position (**R**) in order to subsequently utilize the cylinder pack's reserve air volume.

**NOTICE**

Pull for air in all diving positions!

Before use

Visual inspection

1. Make sure that the regulator is clean and free from sand and/or debris from previous use.
2. Check all visible O-rings.
Damaged or missing O-rings must be replaced by an Interspiro certified service technician.
3. Inspect the regulator to detect if it has any signs of damage. A damaged or defective regulator must be replaced or repaired by an Interspiro level 3 certified service technician.
4. Check all hoses by pulling and bending them while inspecting for damage, cracks and discolouration. If a hose is found to be defective or damaged, it must be replaced by an Interspiro level 3 certified service technician.
5. Ensure that the gas pressure is sufficient (and, if applicable, the Nitrox mixture is correct) for the planned dive. This applies to all cylinders to be used for the dive.



WARNING

The gas loss caused by a leak in the dry-suit hose or the BC inflation hose is just as great as that caused by a leak in the breathing hose.

Inspection of the antifreeze caps

1. Unscrew the lock nut by hand.
Remove the antifreeze cover.
2. Make sure that the antifreeze caps are free of water inside.



NOTICE

If water is detected in the antifreeze caps, the unit must be inspected by a Level 3 certified service technician.

3. Check:
 - that the antifreeze caps are not damaged.



NOTICE

If damage is suspected or detected, the anti-freeze cap must be replaced.

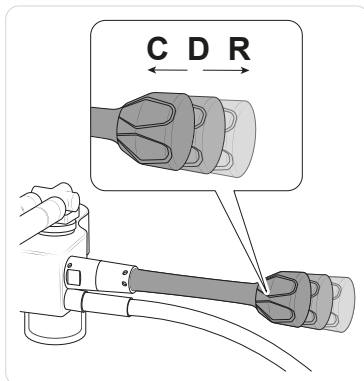
- that the antifreeze caps are not deformed when they are mounted in the plinth.



4. Put the anti-freeze caps back into the anti-freeze housing.
5. Put the antifreeze cover back on the regulator assembly and tighten the lock nut by hand.



Check the reserve valve



Check:

- that there are no sediments in and around the reserv valve handle.

- that no parts show signs of wear or damage.

Assembling

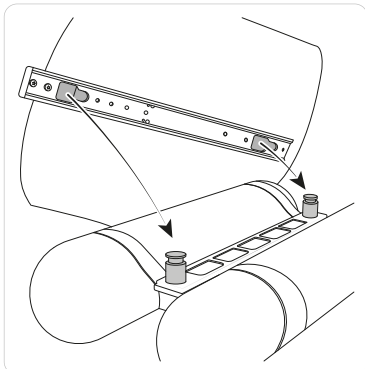
Assembling the MKIII regulator

1. Place the cylinder pack on a flat surface.
2. Remove the yellow protective plug from the regulator's high-pressure connection.
Check: that the cylinder connection is clean and that the O-ring is correctly fitted.
3. Connect the regulator by screwing the hand wheel coupling into the cylinder valve and tightening by hand.
4. Arrange the hoses (see image).



Assembling the cylinder pack

1. Align the holes on the quick release rail with the quick release pins on the cylinder pack.



2. Pull the quick release rail into place against the quick release pins until it locks.
Check: that the quick release has locked by trying to pull the BC up.

Assembling of hoses

Connecting the BC hose and inflator

1. Place the BC hose between the BC and the cylinder pack.
Allow the BC hose to pass on the inside of the inflator connector of the BC.



2. Pass the BC hose over the shoulder strap.



3. Assemble the BC hose on the inflator.
On some models, the ring on the coupling must be pulled back to connect.

Assembling the breathing hose

1. Place the breathing hose between the BC and the cylinder assembly.



2. Place the hose over the right shoulder strap of the BC.

3. Fasten the Velcro loop over the breathing hose.
If necessary: adjust the length of the breathing hose.



Assembling the octopus hose

1. Fold the octopus hose and place it between the BC and the cylinder assembly.
2. Attach the folded octopus hose to the BC's rubber loops.



3. Press the gauge with the yellow fastening clip onto the octopus valve.

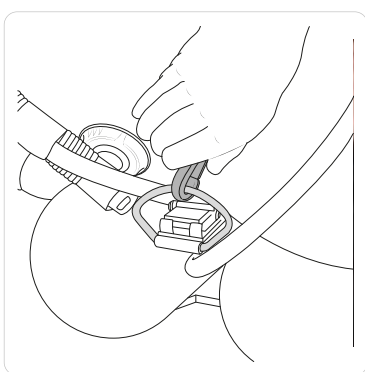


4. Insert the pressure gauge unit's plastic hook through the Velcro loop and D-ring on the shoulder strap.

5. Place the plastic hook under the fluorescent field on the shoulder strap.



6. Attach the octopus valve and pressure gauge by hooking the plastic hook of the pressure gauge into the metal loop of the quick-release rail.



Check: that the octopus valve's locking handle is in the locked (closed) position against the membrane housing.

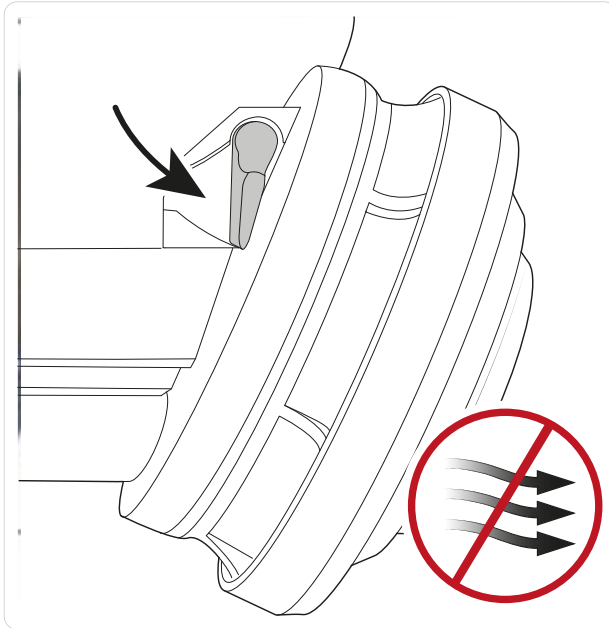


Connecting full face mask

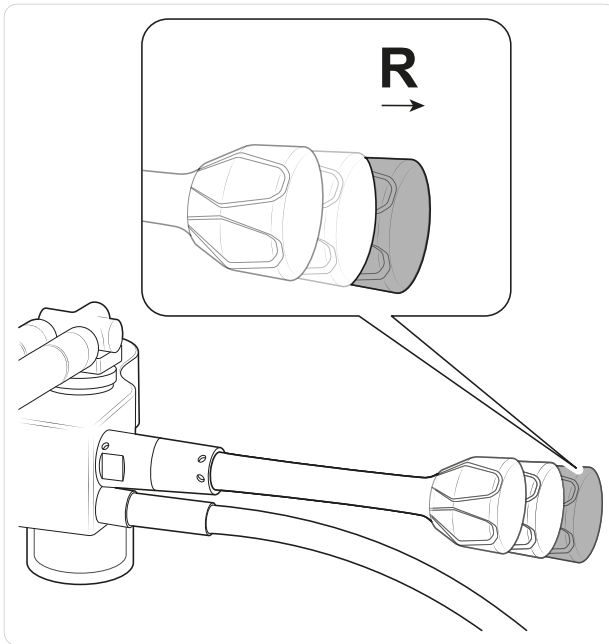
- Connect the breathing hose to the full face mask (or breathing valve) by tightening it finger-tight.

Leakage and function test

1. If using the primary breathing valve with safety pressure lever, make sure that the safety pressure lever is in closed position.



2. Close the reserve valve handle to position **R** (reserve).



3. Open the cylinder valve and check that the reserve valve handle goes to position **D** (dive) and at the same time observe the pressure gauge.

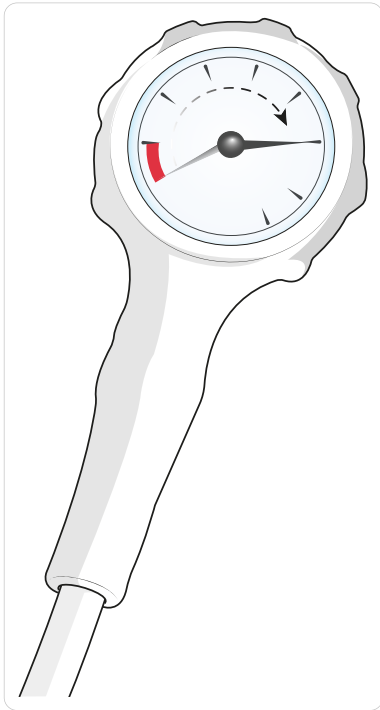
Check:

- that the pointer movements are smooth.
- that the pressure is sufficient for the planned dive.



NOTICE

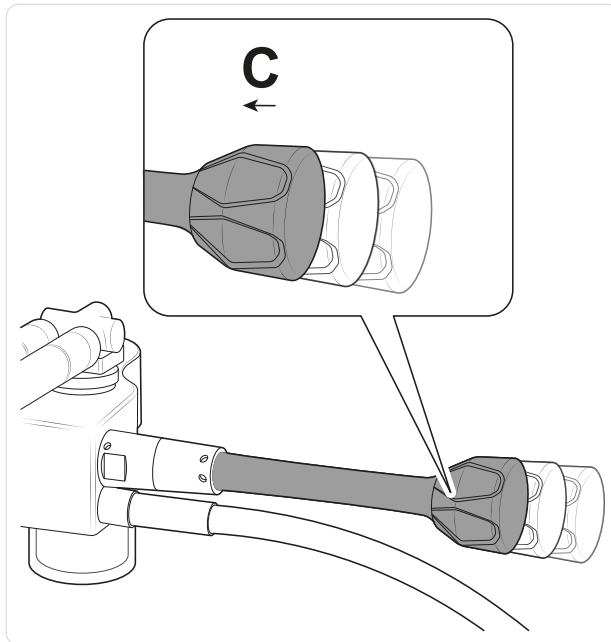
If the pointer moves unevenly or not at all, the gauge is defective.



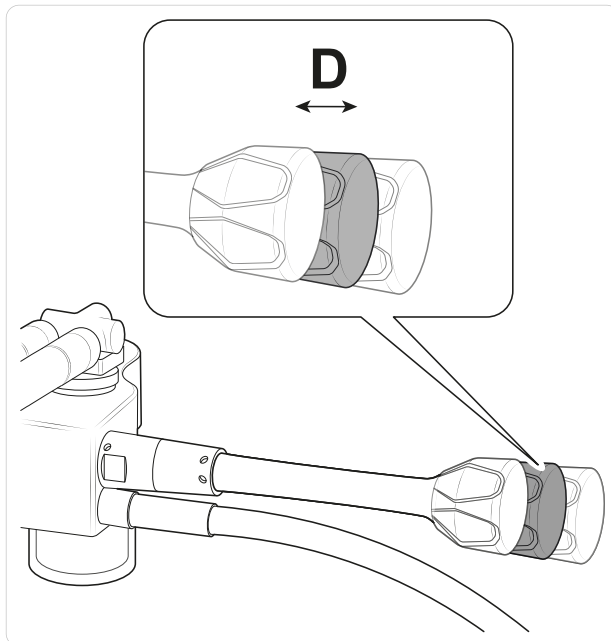
4. Push shortly on the purge button for the primary breathing valve and the octopus breathing valve.
Check: that there is an air flow.
5. If using a BC and/or a dry-suit: Check that they can be inflated by activating the inflation function. Also check that the dump valves are functional.

6. Push the reserve valve handle to position **C** (closed). Push the purge button for the primary breathing valve.

Check: that there is no air flow.



7. Close the cylinder valve. Wait for one minute.
Check: that the pressure does not drop more than 10 bar/minute.
8. Pull the reserve valve handle to position **D** (dive).

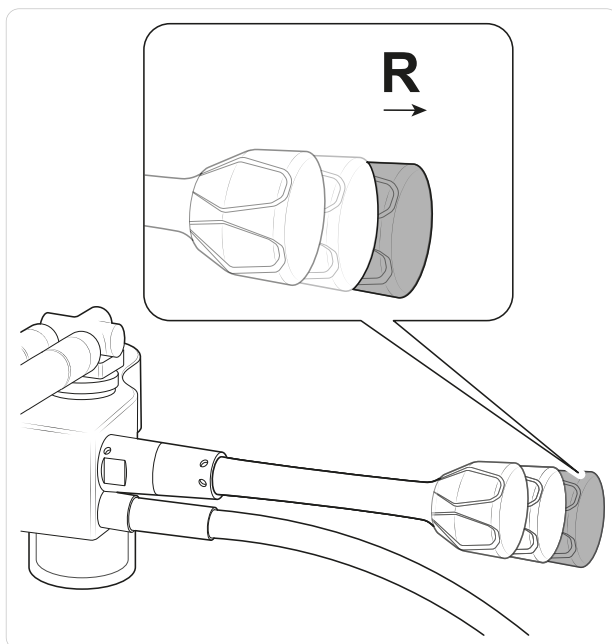


9. Slowly release the pressure from the primary breathing valve by breathing or lightly pressing on the purge button until the resistance warning activates.

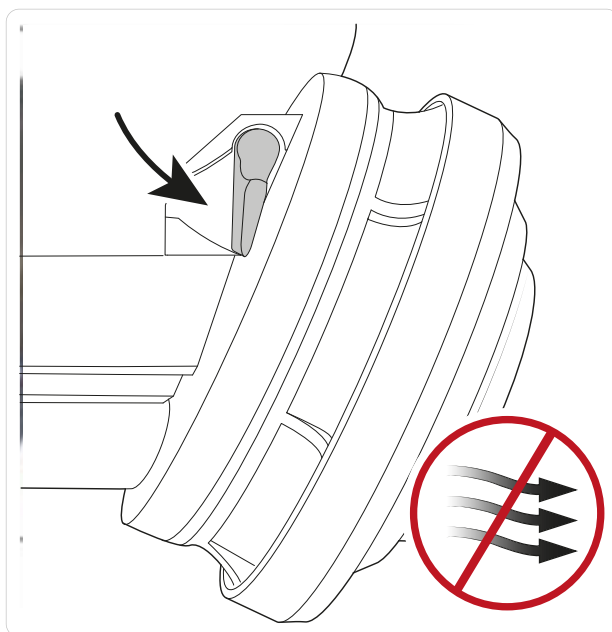
Check: that the air supply stops when the pointer is in the red area of the gauge.

10. Pull the reserve valve handle out to position **R** (reserve).

Check: that the gauge pointer falls to zero bar and that there comes a small amount of air.



11. If using a primary breathing valve with safety pressure, make sure the safety pressure lever is in the closed position.



WARNING

If the apparatus fails at any checkpoint during the test, it must be repaired by a **Level 3** certified service technician.

During use

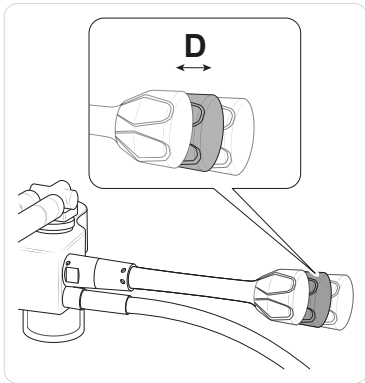
Donning

1. Don the SCUBA according to instructions for the BC / BCW / harness.

Check:

- that the reserve valve is in position **D** (diving) when used as SCUBA and in the position **C** (closed) for use with DP1 surface supply.
- that the reserve valve is accessible and not blocked by other equipment.

2. Pressurize the diving apparatus.



Checks during diving

1. Check the pressure gauge repeatedly to monitor gas consumption. Terminate the dive with sufficient gas pressure to be able to return safely to the surface or to the entry point of the dive.
2. Check that optional equipment fitted to the MKIII regulator can be reached and managed.
3. Check for leaks or abnormal behavior of the diving apparatus.



WARNING

The dive must be terminated when the diver activates the reserve valve. The dive should be planned with the aim of not using reserve air.



WARNING

If using the DP1, the only indication that the diver has switched from surface supply to the SCUBA cylinder (bail out) is a decrease on the diver's pressure gauge.

Emergency situations

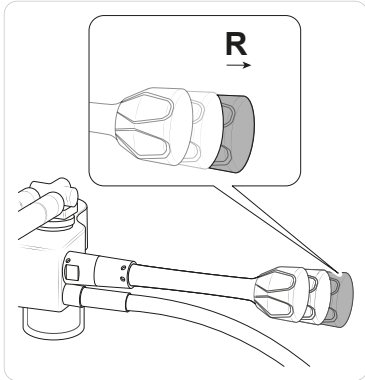
Diving in extreme conditions, such as diving in cold environments, requires special training, planning and preparation.

Refer to the separate instruction with document number 34228, available on the download section of interspiro.com, for more information.

Problems with air supply

In the event of *restricted airflow*, the following measures are recommended:

1. Check the gauge:
 - a) pressure <100 - pull the reserve valve to position **R** (*reserve*).



- b) pressure >100 - check that the cylinder valve is fully open.
2. If action in point 1 does not correct the problem, replace with Octopus breathing valve.

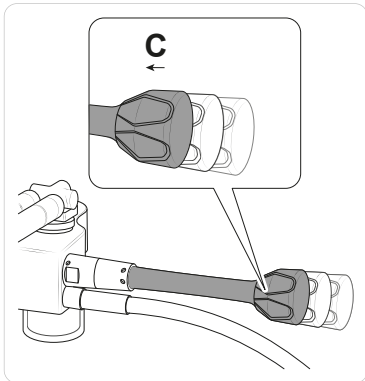


WARNING

The diving must be canceled under all circumstances!

In the event of leakage from the *breathing circuit*, the following measures are recommended:

1. Push the reserve valve handle to position **C** (*closed*) to conserve air.



2. Change to octopus valve.



WARNING

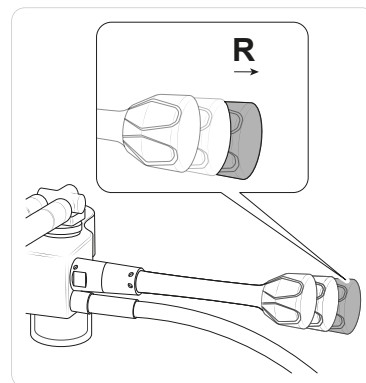
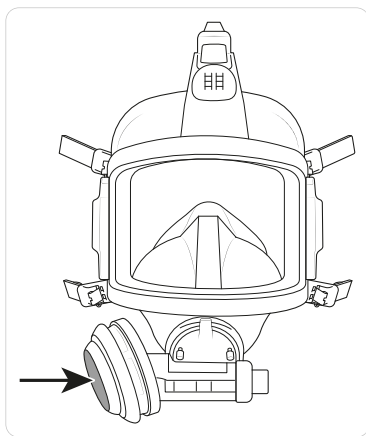
The diving must be canceled under all circumstances!

After use

Cleaning

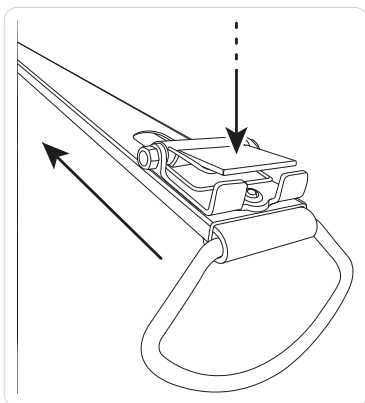
Clean the apparatus as follows after each dive:

1. Pressurize the diving apparatus by opening the cylinder valve.
2. Rinse all parts of the apparatus with clean water.
If necessary: use brush and neutral detergent.
3. Close the cylinder valve.
4. Bleed the regulator by pressing the purge button on the breathing valve and pulling the reserve valve handle out to the **R (reserve)** position.
The bleeding can take up to 30 seconds.



Disassembling

1. Release the plastic hook with the octopus valve and the pressure gauge from the metal loop of the quick release rail.
2. Release the BC from the cylinder assembly by holding the locking latch on the quick release rail while pulling the BC "backwards".



3. Pull the folded octopus hose out of the rubber loop on the BC.
4. Detach the breathing hose from the Velcro strap on the BC's right shoulder strap.
5. Disconnect the inflator hose from the inflator assembly and detach the inflator hose from the BC.
6. Remove the regulator from the cylinder assembly.

7. Protect the connection nipple on the regulator by screwing on the yellow protective plug.



Service and testing

Service and testing must as a minimum be carried out according to Interspiro's Service and Testing Schedule with document number 30500, or according to local requirements.

The latest version is found under Downloads at interspiro.com.

Storage

The equipment shall be stored depressurized and completely dry. High pressure connection and the hose connection on the breathing valve must be protected with protective plugs.

Storage conditions: dry, clean, without exposure to direct sunlight, and below 70 °C (158 °F).

