



R250

Dive Regulator

OWNER'S MANUAL



Model: R250



OMS LLC

Introduction

It is important to pay special attention to information provided in warnings, cautions and notes, which are accompanied by the following symbols:



A WARNING indicates any situation that, if not avoided, could result in serious injury or death



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 or reminders

General Precautions and Warnings

1. Use of SCUBA equipment by uncertified, or untrained persons is dangerous and can result in serious injury or death.
2. Before using your OMS® R250 Regulator, you must have successfully completed a training and certification course in the techniques of SCUBA diving from a recognized Certification agency (or any U.S. Military or government operated dive school). Use of OMS® R250 regulator by any person who is not certified by a recognized agency shall render all warranties, expressed or implied, null and void.
3. The OMS® R250 Regulator is not configured for use with surface supplied air.
4. Always pressurize the R250 Regulator gradually by opening the cylinder valve slowly.
5. Never lubricate any part of the R250 Regulator or cylinder valve with any lubricant. Only an OMS LLC trained technician is qualified to do lubrication.
6. DO NOT apply any type of aerosol lubricant spray or any aerosol spray on the R250 regulator. Doing so may cause permanent damage to certain plastic parts, including the second-stage housing.
7. NEVER leave the cylinder standing unsecured with the R250 Regulator attached to the valve as this may cause permanent damage to the R250 Regulator and cylinder valve if the cylinder accidentally falls.
8. Do not use oxygen mixtures of gas exceeding a maximum pressure of 2640 psi as serious personal injury or death could result from fire or explosion.

Mounting the First-Stage onto the Cylinder Valve with the Yoke Adapter (R-239)

1. With the air outlet opening of the valve facing away from you, release a small amount of air from the cylinder by turning the valve hand wheel counterclockwise to open the valve only slightly. When air is heard exiting the valve, immediately turn the valve hand wheel clockwise to close the valve. This will clear out any water or debris that may be inside the cylinder valve outlet opening.
2. Remove the dust cover from the R-239 adapter. Next take the R-239 adapter and screw it on the DIN threads of the first stage by turning clockwise.
3. Place the first-stage R250 Regulator yoke over the cylinder valve so that the inlet fitting of the R250 Regulator aligns with the o-ring of the cylinder valve (be sure to

inspect the o-ring for cracks etc.). While holding the first stage in place against the valve o-ring, turn the black yoke screw knob clockwise to tighten. Ensure that the yoke screw mates properly into the small dimple on the backside of the cylinder valve, and tighten the yoke screw finger tight only.

4. If a submersible pressure gauge is attached to the first-stage, ensure that the gauge is facing away from you and others. Pressurize the R250 Regulator by slowly turning the cylinder valve hand wheel counterclockwise. Continue to turn the valve hand wheel counter clockwise until it is fully open.
5. Inspect the first-stage R250 Regulator for leaks at just under the surface of the water or with a soap solution. If leakage is detected, immerse the first-stage and cylinder valve in water while pressurized to determine the source.
6. If leakage has been detected, follow the procedures for removing the R250 Regulator from the cylinder valve. If air was leaking between the first-stage R250 Regulator and the cylinder valve, replace or re-seat the cylinder valve o-ring and repeat the above procedure. If leakage persists, return the cylinder and R250 Regulator to an [Authorized OMS LLC Dealer for inspection and repair.

Mounting the DIN First-Stage in the Cylinder Valve

1. With the air outlet opening of the valve facing away from you, release a small amount of air from the cylinder by turning the valve hand wheel counterclockwise to open the valve only slightly. When air is heard exiting the valve, immediately turn the valve hand wheel clockwise to close the valve. This will clear out any water or debris that may be inside the threaded cylinder valve outlet opening.
2. Remove the protective cap from the first-stage R250 Regulator threaded DIN connector.
3. Position the first-stage near the cylinder valve so that the LP hose of the primary second-stage R250 Regulator will be configured properly (possibly over the right shoulder). Rotate the first-stage R250 Regulator DIN connector into the cylinder valve by turning the hand wheel clockwise by hand until it is lightly snug. Never use tools to tighten hand wheel.
4. If a submersible pressure gauge is attached to the first-stage, ensure that the gauge is facing away from you and others. Pressurize the R250 Regulator by slowly turning the cylinder valve hand wheel counterclockwise. Continue to turn the valve hand wheel counterclockwise until it is fully open.
5. Listen near the first-stage R250 Regulator to check for leaks. If leakage is detected, immerse the first-stage and cylinder valve in water while pressurized to determine the source.
6. If leakage has been detected, follow the procedures for removing the R250 Regulator from the cylinder valve. If air was leaking between the first-stage R250 Regulator and the cylinder valve, replace or re-seat the R250 Regulator DIN connector o-ring and repeat the above procedure. If leakage persists, return the cylinder and R250 Regulator to an Authorized OMS LLC Dealer for inspection and repair.

Inhalation Adjustment Feature

The R250 is equipped with a knob that adjusts the inhalation effort to initiate airflow. By opening the adjustment knob breathing resistance can be reduced to the point of free-flow. Tightening the knob increases breathing resistance. This allows the diver to tune the regulator to optimum performance over a range of conditions.



WARNING: Adjusting your regulator to increase breathing resistance will not conserve air. Instead, excessive breathing resistance will actually increase air consumption due to increased work of breathing. It can also elevate the CO₂ in your bloodstream to a dangerous level which could lead to serious injury or death due to drowning if you lose consciousness.

Pre-Dive Checkout

Before each use, the OMS® R250 Regulator must be given a thorough visual inspection and functional test. NEVER dive with a R250 Regulator that shows signs of damage, or provides substandard performance until it has received complete inspection and service from an Authorized OMS LLC Dealer or OMS®.

Inspection Checklist:

1. Carefully inspect all hose fittings to ensure that they are securely connected into their respective ports on the first-stage R250 Regulator. Inspect the hoses themselves to ensure that the hoses are not worn, blistered, cut, or otherwise damaged. If hose protectors are present, slide the protector's back to expose the hose fittings and inspect the hoses as described above.
2. Visually inspect both the first and second-stage OMS® R250 Regulator parts for any signs of external damage, such as bending or cracks.
3. Remove the protection cap and closely inspect the condition of the first-stage filter. The filter should appear clean and free of any corrosion or discoloration. If a green residue is visible on the surface of the filter, moisture has entered the first-stage of the R250 Regulator and may have caused corrosion to begin forming inside the R250 Regulator. This can seriously impair the R250 Regulator performance. White/gray powder may indicate that the R250 Regulator has been used with an aluminum cylinder that has internal corrosion. Red (rust) indicates a steel cylinder with internal corrosion. In the event corrosion is found, the R250 Regulator (and cylinder) must be serviced.



CAUTION . If discoloration or contamination residue is found on the surface of the filter, it is strongly recommended that you DO NOT attempt to dive with the R250 Regulator until it has been serviced by an Authorized OMS LLC Dealer or OMS®.

4. Connect the first-stage R250 Regulator to a fully charged SCUBA cylinder. For mounting instructions, read the Preparation and Setup section of this manual on pages 2 and 3.
5. SLOWLY open the cylinder valve to pressurize the OMS® R250 Regulator. Depress the purge button several times to ensure that there is sufficient airflow. This will also clear any protection or debris from the second stage.
6. Release the purge button and listen to the second-stage OMS® R250 Regulator for any airflow. Ensure that the second-stage does not continue to flow once the purge button is released. If gas does continue to flow after several attempts, do not

dive the regulator until it is serviced by OMS® or an authorized OMS® service center

7. Place the second-stage R250 Regulator mouthpiece in your mouth and inhale slowly and deeply several times. The R250 Regulator should deliver enough air for you to breathe easily without noticeable resistance.

8. Go ahead start to explore. **Anti Freeze Protection**

Whenever your cylinder is filled, request verification that the water vapor content of the supplied gas is less than -65F dew point. Most dive stores and operators obtain testing and certification to provide evidence of compliance with pure gas standards. Excessive water vapor can increase the potential for R250 Regulator freeze-up and subsequent regulator failure.



WARNING: Gas with excessive water vapor can cause the OMS® R250 regulator to freeze up and result in regulator failure.

Freeze-up and icing can occur in regulators designed for cold water. It is extremely important for divers operating in cold water environments (less than 50° F) to receive specialized training in cold water diving. Such training must include procedures for dealing with regulator freeze-up, unexpected free-flow, and emergency out-of-air situations. Most recognized certification agencies offer cold water training programs.



WARNING: SCUBA regulators and equipment have operational limits when used in water colder than 50°F (10°C). If you attempt to dive in cold water without first obtaining the necessary training and preparation of your equipment, you risk serious injury or death.



WARNING: Diving with gas mixtures other than air requires specialized training. Attempting to dive using mixtures other than air without first obtaining the necessary training and preparation of your equipment can lead to serious injury or death.

USING ENRICHED AIR NITROX (EAN)



WARNING: This section of your owner's manual contains important information regarding the use of your equipment with enriched air (EAN/Nitrox). Do not attempt to use this product with enriched air until you have read and understand this section of the manual. To do otherwise increases your risk of injury or death.

Obtain an EAN (Nitrox) Certification. In order to enjoy the special benefits that EAN/Nitrox can provide, it is extremely important to obtain special training from a nationally recognized training agency in addition to that which is provided for open water scuba.

Your OMS[®] regulator has been prepared for use with Enriched Air Nitrox (EAN) where the percentage of oxygen in the EAN does not exceed 40%. This is possible because each regulator is built to a high standard of cleanliness using EAN compatible components and lubricants. In addition, each regulator design has passed stringent adiabatic compression testing to ensure its safety and compatibility with increased percentages of oxygen. If it is your intention to use your new OMS[®] regulator with EAN (O₂ not to exceed 40%), it is imperative that you maintain the internal cleanliness of the regulator (see section on Care and Maintenance). If it is your intent to use the regulator interchangeably with breathing air, the breathing air should be oxygen-compatible and the hydrocarbons do not exceed 0.1 mg/m³. Your local authorized OMS[®] dealer can help you determine whether the breathing air that they provide meets this criteria.

Standard compressed breathing air, often referred to as Grade E in the United States, does not necessarily meet this criteria. Grade E breathing air may contain a certain level of hydrocarbons, including traces of compressor oil that while not considered harmful to breathe, can pose a risk in the presence of elevated oxygen content.

Regulator Owner's Manual



NOTE: OVERVIEW OF FEATURES

Second Stage Hose Configuration

Passing hydrocarbons through a valve and regulator creates a cumulative effect where the hydrocarbons build up over time along the internal passageways of the equipment. When these hydrocarbons come in contact with high-pressure oxygen enriched air, they can pose a very real hazard that can lead to combustion. Therefore, if a regulator has had use with Grade E breathing air, it should be returned to an authorized OMS[®] dealer for overhaul service including hydrocarbon cleaning, prior to being put back into Nitrox service. Although second stage components are not exposed to high pressure EAN, OMS[®] recommends that the same cleaning procedures be followed for the complete regulator. This prevents the possibility of cross contamination and guarantees the cleanliness of the entire regulator.

OMS[®] offers additional models of regulators that are designed and manufactured for use with Enriched Air Nitrox where the percentage of oxygen does not exceed 40%. For information about these models, consult your authorized OMS[®] dealer.

Post Dive Care and Maintenance

Removal of the R250 Regulator from the Cylinder Valve (DIN Connector)

1. Shut your gas off by turning the valve handwheel(s) clockwise until they stop.
2. Push the purge cover of the R250 Regulator second-stage until the gas stops flowing and your submersible pressure gauge reads "0" psi.
3. Rotate counterclockwise the first-stage DIN hand wheel to loosen and remove the R250 Regulator First Stage from the cylinder valve(s).
4. Install the protector cap (dry it if necessary) over the threads of the R250 First Stage.

Removal of the R250 Regulator from the Cylinder Valve when using the optional Yoke Adapter (R-239)

1. Shut your gas off by turning the valve handwheel(s) clockwise until they stop.
2. Push the purge cover of the R250 Regulator second-stage until the gas stops flowing and your submersible pressure gauge reads "0" PSI.
3. Turn the black knob on the Yoke Adapter (R-239) counterclockwise and remove the R250 Regulator first stage from the cylinder valve.
4. Dry the protection cover and install it over the inlet opening of the first stage by tightening the Yoke Adapter knob.

Required Maintenance



NOTE: Lack of maintenance, improper cleaning and/or prolonged or improper storage can cause internal corrosion and/or deterioration of o-ring seals, filter and seating surfaces. This type of abuse will void your QMS® warranty.

1. When the R250 Regulator is removed from the SCUBA cylinder valve, it is important that the Protection Cover is installed in the R-239 Yoke Adapter inlet or over the threaded DIN connector. This is necessary to prevent damage to the threads of the DIN Connector, or entrance of water and debris into the first-stage. This protector must be completely dry before securing it in the inlet fitting of the R-239 Adapter or over the threaded DIN connector or damage to the regulator may result.
2. Always soak your First and Second Stage thoroughly with a solution of QMS® Corrostop (this will remove destructive salt and mineral deposits) or clean fresh water while the regulator is attached to the cylinder(s) and pressurized with air. Do not clean your regulator if it is not pressurized as water may enter the internal parts of the regulator and cause damage. Be sure to actively move the Second stage through the solution to dislodge debris and remove all salt water.
3. If soaking the R250 Regulator while it is pressurized is not possible, it may be briefly soaked unpressurized. Be sure the Protection cap or DIN protector cap is secure over the first-stage inlet or threaded DIN connector. DO NOT depress the purge button or turn the adjustment knob while the R250 Regulator is submerged. Failure to do this will allow water to enter the internal parts of the second stage causing damage.
4. After soaking the R250 Regulator in a solution of Corrostop or water, remove it and the cylinder(s) from the bath. While the valve(s) is still open position, depress the second stage purge cover several times to remove the residual water.
5. Next, depressurize the R250 Regulator by first turning the cylinder valve hand wheel(s) clockwise until they stop. Then depress the purge cover of the second

stage until the gas stops flowing and your SPG reads "0" PSI. Remove the first stage from the cylinder valve(s) (see Removal of R250 Regulator from Cylinder Valve Section of this Manual for details).

5. Dry by laying the regulator on an adsorbent lint free surface or securely hang by the first stage or box. Do not store it where it may be exposed to: (a) excessive heat; (b) ozone rich areas [motors, electrical switching areas]; (c) direct sunlight; (d) chlorine [never final soak in pool water]. Failure to avoid these problem storage areas will cause severe damage to synthetic rubber and/or plastic parts and will void your OMS® warranty.

7. Do not store the R250 Regulator pressurized, on a cylinder.

8. Always flush out enriched air mixtures with either air or low percentage oxygen gas mixtures.

9. Do not use any type of cleaning compounds on your regulator including but not limited to citrus, silicone, WD-40®, Armor All® or petroleum based substances to clean or lubricate any part of the R250 Regulator. These materials will damage the synthetic rubber, plastic and silicone parts of your regulator and may if used in conjunction with Oxygen cause a fire.

Dealer Inspection and Service

1. The OMS® R250 Regulator should not be dived if it has not had: (a) the required annual servicing; (b) proper maintenance; (c) proper storage; (d) necessary repairs made; and (e) proper pre-dive inspection

2. You must obtain factory authorized service for your R250 Regulator at least annually from OMS® or an Authorized OMS LLC

Dealer displaying a certificate, regardless of the amount of hours the regulator has been used. Your R250 Regulator may require more frequent service depending on the amount of use or the environmental conditions in which it is used.

3. If the R250 Regulator regulator is used for commercial, rental or training purposes, it will require a complete overhaul and service as often as every 12 weeks. Chlorinated or Ozonated pool water or contaminated water causes damage to all SCUBA equipment, necessitating an increase in frequency of service intervals.

4. DO NOT attempt to service your R250 Regulator unless you have been certified by OMS® to repair OMS® R250 Regulators. Doing so may cause the R250 Regulator to malfunction, and will cause the OMS LLC warranty to become null and void. All service must be performed by an Authorized OMS LCC Dealer or by the OMS® factory.



Equipment for Underwater Exploration™

WARRANTY INFORMATION

The Original sales receipt, must be presented whenever returning your R250 Regulator for warranty service to OMS® or one of its authorized repair centers. OMS LLC warrants its R250 Regulator to be free of defects in workmanship and materials under normal use to the original owner for a period of one year from the date of purchase, subject to the following terms and conditions as set forth below:

1. Registration card must be completed and returned within 14 days of purchase.
2. This warranty does not cover failure of parts due to normal "wear and tear."
3. The original owner must have his/her R250 Regulator serviced on an annual basis to keep the warranty intact. Failure to have the regulator serviced within 12 month intervals will void the warranty.
4. Any R250 Regulator may be returned to OMS LLC for warranty disposition after calling OMS®, explaining the problem, obtaining a Return Authorization and sending back the regulator.
5. This warranty is made expressly in lieu of all other warranties, expressed or implied; including but not limited to any implied warranty of merchantability of fitness for a particular purpose, and all other obligations on the part of OMS® provided, however, that if the disclaimer of implied warranties is ineffective under applicable law, the duration of any implied warranties arising by operation of the law shall be limited to one year from the date of purchase or applicable law may require such a longer period. OMS® hereby disclaims any and all liability for any consequential and incidental damages arising out of or in connection with any breach of this warranty or any other claim with respect to this product including but not limited to, claims of negligence, strict liability in Tort or Breach of Contract.
6. This warranty is not transferable. Some states do not allow (a) limitations on how long an implied warranty lasts or (b) the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may have other rights which may vary from state to state.
7. This warranty is null and void if the R250 Regulator is purchased from other than an authorized OMS® dealer. If in doubt, call OMS® for a list of authorized dealers.
8. This warranty does not cover the cost of annual servicing, inspection, preventive maintenance, and labor for repairs or shipping to and from OMS LLC or an OMS® authorized repair center.
9. This warranty is null and void if the Original Purchase Receipt cannot be produced or if the R250 Regulator is used or purchased by an uncertified or untrained person.
10. OMS LLC retains the right to limit and/or void the warranty of any R250 Regulator used in instructional and/or rental programs at its sole discretion.

OMS LLC
P.O. Box 146 ▪ Montgomery, NY 12549
Tel: 845.457.1501 ▪ Fax: 845.457.1504
www.omsdive.com

© OMS LLC