

OCEANIC[®]

INNOVATION FIRST

NEO

Simply Elegant. The NEO is comprised of precision-machined components and extensive R&D with the goal of creating a lightweight, high performance regulator. Mission Accomplished. The NEO features effortless pneumatically balanced breathing paired with a compact over-balanced diaphragm first stage.

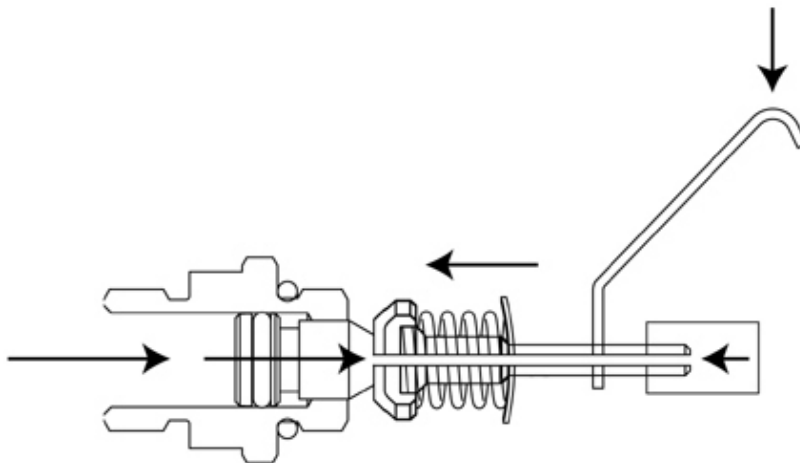
- Pneumatically balanced second stage with virtually no breathing effort
- Advanced composite construction for rugged durability and light weight - our lightest second stage at only 5.7 ounces (without hose)
- Ergonomic Adjustable Venturi Switch (A.V.S.) for simple Dive/Pre-Dive Adjustment
- Patented Orthodontic Mouthpiece with high-density bite tabs for increased comfort and reduced jaw fatigue
- Paired with the compact CDX-5 Over-Balanced Diaphragm First Stage.



DETAILS

Pneumatically Balanced Valve.

The pneumatically balanced second stage reduces breathing resistance to near zero with a balanced valve seat designed to respond to the slightest inhalation.



A pneumatically balanced second stage actually has (or can have) the same initial crack opening effort as a mechanically balanced, but the spring force of a pneumatically balanced second stage is lighter so its spring rate is also lower. Therefore the force required to open the valve farther as flow increases is less than that required for a mechanically balanced second stage with a higher rate spring. So the

total effort to breathe the pneumatically balanced second stage is indeed less.

The spring force must be just enough to overcome the difference between downstream air pressure and upstream balance chamber pressure.

The downstream air travels through a hole in the poppet into the balance chamber and applies an "upstream" force just slightly less than the downstream force.

Ergonomic A.V.S. (Adjustable Venturi System) Dive/Pre-Dive Switch.

Designed to be unobtrusive, yet easily manipulated even with the thickest gloves, the A.V.S. deflector vane found in the NEO either diverts airflow from the valve to the mouthpiece, producing effortless venturi-assisted inhalation or creates enough resistance to prevent free flow on the surface.

Computer Optimized Design.

The NEO was designed using the latest 3-D computer modeling techniques. This allows us the ability to model and test performance while still in the early stages of development. The NEO's unique valve, deflector vane and housing design directs airflow from the valve directly to the mouthpiece, producing nearly effortless venturi-assisted inhalation.

Patented Orthodontic Mouthpiece with High-Density Bite Tabs.

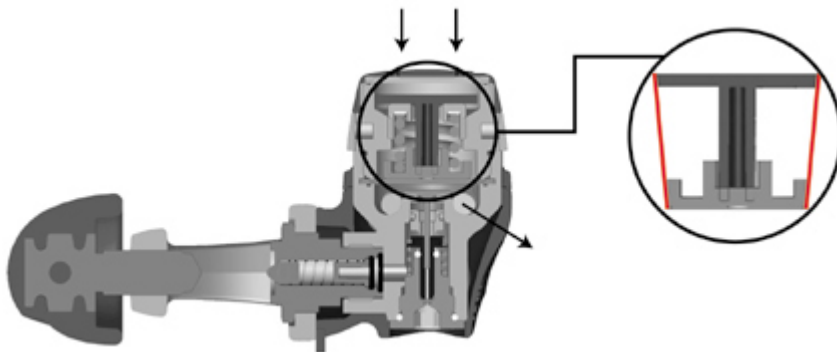
To further reduce jaw fatigue, the NEO features a patented Orthodontic Mouthpiece, designed to accommodate the natural overbite of the human jaw.

Nitrox Compatible.

The NEO | CDX-5 is classified as being suitable for use with Nitrox breathing gas mixtures containing up to 40% oxygen by volume without the need for special preparation, cleaning or component parts.

CDX-5 Compact Balanced Diaphragm First Stage

The CDX-5 Balanced Diaphragm First Stage is the perfect regulator for extreme diving conditions, such as ice diving or diving in high sediment. The balanced diaphragm first stage design has been the regulator of choice for many divers who find themselves pushing the envelope. The advanced design of the CDX-5 isolates the critical seats and o-rings from the harsh environment. This helps prevent internal corrosion and contaminant buildup, leading to more consistent performance between service intervals.

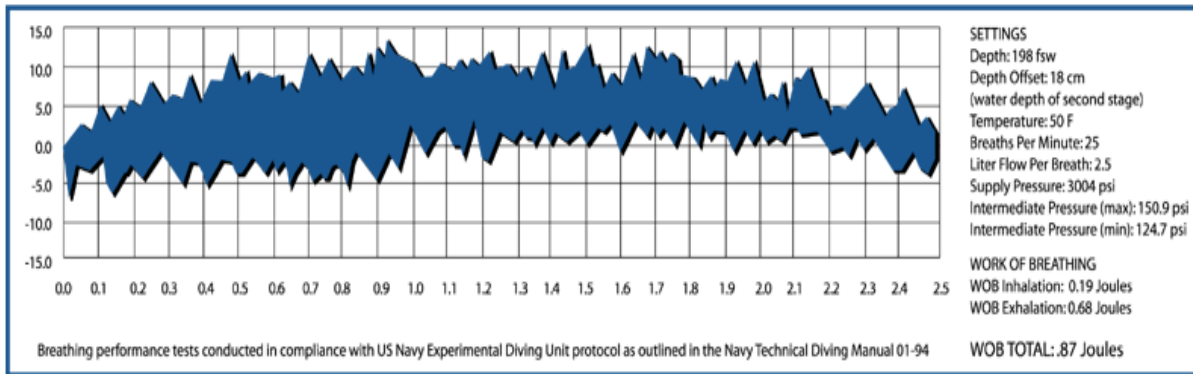


The CDX-5 high performance over-balanced first stage provides progressively greater intermediate pressure as depth and gas density increases. The center "pads" that the diaphragms act against are different sizes so the working area of the outer environmental diaphragm is larger than the working area of the inner diaphragm. As depth increases, more pressure is applied to the larger surface area of the outer diaphragm than would be applied to the internal diaphragm. The result is superior gas delivery under the most extreme conditions.

SPECIFICATIONS

FEATURES & FUNCTIONS	NEO SECOND STAGE
Valve Type	DEMAND
Adjustment(s)	PRE-DIVE SWITCH
Balancing System	PNEUMATIC
Integrated Purge Button	YES
Mouthpiece	ORTHODONTIC W/ TABS
Nitrox Compatibility	STANDARD TO 40%
Ambidextrous	
Integrated Swivel	NO
Weight (without hose)	5.7 OUNCES
Dimensions (front profile)	2.66 INCHES
First Stage Configurations	CDX-5
Minimum Cracking Effort	1.0 CIW*
Factory Set Inhalation Effort	1.2 - 1.4 CIW*
Work of Breathing	1.12 JOULES
Warranty	2 YEAR
Limited Lifetime Warranty	YES
FEATURES & FUNCTIONS	CDX-5
Valve Type	BALANCED DIA-PHRAGM
Primary Material	MARINE BRASS
Low Pressure Ports	4
High Pressure Ports	2
Dry Valve Technology (DVT)	YES
Integrated Swivel	
Nitrox Compatibility	STANDARD TO 40%
300 BAR DIN Fitting	OPTIONAL
Sealed Valve Design	YES
Environmental Protection	YES
Weight	29 OUNCES
Factory Set Intermediate Pressure	138-142 PSI
Pressure Drop	20.1 PSI
Warranty	2 YEAR
Limited Lifetime Service Warranty	YES

WORK OF BREATHING



WORK OF BREATHING

Did you know that it costs energy to breathe? The amount of energy your regulator requires to move each liter of air is called work of breathing (WOB). Lower work of breathing equals lower effort required to breathe and increased comfort and safety during a dive.

How to Read Work of Breathing Charts

The computer-generated breathing machine chart presented above represents a regulator's performance per standards established by the U.S. Navy's Experimental Diving Unit. Tests are conducted at 198 feet with approximately 3000-psi supply pressure, 25 breaths per minute of 2.5 liters each.

(1) Inhalation - The chart shows one complete breath cycle, starting with inhalation on the left and continuing along the bottom to the right, staying mostly below 0.0; thus the inhalation work of breathing is reported in negative numbers.

(2) Exhalation - The exhalation effort begins on the right and runs across the top to the left. These are all positive numbers since a diver (or the machine in this case) is blowing out (exhaling) rather than inhaling.

(3) WOB - The total area inside the loop formed by the two lines is what the computer analyzes to calculate the regulator's total work of breathing - the amount of energy the regulator requires to move each liter of air.

*Column Inches of Water



**Also Available
As an Octopus**

