SCUBALAB **TEST TEAM** The experts behind the tests

HOW AND WHY WE TEST

The goal of every ScubaLab gear review is to help you become savvier dive-gear consumers. Our reviews are impartial and based on both objective measurements of raw performance and the feedback of human test divers.

INHERENT-BUOYANCY TESTS

THE WHY: Every pound of inherent buoyancy a BC carries is an extra pound you must carry in your ballast system. When it comes to inherent buoyancy, less is always best. It has improved considerably over the years. These days, 1 to 2 pounds of inherent buoyancy is average, less than a pound is exceptionally good, and no inherent buoyancy — though uncommon — is a real bonus.

THE HOW: In a pool, all air is squeezed out of the BC using all exhaust valves. The BC is rotated underwater, and all areas of padding are kneaded to release any trapped air. Then, letting the BC hover in the water column, weights are added in 1- or 1-and-a-half-pound increments to achieve neutral buoyancy. Pound weights are used for ballast because they most closely relate to the actual experience of a diver, who adds pound weights to his ballast system to achieve neutral buoyancy.

BUOYANT-LIFT TESTS

THE WHY: If you're a warm-water diver who wears minimal exposure protection and therefore needs little ballast weight, your BC's buoyant lift is of little concern. However, if you dive with a thick wetsuit or drysuit with substantial ballast requirements, it's important to know that your BC's buoyant-lift claims match reality. Based on the different methods used to measure lift, we consider a 10 percent variance between claimed and measured lift capacities to be reasonable, and up to a 20 percent variance not cause for much concern. Beyond that, we feel divers might need more-accurate buoyant-lift figures to make sure the BC they choose meets their diving needs.

THE HOW: In a test pool, the BC is buckled around a neutrally buoyant bucket to simulate its shape when being worn by a diver. The BC is inflated until valves pop. Ballast is loaded into the bucket until the BC achieves neutral buoyancy, then added up and compared to the lift capacities listed by manufacturers.

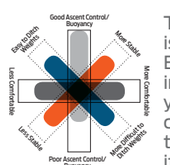
FLOW-RATE TESTS

THE WHY: ScubaLab tests flow rates to determine whether a BC's deflation valves will stay ahead of the inflation valve to avoid an out-of-control ascent if the inflation valve sticks open.

THE HOW: In a heads-up ascent position, starting out with the BC totally empty and loaded with ballast equaling 20 percent of its stated buoyant lift, the inflation valve is simultaneously activated for 20 seconds with each applicable deflation valve, then the BC is checked to see if it is able to remain negatively buoyant. Industry standards require that at least one heads-up deflation method keep up with inflation. All BCs in this review have at least one, and many have up to three deflation methods that can keep pace with inflation.

Note: See how ScubaLab evaluated the ergonomics of the BCs in the Ergo Tests sidebar on page 64.

PERFORMANCE SUMMARY



This graph, which is found with each BC on the following pages, will give you an overview of its characteristics. For example, if the BC had great buoyancy control while ascending, the shaded bar would move toward the Good Ascent Control/Buoyancy end of the graph. For expanded reviews and complete test data, go to scubadiving.com.

TY SAWYER

GENERAL-PURPOSE BCs

General-purpose BCs are designed primarily for temperate- and/or cold-water diving with 7 mm wetsuits or drysuits. They offer lots of buoyant lift and heavy-load integrated-weight systems.

LAB RESULTS

AERIS EX100

SPECS

Style Jacket
Warranty Two Years
Sizes/Buoyant Lift (in lbs.)
XS-27, S-31, M-38, L-49, XL-60
Integrated-Weight System Yes
Dry Weight 6 lbs., 14 oz. (Size M)
Price $300; diveaeris.com

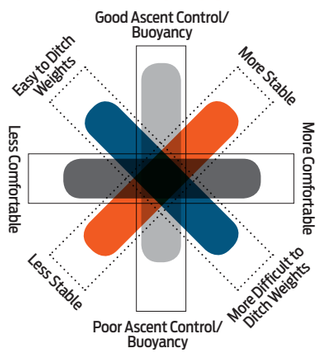
Performance

Aeris' EX100 comes with a redesigned integrated-weight system that features a new squeeze-buckle-style release on its weight pouches, which increases security but requires depressing the buckle flanges before yanking the handle to ditch weights. The primary ballast system is backed up by well-positioned rear trim pockets that test divers found functional and easy to load. The power inflator fits comfortably in the hand. Responsive inflate/deflate buttons and exhaust valves enabled test divers to maintain good buoyancy and ascent control. The 420-denier-nylon lightweight jacket has a padded backpad, contoured shoulders and an adjustable cummerbund for a snug fit.

Bottom Line

The EX100 is a lightweight BC with some nice extras for the lowest price in this category.

PERFORMANCE SUMMARY



Aeris EX100

Aeris EX200

LAB RESULTS

AERIS EX200

SPECS

Style Back Buoyancy
Warranty Two Years
Sizes/Buoyant Lift (in lbs.)
S-31, M-38, L-49, XL-60
Integrated-Weight System Yes
Dry Weight 7 lbs., 12 oz. (size M)
Price $400; diveaeris.com

Performance

The EX200's contoured shoulders are nicely padded and narrow-cut, creating a clutter-free chest area. The depth-compensating cummerbund and closed-cell foam backpad allow for a comfortable, snug fit. The integrated-weight ditch system is super secure with its new squeeze-to-release design, but not as intuitive as a standard yank-to-ditch design. Two zippered nonditch pouches mounted on the tank band make it easy to trim out the rig. Test divers rated the EX200 a comfortable, stable BC, with an easy to use power inflator. An efficient valve system allowed for proficient ascent control. It comes with delrin D-rings as well as double daisy loops on the right shoulder for accessories.

Bottom Line

Wearing this BC just feels good. It earned a Best Buy for its balance of performance and price.

PERFORMANCE SUMMARY