

DAN Oxygen Unit Storage and Maintenance

7 GOLDEN RULES FOR MAKING THE BEST OF YOUR DAN O₂ UNIT

1. Serviceable: Check that your DAN-SA O₂ unit is complete and keep the cylinder filled with oxygen at all times.

Before every dive outing, confirm that the DAN-SA O₂ unit oxygen unit is complete, serviceable, and that the O₂ cylinder is full and within its test dates (see point 7).

2. Supply: Plan for sufficient O₂ reserves.

For extended oxygen delivery to a diver or to assist more than one injured diver at the same time, carry additional cylinders, washers and masks. One full, standard DAN-SA O₂ cylinder provides approximately 50 minutes of O₂ at 15 litres per minute. The general recommendation is to have sufficient O₂ to transport two divers, both of whom are breathing O₂, from the dive site to where they can receive further O₂ and emergency medical attention.

3. Set-up: Keep the DAN-SA O₂ unit in its protective case, fully assembled and turned off.

This allows for rapid deployment. Never store the O₂ unit with the valve open and/or the regulator pressurised. The O₂ may drain accidentally if there is a leak and this could also pose a fire hazard.

4. Slow: When operating it, open the DAN-SA O₂ unit slowly.

When turning on the O₂ cylinder valve, always open it slowly to allow the system to pressurise gradually. This reduces the possibility of an O₂ fire, especially if combustible contaminants have been introduced into the system. Once the system is pressurised, open the valve at least one full turn more.

5. Sanitise the reusable O₂ unit components after use.

Soak masks in a mild bleach solution (i.e., one part bleach to nine parts water) for at least 10 minutes. Rinse with fresh water and allow to air dry thoroughly. Harsh detergents or other chemical cleaning agents may cause deterioration of the masks and cause skin irritation when they come into contact with the injured diver's skin. Contact DAN-SA for advice on alternative cleaning recommendations, if required.

6. Store the DAN-SA O₂ unit safely to avoid damage, corrosion and fire.

Storing the O₂ unit in its protective case reduces the likelihood of damage to component parts and prevents exposure to the corrosive properties of sea water. Never allow O₂ equipment to come into contact with any grease or oils as these products can result in fire, even an explosion, in an oxygenated environment.

7. Service the DAN O₂ unit regulators and cylinders regularly.


DAN-SA O₂ regulators should be serviced every two years by a professionally trained and authorised service representative or the O₂ equipment manufacturer. O₂ cylinders require regular visual and hydrostatic testing: South African law requires two-yearly internal visual inspections and four-yearly hydrostatic pressure testings. The DAN-SA office can assist in providing the names of suitable service centres and filling stations.

Basic life support skills

Be ready: Stay in date

O₂ First Aid is an integral part of Basic Life Support (BLS). Therefore, to ensure the best use of the equipment, maintain your BLS and CPR certification. This will allow you to be better prepared in the event of a diving injury or any life-threatening emergency. Recertification is required every two years by most CPR agencies. Your DAN-SA Instructor can assist you with retraining when the time comes. Skills deteriorate with time, so practising and refreshing your skills are an essential part of being prepared.

O₂ Safety Reminders

- Only use O₂ in well-ventilated areas
 - Extinguish all flames or burning materials before using O₂
 - Never use O₂ in the presence of volatile or flammable materials such as petroleum products: These materials may combust spontaneously in the presence of high-pressure O₂
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General rules for cleaning oxygen equipment

- Remove all disposable parts
- Disassemble the regulator, hose, demand valve, demand valve diaphragm, demand valve outlet adaptor (plastic screw on part of the demand valve), Trufit® silicone mask and pocket mask valve
- Pre-rinse the demand valve diaphragm, demand valve outlet adaptor, Trufit® silicone mask and pocket mask with cold, running water
- Wash non-metallic (i.e., plastic) parts thoroughly in warm water with a detergent or disinfectant (e.g., household bleach) compatible with the materials and carefully scrub with a soft brush
- Rinse the parts thoroughly in clean, fresh water
- Dry all the parts and reassemble the unit

Oxygen unit maintenance and storage

- Hose maintenance: Wipe down with a clean cloth. Do not immerse it in water!
- Demand regulator: Wipe down with clean, damp cloth and check the O₂ diaphragm regularly
- Non-rebreather mask: This is intended for single patient. Use once and throw away!
- Pocket mask: Wash the mask but not the filter. The filter must be replaced once damaged
- Cylinder: Wipe down with a damp, clean cloth
- Reassemble the equipment and test it to ensure it operates correctly and that there are no audible leaks
- Always ensure that the cylinder is filled and turned off before storing
- Depressurise the regulator before storing
- Keep O₂ equipment clean, dry and in a safe location. Never allow grease or other flammable substances to come into contact with the equipment
- Store in a well-ventilated area, away from sources of heat and combustible materials
- Regularly check both the contents of the cylinder and the functioning of the equipment
- O₂ units should be inspected and serviced at least every two years by an approved, trained technician or as specified by the manufacturer, or more frequently if there is visible damage, corrosion, abnormal functioning, a leakage or if it is in very frequent use (e.g., training)
- Only refill the cylinder at authorised and reputable dealers
- Cylinders must be periodically tested both visually and hydro-statically. This entails an internal inspection every two years and a hydrostatic pressure test every four years in South Africa. Ensure the cylinder is currently in test date

