Equipment for Serious Divers®

RG5300

XT Regulator

User Manual

www.DiveRite.com

CE EN250:2014

COMEX Notified body N°3061

IMPORTANT WARNINGS

Read this manual carefully before diving with the XT Regulator. You should fully understand how this regulator works and be proficient in its use prior to diving.

Assembly and disassembly of regulator system components, and any repairs to or internal maintenance of such components, should only be performed by a certified technician who is working under the supervision of an authorized Dive Rite dealer.

Before using your XT Regulator, it is extremely important that you read and understand each warning, as well as warnings and cautions that appear throughout the manual. Failure to do so could result in damage to or loss of equipment, serious personal injury, or death.

Before diving, you should have the proper training from a qualified instructor and obtain certification from a recognized training agency.

As part of your dive training, you should master all the basic skills of regulator use, including proper assembly and disassembly of complete scuba units, including regulator, cylinder, harness, regulator second stage recovery and clearing, continuous breathing while on scuba, and post dive regulator cleaning and storage.

Congratulations on purchasing your XT Regulator.

The XT Regulator has been designed, manufactured and tested for the highest possible performance and reliability. With proper use and maintenance outlined in this manual it will provide you with many years of outstanding service.

For product updates and new product release notifications, SIGN UP for the Dive Rite Newsletter at https://diverite.com/ and follow us on Facebook.

1. CERTIFICATION:

The manufacturer of this diving regulator is:

Dive Rite
175 NW Washington St.
Lake City, FL 32055

This regulator has received a European certification issued by the following notified body

COMEX, 36 bd de l'Océan - CS 80143 - 13275 MARSEILLE CEDEX 9 – France

The number of Comex as notified body is n°3061

This equipment is compliant with the standard EN250:2014, and with European Regulation (EU) 2016/425.

This demand regulator is a category III Personal Protective Equipment that protects against "substances and mixtures that are hazardous to health. This demand regulator is a respiratory protection device, designed to protect the diver's airways in an underwater environment. "

This equipment has been tested and certified at a depth of 50 meters.

Declarations of conformity can be consulted on the Dive Rite website: www.DiveRite.com

2. APPLICATION:

The Dive Rite diving regulators described in this manual are only intended for underwater diving using SCUBA.

In compliance with the EN250: 2014 standard, this diving regulator is intended to be used only with breathable compressed air. This breathable compressed air must comply with the EN12021:2014 standard

The markings on the 1st stage and 2nd stages of the regulator define the minimum water temperature use:

- If the regulator is intended to be used in water under 10°C, it will be marked "EN250".
- If the regulator is marked "EN250 >10 °C", it can only be used in water over 10°C.

3. PRODUCT DESCRIPTION:

The XT Regulator welcomes a new generation of regulator performance at Dive Rite. An elite performer, the XT's advanced, patented design earns top marks from Mike Ward of Dive Lab. With work of breathing at less than 1.0 J/l, the XT performs right alongside premier regulators on the market today. Dive Rite offers a variety of packages combining our XT1 First Stage with our premier XT4 second stage or our workhorse XT2 second stage.

XT1 First Stage Regulator

- Balanced first stage provides consistent gas flow regardless of depth and tank pressure
- Five low pressure ports (3/8-24 UN) and a swivel turret achieve optimal hose routing
- Two HP ports (7/16-20 UNF/ISO263) are angled 90-degrees from the DIN/Yoke fitting which gives the perfect angle for hose routing
- Environmentally sealed to protect against internal corrosion, contaminants and freeze
- Available as DIN or Yoke
- Intermediate pressure: 140 PSI

XT4 Second Stage Regulator

- Pneumatically balanced downstream design provides consistent gas delivery regardless of depth or tank pressure
- Venturi assist reduces work of breathing
- Glove friendly dive/pre-dive lever avoids free flows at the surface
- Adjustable design allows the diver to fine tune inhalation effort for dive conditions and personal preference
- User adjustable secondary micro spring adjustment for independently adjusting spring preload and cracking pressure
- Finned metal heat exchanger for improved cold-water performance
- Black DLC (Diamond Like Carbon) coating on adjustment knob and finned heat exchanger
- Orthodontic mouthpiece reduces jaw fatigue on long dives
- All internal moving parts are Teflon coated for reduced friction and cold-water use
- Oxygen compatible O-rings and lubricant used throughout
- Available as a standard right-hand regulator (RG5900-RIGHT) or left-hand regulator (RG5900-LEFT)

XT2 Second Stage Regulator

- Pneumatically balanced downstream design gives consistent gas pressure for easy inhalation
- Venturi assist reduces work of breathing
- Glove friendly dive/pre-dive lever avoids free flows at the surface
- Adjustable design helps diver fine tune cracking pressure so breathing resistance matches diver personal preference
- Deflection ring works to maximize performance while deterring free flow
- Orthodontic mouthpiece reduces jaw fatigue on long dives
- Internal parts are Teflon coated for cold-water use
- Oxygen compatible O-rings and lubricant used throughout
- Available in right-hand or left-hand configuration and with yellow faceplate

WARNING

Using oxygen compatible materials and assembly processes that are currently industry standard, the XT is suitable for oxygen enriched gas mixtures only if precautions are taken. Diver must use oxygen compatible materials, keep the regulator clean from contaminants during assembly and use and open the tank valve slowly.

4. ASSEMBLY:

4.1 Allowed Connection Types

The regulator should be connected on the cylinder with a valve that complies with EN ISO 12209: 2013.
Following this standard, the regulators have a connection that is either:
DIN threaded fitting with maximum operating pressure of 232 bar or 300 bar
Yoke fitting with maximum operating pressure of 232 bar
The outlets on the first stage are Medium Pressure outlets (3/8-24 UNF) and they are only intended for connections to the following accessories:

- Emergency auxiliary breathing systems (Octopus)
- Hoses for the BCD inflation system in compliance with EN1809:2016
- Hoses for the dry suit inflation system in compliance with the EN14225-2:2017 standard

4.2. Emergency auxiliary breathing system (Octopus)

- The Octopus is an auxiliary emergency second stage to be used by the diver in case of urgent need.
- An Octopus configuration is defined as an Octopus second stage connected on the same first stage as the Primary second stage.
- According to the EN250:2014 standard the regulator must not be used by two divers at the same time at the depth greater than 30 meters and under 10°C, with the Octopus second stage used as an auxiliary emergency breathing system by another diver.
- According to the EN250:2014 standard, the Octopus can be used in case of emergency by a single diver at a depth of 50 meters.
- A regulator which can be connected with an Octopus second stage will have the “EN 250 A” mark.
- Only a Dive Rite Octopus can be connected to a Dive Rite regulator

Attaching High and Low Pressure Hoses

There are two high-pressure and five low-pressure ports on the first stage. The high- pressure port is for attaching a pressure gauge. The low-pressure ports give divers ultimate flexibility in streamlining and routing for the inflator hose and second stage regulator configurations.

WARNING

Do not try to connect a low-pressure hose to a high-pressure port or vice versa. Do not open a cylinder valve unless you are certain that **all** hoses are correctly attached.

NOTE: The turret-port base is slightly convex and slotted on each side to accommodate an 11/16 wrench for securing the turret while loosening the LP hose. This makes it easy to change the hose without concern of loosening the turret.

To Attach a Hose:

1. Check that the hose O-ring is in place
2. Line up the hose connector with a port
3. Hand-tighten the hose to the regulator. Tighten further using the appropriately sized wrench. Do not overtighten.

5. RISK ASSESSMENT:

5.1. Cold water diving

- Diving in cold water must be conducted only by trained divers with specific qualifications obtained from recognized certification agency
- To fill the tank use dry breathable air in compliance with EN12021:2014 standard
- Use only regulators certified for “cold water” use with “EN250” or EN250 A” marking meaning that the regulator has been tested in water temperature between 2°C and 4°C in accordance with the EN250:2014 standard.
- Before diving in cold water conditions, prepare your regulator and fit it to the tank in a warm place
- To prevent the regulator from icing out of water, avoid any ingress of water in the second stage before entering in the water, avoid breathing in the second stage, don’t push the front cover creating big airflow.
- While diving, breathe slowly, don’t make too much effort, don’t let the second stage out of your mouth to avoid the water coming in, don’t push the front cover for purging if not necessary.
- When diving in cold water conditions, preferably use another regulator to inflate the buoyancy compensator and/or the dry suit through their LP hoses.
- Exposure temperatures limits : -20°C +70°C

5.2. Visibility :

The pressure gauge and the emergency auxiliary breathing system (octopus) must be installed in a prominently place on your equipment and must be easy to access.

5.3. Type of work:

This regulator is only intended to be used in an underwater environment.
This regulator is not intended for diving works, or diving in charged, polluted or contaminated waters.
Always use the regulator fitted on a cylinder with a sufficient gas volume in accordance with the planned underwater activity to be conducted safely.

5.4. Compatibility :

Only a Dive Rite Octopus can be connected to a Dive Rite regulator.

5.5. Safety devices Compatibility :

Analogic HP gauges and/or HP transmitters can be mounted together safely on the same first stage if this first stage have two 7/16” HP ports.

6. PREPARING BEFORE USE:

Connecting the first stage on the cylinder

- Take care that the valve connection is clean, that the O-ring is not damaged (yoke) and that the thread is in good shape (DIN).
- DIN connection: check that the connector of the first stage is clean, and the thread and O-ring are in good shape. Screw the first stage on the valve with the hand wheel, looking at the good position of the second stage hose before tightening. Don’t overtight the handwheel.
- INT connection (yoke): check that the seat of the first stage is clean. Place the yoke on the valve and screw the first stage on the valve with the screw handwheel, looking at the good position and orientation of the second stage hose before tightening. Don’t overtight the handwheel.
- After fitting the cylinder on the buoyancy compensator or other carrying system, check that the cylinder is firmly and securely attached to it.
- Slowly open the cylinder valve until full opening.
- Check for any leakage and control the pressure displayed on the gauge.

7. USE WHEN DIVING:

Adustments

Using the External Adjustment Knob

Turning the adjustment knob clockwise increases spring tension, making it more difficult for the valve to open. This helps to reduce the tendency to free flow in strong currents.

Turning the knob counterclockwise decreases spring tension, making the valve easier to open. This reduces breathing resistance but can increase the tendency to free-flow.

You will want to try various settings of this knob during your first few dives to find the right position for you. The best practice is to set the regulator so that it breathes easily, short of free flowing.

WARNING

Adjusting the knob for the maximum breathing resistance does not reduce the amount of air you breathe from your cylinder. It may actually cause you to use more air because your diaphragm has to work harder to compensate for the resistance.

Using the Venturi Dive/Pre-Dive Switch

The dive/pre-dive switch controls a venturi flow valve located within the second stage of the regulator. When in the pre-dive position (pushed forward), this valve decreases the likelihood of free-flow when not in use. The dive position (back, toward mouthpiece) decreases breathing effort and improves regulator performance.

To Set the Venturi Switch:

1. Set the switch to the dive position (backward) before each dive.
2. Set the switch to the pre-dive position (forward) when the regulator is not in use in or out of the water.

XT4 Secondary Micro Spring Adjustment

The XT4 second stage offers an additional adjustment for fine tuning your regulator. The micro spring adjustment independently adjusts the spring preload and cracking pressure. To adjust, first turn the external adjustment knob fully counterclockwise to its maximum setting. Then, holding the external adjustment knob, use a 5mm Allen wrench to turn the micro spring adjustment located inside the knob. Turning this adjustment clockwise increases spring preload and cracking pressure. If you are unsure of how to properly set this adjustment, contact your authorized Dive Rite regulator technician.

8. AFTER DIVING:

Disconnection

- Close the tank valve by turning its handwheel.
- Fully purge the regulator by pressing the 2nd stage front cover until the pressure gauge is at 0.
- Unscrew the DIN wheel or the yoke knob and disconnect the first stage from the valve.
- Make sure that the dust cap is dry by blowing gas from the tank on the cap.
- Place the dust cap on the regulator HP seat and hold it in place by screwing down the yoke screw (yoke connection) or placing it on the regulator thread (DIN connection).
- The cap in place will prevent any debris, dirt or moisture from entering the first stage.

9. CARE AND MAINTENANCE:

Your regulator will provide you with years of service with proper care and maintenance. This involves post-dive care and regular professional service.

NOTE: Stainless steel can develop rust even when properly cared for.

9.1. Storage:

- Rinse the full regulator with fresh water.
- If the regulator is immersed in a freshwater tank to rinse it, don't push the front cover to avoid ingress of water in the second stage what could damage the regulator first stage mechanism during a long period of storage.
- Wipe the first stage body and second stage housing and let the regulator dry.
- Store it in a cool, clean and dry place, away from the direct sunlight.

9.2. Disinfection

Dive Rite recommends using Edwards-Councilor Steramine Sanitizing Tablets for disinfecting the second stage. Follow the procedure and dilution described on the packaging.

9.3. Intervals maintenance

Professional service

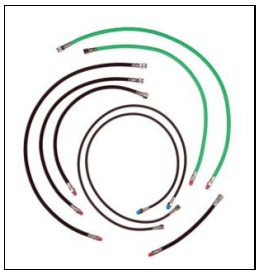
Over time, mineral deposits and salt build-up will accumulate on your regulator, which can adversely affect its performance. Professional cleaning and service is the only way to remove these deposits and return the regulator to its proper working order. Other regulator breakdowns can also occur whether the regulator is used or not, such as spring tension and O-ring breakdown. These too will affect the performance of the regulator.

To keep your regulator working at its best performance, you should have your regulator serviced at least once every two years or 100 dives by a Dive Rite authorized regulator technician.

NOTE: Avoid excessive pool use. Excessive use in chlorinated water can lead to premature discoloration and shorten the product's life.

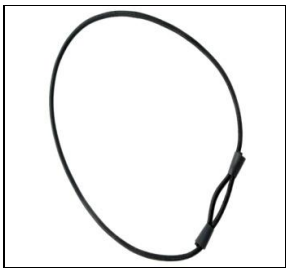
Optional Accessories Available at Your Local Dive Rite Dealer

To get the most enjoyment out of your XT Regulator, you may wish to add the following accessories:



Braided Hoses

Tech Tool Bag



Regulator Necklace

10. Warranty Information

Dive Rite stands behind every product by offering the original purchaser a one-year warranty against manufacturer defects. This warranty begins on the date of customer purchase. To take advantage of this warranty, the original purchaser must retain their original purchase receipt from an authorized Dive Rite dealer. Registrable products must be **registered** (https://diverite.com/product-registration/) within 30 days of purchase. Warranty claims must be made with Dive Rite headquarters. It is the responsibility of the original purchaser to send in the suspected warranty item with a completed **Return Authorization Form** (https://diverite.com/rma-form/) and the original purchase receipt. Once the product is received, Dive Rite will evaluate it to determine if the warranty claim is valid.

Unauthorized modifications or repairs will void the manufacturer's warranty. Negligence, abuse, accidental

damage, flooding, or commercial/rental use are not covered under warranty.

Regulators and hoses require regular service and inspection. We recommend service every two years or 100 hours of dive time. Water intrusion can increase the frequency of service intervals. Proper service includes new seats and o-rings on regulators and hoses.

All Dive Rite products receive our commitment to excellence in customer service from your fellow divers. Contact us at 800-495-1046, M-F, 9 AM-4 PM, EST or email us at Support@DiveRite.com

800-495-1046

www.DiveRite.com