

# REGULATORS OWNER GUIDE

CREST Support and Service Center  
Regulator Product Manual

Before diving with these diving equipment,  
please read and understand our product owner's manual completely.

Every time you use our products,  
please follow the specifications or recommendations in the product user manual.  
Safe Dive!

This product user manual is applicable to the following models:

## FIRST STAGE

CREST ELARA · CREST BASALT · CREST JUPITER

## SECOND STAGE

AC-10P · AC-10C · AC-20P · AC-20C

**Congratulations—and thank you—for choosing CREST.**

**All CREST regulators have been designed and manufactured with pride in Taiwan.**

Your regulator's performance relies greatly on the care and maintenance it will receive,  
in addition to regularly scheduled services.

Before you dive with your new CREST regulator,  
it is important to read this manual in its entirety to become familiar with the regulator's features.

It is just as important to understand the correct procedures for setup,  
pre-dive inspection, and post-dive maintenance.

Improper use or misuse of SCUBA equipment may result in serious injury or death.

Read and understand this owner's manual completely before diving with your CREST regulator.

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be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine  
readable form without prior consent in writing from CREST.

## Warning, Cautions and Notes

Pay special attention to items marked with the warnings, cautions, and notes that are accompanied by  
these symbols:

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

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

**⚠NOTE** is used to emphasize important points, tips, and reminders.

## CREST REGULATORS PRECAUTIONS & WARNING

Read and understand this Owner's Guide completely before diving with this regulator.

Each time while using this regulator, please follow the specifications or recommendations of this manual.

### ⚠Before Using:

1. If you do not fully understand how to use this regulator, or if you have questions, seek instruction in  
its use from your Authorized CREST Dealer before you use this product.

2. Before using this regulator, you must have successfully received training and certification in the technique of SCUBA diving from a recognized certification agency.
3. Use of SCUBA equipment by uncertified, or untrained persons, is dangerous and can result in serious injury, or death. It must not be used by untrained persons who may not have knowledge of the potential risk and hazards of scuba diving.
4. This regulator is not configured for commercial use with surface supplied air.
5. Before each dive, inspect and test this regulator for proper operation. If any part does not function properly, DO NOT USE!
6. When diving in cold water (below 50°F or 10°C), you must have received training and a certification in the techniques of cold water diving from a recognized training agency.
7. This regulator is only certified to a maximum operating depth of 50 meters (165feet).

#### **⚠While Using:**

1. This regulator must be used together with a Submersible Pressure Gauge that measures and indicates the user's air supply pressure.
2. Always pressurize the regulator gradually by opening the cylinder valve SLOWLY.
3. DO NOT leave a cylinder standing unsecured with the regulator attached to the valve. Doing so may cause permanent damage to the regulator and cylinder valve if the cylinder falls over against the regulator first stage. DO NOT use the regulator first stage as a carrying handle when lifting or transporting the cylinder.
4. As with all underwater life support equipment, improper use or misuse of this product can cause serious injury or death.

#### **⚠After Using:**

1. DO NOT apply any type of aerosol spray on the regulator. Doing so may cause permanent damage to certain plastic components, including the regulator second stage housing.
2. Factory prescribed service for this regulator must be performed at least once annually by a specially trained and authorized technician who services CREST equipment.

## **STATEMENT FOR REGULATOR EQUIPMENT COMPATIBILITY AND USE WITH NITROX**

### **WARNING**

⚠This section of this owner's manual contains important information regarding the use of your equipment with oxygen enriched gases (i.e. Nitrox, etc.) providing the oxygen content does not exceed 40%.

⚠Do not attempt to use this product with enriched air until you have read and understood this section of the manual. To do otherwise increases your risk of injury or death.

⚠The regulator is not intended to be used by untrained persons who may not know the inherent risks and hazards of SCUBA diving.

⚠Prior to use of the regulator equipment with nitrogen-oxygen (Nitrox) breathing gas mixtures that contain a higher fraction of oxygen than 22%, the user must have received, or must first obtain, certification in diving with Nitrox from a recognized training agency.

⚠When the breathing mixture contains oxygen content greater than 22 %, you must use a nitrox demand regulator according to EN 13949.

⚠The regulator is not a medical device. It is not intended and must not be used to supply treatment oxygen in a medical emergency.

⚠When using air with this regulator equipment, the air used must meet EN12021 Annex A standards. Comply with EN250:2014.

**⚠CAUTION** Per EN 250, S.C.U.B.A. shall be equipped with at least following sub-assemblies:

1. Air Cylinder(s) with cylinder valve(s) and carrying frame.
2. Demand Regulator : first and second stage.
3. Pressure gauge.

4. Carrying Systems / body harness.
5. Face piece : Mouthpiece assembly or full face mask or diving helmet.

## REGULATOR EQUIPMENT INSTRUCTIONS

### REGULATOR FIRST STAGE

The first stage converts the tank's high pressure breathing air to an intermediate pressure of 135~145 psi that can be handled by the second stage regulator to deliver a smooth flow of breathing air when you inhale. The intermediate pressure air also can be used for inflation of a BC or dry suit.

**⚠WARNING** Use a clean working place to prepare your first stage properly.

**⚠WARNING** DO NOT ATTACH A LOW-PRESSURE HOSE TO A HIGH-PRESSURE PORT (MARKED HP) OR A HIGH-PRESSURE HOSE TO A LOW-PRESSURE PORT.

1. Balance Second Stage & Downstream Second Stage DESIGNED TO OPERATE AT 135~145 psi.
2. Low-pressure and high-pressure port thread sizes are different.
3. Please use the HP HOSE to connect with the high-pressure ports. (Be sure that you only place a high-pressure accessory or hoses in ports specifically marked with the letters "HP" , or " 4500 psi / 300bar" ), and use the low-pressure hose to connect with the low-pressure port.
4. After having determined the type of hose and preferred orientation, remove the port plugs from the first stage regulator by turning them counterclockwise with a 4mm hex key. Keep the port plugs for possible future use.
5. Thread the hose clockwise into the port until secure and then tighten it with an open-end wrench of the appropriate size, torque of 30 in-lbs.
  1. Second stage:Hose male thread (3/8-24) female thread (9/16-18)
  2. Low pressure inflator:Hose male thread (3/8-24)
  3. Diving gauge: male thread (7/16-20)
6. After all hoses are connected, test the complete regulator assembly by attaching it to a SCUBA cylinder.

### REGULATOR ATTACHMENT TO A TANK

#### **⚠WARNING**

Yoke style: Maximum working pressure 3500 psi / 232 BAR

Din style: Maximum working pressure 4500 psi / 300 BAR

Before attaching the regulator to the tank, slowly open, then close the tank valve for a second, to allow a momentary flow of breathing gas to blow any moisture or contaminants from the breathing gas opening in the tank valve.

**YOKE** : Examine the sealing O-Ring located on the tank valve to ensure that it is not cut, scrubbed, or deteriorated. Replace the O-Ring if it is damaged.

**DIN** : Examine the threads in the valve to ensure they are clean and free of burrs or defects that could damage the threads of your regulator DIN fitting. Examine the sealing O-Ring located on the DIN first stage to ensure that it is not cut, scrubbed, or deteriorated.

### TO ATTACH THE REGULATOR TO THE TANK

Connect the regulator with the tank:

**YOKE:**

Remove the dust protector from the yoke by turning the easy-grip knob in a counterclockwise direction. Place the yoke connector over the tank valve, positioned with the seating surface against the valve O-Ring.

Turn the easy-grip yoke knob clockwise until secure.

DIN:

Remove the protector cap from the threads of the regulator DIN connector wheel, and examine the threads and sealing O-Ring. Replace the O-Ring if it is damaged.

Thread the DIN connector wheel clockwise into the cavity of the tank valve until it is secure.

After connect the regulator with the tank, follow the steps below:

1. Slowly open the tank valve, with the pressure gauge facing away from you.
2. Momentarily purge the second stage and then listen to ensure that no breathing gas is leaking from the regulator or valve connection.
3. If any leakage is observed, inspect the sealing O-Ring. Replace if damaged or if it does not seal properly.
4. If gas still leaks, DO NOT USE. Take the regulator and SCUBA cylinder to an authorized supplier or dealer for inspection and service.

## TO REMOVE THE REGULATOR FROM THE SCUBA CYLINDER

Close the tank valve and purge all breathing air from the regulator system by pressing the purge button of the second stage regulator. Ensure that all pressure has been purged.

YOKE:

Turn the easy-grip yoke knob counterclockwise to loosen and lift the first stage off the tank valve. Prevent water from entering the first stage.

**⚠CAUTION** DO NOT blow breathing air near a first stage that does not have the dust protector in place.

DIN:

Turn the DIN connector wheel counterclockwise out of the cavity in the tank valve. Prevent water from entering the first stage.

**⚠CAUTION** Place the protector cap on the threads of the regulator DIN connector wheel.

## REMOVAL OF HOSES FROM FIRST STAGE

**⚠WARNING** Purge all pressure from the first stage before attempting hose removal and remove from the SCUBA cylinder.

1. Loosen and remove the hose by turning it in the counterclockwise direction with an open-end wrench of the appropriate size.
2. For a LP hose use a 3/8 open-end wrench and for an HP hose use a 7/16 open-end wrench.
3. Lightly lubricate the threads and O-Ring of the port plug with Christo-Lube MCG129 lubricant.
4. Thread the port plug clockwise into the port and tighten to a torque of 30 in-lbs. using a 4mm hex key.

Store the dried regulator in a clean bag or storage box, away from sunlight, excessive heat and humidity.

## REGULATOR SECOND STAGES

The Second Stage of the regulator assembly receives breathing air at an intermediate pressure of approximately 140 psi from the first stage and delivers it to you at ambient pressure during inhalation. When you stop inhaling, it then shuts off the flow of breathing air and provides a path for exhaled air.

**⚠NOTE**

All Second Stage regulators have a level of sensitivity that can result in excess breathing air being expelled when the Second Stage is not in your mouth while in the water.

When this occurs, it is usually during entry or when on the surface.

In this condition, referred to as free-flow, can usually be stopped by turning the Second Stage so the mouthpiece is pointing down and the purge button is pointing up.

#### **▲NOTE**

Recommended is to carry an Octopus with the mouthpiece facing down when not in use, or to use a mouthpiece plug or cover to prevent free-flow in the event that it is bumped.

#### **▲NOTE**

During normal use underwater, a small amount of water collects inside the body of a standard regulator in a natural reservoir near the bottom.

This is normal for most second stages, and the water is held away from your mouth naturally and will go unnoticed unless you become inverted or do subaquatic somersaults at which time you may experience temporary 'wet breathing' .

Water can be purged from the small internal air space of most second stages by exhaling a small puff of breathing air into the mouthpiece, or by blocking the mouthpiece with your tongue and pressing the front mounted purge button to initiate a flow of breathing air.

### **VENTURI SWITCH (DEFLATOR EFFECT ADJUSTING KNOB)**

The second stages are fitted with a Venturi Switch. This Switch modifies the inhaled air flow by means of an internal vane. This allows the breathing performance of your regulator to be adjusted to match your needs.

MAX or DIVE:

1. When the adjusting knob is set on "MAX" or "DIVE" , the ease of breathing will be at its maximum.
2. We recommend that you set the knob in this position when you are breathing through the regulator.

MIN or PRE-DIVE:

1. When the adjusting knob is set on "MIN" or "PRE-DIVE" , the breathing resistance will be increased.
2. We highly recommend that you set the knob in this position when you DO NOT have the regulator in your mouth.

### **SENSITIVITY ADJUSTING KNOB**

This adjusting knob allows you to adjust the sensitivity of the regulator. When you are in a head-down position you may want to reduce sensitivity by screwing the knob in. On the other hand, when you are in a head-up position you may want to increase the sensitivity by unscrewing the knob, to give increased breathing comfort.

### **CLEAN OR CHANGE THE COVER RING OR THE PURGE COVER**

If you want to clean or change the different color (or style) of the ring or purge cover, please use the following process.

**▲WARNING** The regulator should NOT be connected to the SCUBA Cylinder while changing.

1. Unscrew the cover ring from the housing.(No tools required)
2. Remove the purge cover and washer.
3. Select your purge cover or cover ring.
4. Assemble them and install the diaphragm washer into the cover assembly on top of the diaphragm.
5. Screw the cover ring assembly into the housing and hand tighten the ring.

### **OCTOPUS - AUXILIARY EMERGENCY BREATHING SYSTEMS**

For safety reasons when using Self Contained Underwater Breathing Apparatus (SCUBA), it should always be recommended to use an appropriate alternative breathing air (gas) source/secondary life support system.

This recommendation can vary depending on location and training agencies you have received your training from and you must follow how you have been trained. However, it is common practice within recreational diving and during some commercial diving to use an Auxiliary Emergency Breathing System also known as an Octopus or Alternative Air Source second stage, to fulfill or support this requirement. An Octopus is a secondary demand valve, designed to work in conjunction with the primary demand valve and they are both connected to the first stage pressure reducer.

The Octopus provides a backup demand valve in cases of primary demand valve failure and may also act as an Alternative Air Source (AAS) for the diving Buddy. An AAS does not require the Donor diver to remove their own primary demand valve when supplying gas to a Buddy diver who has experienced regulator failure or an out of gas situation.

By its very nature (other than during training exercises) this type of apparatus is only expected to be used during emergency situations and is therefore likely to experience very high ventilatory demand, as it is required to support two divers breathing at the same time.

As stated in the minimum safety requirements for such products, using an Octopus, in water temperatures lower than 10°C (50°F) and at depths of 30 meters (98ft) carries significant risks and is not recommended.

Although these minimum requirements only require an Octopus to be tested and restricted to 30 meters, (98ft) and 10°C (50°F), CREST recognizes that emergencies can happen beyond these limits.

The CREST primary regulator and the Auxiliary Emergency Breathing Systems are designed to comply with the requirements of EN250:2014 Annex B at a depth of 30m and a water temperature of 4°C.

To ensure CREST products perform as well as possible in all conditions, CREST has designed our products to exceed at least the minimum safety requirements. This does not mean that the performance of the primary regulator and the Auxiliary Emergency Breathing Systems will match where the water temperature is below 4°C (39.2°F) and the depth exceeds 50m.

**⚠WARNING:** if SCUBA is configured for and used by more than one diver at the same time, then it shall not be used at depths greater than 30 m and in water temperatures less than 4 °C.

**⚠WARNING:** As a user you can be confident that in an emergency or an out of gas situation, your regulator can cope with the extra demand of your buddy breathing from your Auxiliary Emergency Breathing System (Octopus)and safely supply enough gas for you both in all conditions you may be faced with.

**⚠WARNING:** If Auxiliary Emergency Breathing Systems (Octopus) are to be used you must ensure that: The equipment selected is designed and tested for use with Auxiliary Emergency Breathing Systems with the intended use of water temperature and depth. The equipment is intended and can be used as an escape device by more than one diver at the same time.

Your equipment is maintained in accordance with manufacturer' s recommendations. Usually annually inspected and serviced.

## USER CARE AND MAINTENANCE

**⚠NOTE** It is important to provide the proper preventative maintenance to ensure the best possible performance and maximum life of your CREST Regulators.

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.

1. Whenever the regulator is removed from the cylinder valve, it is important that the dust cap is installed over the regulator inlet fitting. This is critical to prevent the entrance of moisture into the regulator first stage.
2. This cap is normally attached to the regulator first stage yoke and may therefore be wet.
3. Wipe or blow the dust cap completely dry before securing it over the inlet fitting.
4. As soon as possible after diving, thoroughly rinse the regulator with clean fresh water while it is attached to a cylinder and pressurized with air.

5. If possible, transport your regulator assembly (preferably dry) in a padded carrying case or equipment bag separated from sharp items that might damage or scratch the components.
6. You should also protect the second stage from damage from heavy objects.

## PRE-DIVE CHECKOUT

Before each use, the CREST regulator must be given a thorough visual inspection and functional test. NEVER dive with a regulator that shows signs of damage, or provides substandard performance. Please send the until in for service to CREST or a CREST authorized dealer.

## PRE-DIVE INSPECTION CHECKLIST

1. Carefully inspect all hoses and their fittings to ensure they are securely connected into their respective ports on the first stage.
2. Inspect the length of each hose to ensure that the hoses are not blistered, cut, or otherwise damaged. If hose protectors are present, slide the protectors back to expose the hose fittings, and inspect the hoses as described above.
3. Visually inspect both the first and second stage regulators for any signs of external damage.
4. Environmentally sealed first stages only: Closely inspect the external sealing diaphragm for any signs of damage or deterioration that may cause leakage. Check to ensure that the retainer which holds the external diaphragm in place is tightly secured.

**⚠WARNING:** If the external diaphragm shows any signs of damage or neglect, DO NOT attempt to dive with the regulator until it has received factory prescribed service from an authorized dealer. The regulator's performance may be compromised, and first stage freeze-up could occur in cold water conditions.

5. Connect the first stage regulator to a fully charged SCUBA cylinder. (For mounting instructions, read the REGULATOR ATTACHMENT TO A TANK) SLOWLY open the cylinder valve to pressurize the regulator. Continue turning the valve counterclockwise until it stops. This is to ensure that the valve is completely open.
6. Turn the inhalation control knob completely "out" (counterclockwise), and then back "in" (clockwise) until the regulator provides maximum ease of breathing with no leakage present. Do not apply excessive pressure.
7. With the Venturi Switch set to PRE-DIVE, purge the regulator momentarily to blow out any dust or debris which may have entered the second stage. Release the purge button and listen to ensure that the second stage does not continue to flow any air after the purge button is released.
8. Inhale slowly and deeply from the regulator several times. The regulator must deliver enough air for you to breathe easily without noticeable resistance.
9. Check to ensure that the submersible pressure gauge is displaying an accurate measurement of the air pressure inside the cylinder.
10. Check to ensure that the Venturi Switch is set to PRE-DIVE. Gently turn the inhalation control knob completely "in" (clockwise), only until it clicks. Do not apply excessive pressure. These settings will help to minimize any loss of your air supply during entry or while making a long surface swim. Adjustments can be made below the surface.

## DURING THE DIVE

When you are ready to submerge, place the second stage in your mouth and set the Venturi Switch to your desired position.

Turn the inhalation control knob out (counterclockwise) until the regulator breathes comfortably without leaking or being undesirably sensitive.

As you descend, you may want to turn the inhalation control knob further out to make breathing easier. This will be particularly true on deep dives where the air density increases.

## 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 Regulator freeze-up and subsequent regulator failure.

**⚠WARNING** Gas with excessive water vapor can cause the regulator to freeze up and result in regulator failure.

## REPAIRS AND MAINTENANCE SERVICE

It cannot be assumed that a regulator is in good working condition 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.

If any component of your regulator assembly requires repair or service, return it to your local authorized supplier or dealer for professional service by a trained technician authorized to perform the CREST authorized service.

Once each year your complete regulator assembly should be inspected and serviced by an authorized CREST supplier or dealer.

If the regulator is used for rental or training purposes, it will require a complete overhaul and factory-prescribed service every three to six months.

Chlorinated swimming pool water is an especially damaging environment for SCUBA equipment. High levels of chlorine and PH balancing cause certain components to rapidly deteriorate.

More frequent service is recommended if you dive in severe conditions or more frequently than an average diver.

**⚠ WARNING:** Do not try to disassemble or repair the regulator by yourself, otherwise it may cause the regulator to malfunction or damaged and lose the warranty service provided by CREST.

**⚠NOTE** for personally-owned equipment used for recreational diving activity:

Equipment used 100 dives or less per year should be serviced at least once per year.

Equipment used more than 100 dives per year should be serviced after every 100 dives prior to further use.

**⚠NOTE** for equipment used for dive training and/or consumer rental activity:

Equipment should be inspected prior to every use.

Equipment should be serviced at least once every six months regardless of use.

Equipment should be serviced after 100 dives prior to further use.

Equipment stored for more than three months should be inspected and serviced as required prior to use.

**⚠NOTE** Regardless of ownership or intended use:

Equipment should be inspected and serviced if it displays any sign of leakage or malfunction.

Equipment should be inspected and serviced if the first stage inlet filter shows any sign of residue or verdigris.

Equipment should be inspected and serviced if it displays signs of improper performance or breathing effort.

Equipment should be inspected and serviced as required if it displays signs of free flowing.

Equipment should be inspected and serviced if O-Rings or hoses display any signs of deterioration.

## WARRANTY AND LIMITATION OF LIABILITY

This product is covered by CREST's limited warranty. Please refer to the enclosed product warranty for the warranty policy and details.

Limited liability warranty:

1. CREST warrants that your regulator will be free from defects in materials and workmanship for a period of two (2) years from the date of original retail purchase. Any product determined by CREST to



be defective in materials or workmanship in accordance with the above warranties, will be repaired or replaced at the option of CREST, free of charge, when received at CREST freight prepaid, together with proof of purchase. The original warranty date applies regardless of whether the item is repaired or replaced.

2. This warranty is expressly in lieu of all other warranties. Any implied warranties of merchantability or fitness for a particular purpose are limited to the same duration as this express warranty.
3. This warranty does not cover, and CREST shall not be liable, for incidental or consequential damages. Some states do not allow the exclusion or limitation of implied warranties, incidental or consequential damages, so the above limitations and exclusions may not apply to you.
4. The product warranty does not cover product packaging, product appearance, hoses and consumable parts, and non-integral accessories.
5. This warranty does not cover fading or any damage resulting from misuse, abuse, neglect, alteration, failure to perform maintenance as instructed, damage caused by contaminants, or unauthorized repair or service.
6. This warranty does not cover any representation or warranty made by dealers beyond the provisions of this warranty.
7. This warranty does not cover costs incurred for normal repair, inspection and preventative maintenance.
8. This warranty is a consumer warranty extended only to the original retail purchaser, and does not apply to equipment used for rental, military or commercial purposes.
9. You must establish proof of purchase to obtain warranty service or replacement.

To ensure your product warranty, please note:

1. Please register online for the warranty service.
2. Or you must hold the original retail purchaser's purchase receipt to obtain warranty service. The certificate must include: the store name of the authorized dealer or retailer, the original retail purchaser's name, purchase date, product model, purchase price and other related information . If the above information is incomplete, or the text is unclear or vague, CREST reserves the right to refuse warranty service.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

If you have any concerns about your product limited liability warranty, please contact [info@crestdiving.com](mailto:info@crestdiving.com)