

THE 2007
SCUBALAB
FIN TEST

18 New Fins

THE BEST NEW DESIGNS FACE OFF
IN OUR EXCLUSIVE REVIEW.

Have you ever dived with a really bad pair of fins? It's the worst. Your legs and ankles ache, you huff and puff your tank away and you get nowhere. Worse, you just don't have any fun.

No doubt about it: Bad fins suck. Which is why ScubaLab invests such considerable time, effort and money into our fin tests. No diver should have to dive with substandard fins, not when there are so many excellent choices, many of them priced very reasonably. Since our last fin review in 2005, a number of interesting new designs have hit the market. In order to help you find the pair that's right for you, we took 18 new models, 12 test divers and five test supervisors to Capt. Don's Habitat on Bonaire (see "Our Thanks to," p. 73) and conducted the latest round of the industry's most thorough evaluation of recreational dive fins.

Our test is comprised of two phases. The first phase involves objective performance measures of speed (as measured by digital underwater speedometers), thrust (as measured by calibrated scales) and maneuverability (as measured by time on a slalom course)—these are reported here with each individual review. The second phase is what we call our ergonomic evaluation. During open-water reef dives, our team of multiple test divers evaluates each fin in 10 areas of performance using a 1 to 5 scale (5=Excellent, 4=Very Good, 3=Good, 2=Fair and 1=Poor) and records their comments on waterproof scorecards. At the end of our week in Bonaire, we then asked each test diver to rank the fins from best to worst. The fins that got the most No. 1 votes have been awarded the additional honor of a Testers' Choice rating. When you add all the data up, as we have in the following reviews, you get a pretty good picture of what you can expect from a pair of fins. (For complete data and a detailed description of all the tests, see In Depth, p. 106-107.)

The Overall Results

Good news: When we sat down to review the results of this year's test, we found most of them up to the task, with only a few performing below what we would consider average. And you don't necessarily have to pay a lot for a good pair of fins—some of the top performers also earned our Best Buy recommendation. Here are the reviews in alphabetical order by fin style.

By **BILL KENDIG**

Photography by **JOSEPH BYRD**

The red bars in the graphs that accompany each individual fin review show the highest average speed, highest thrust and fastest slalom time for that fin as recorded by our test divers. The range shown for each category—speed, thrust and slalom time—indicates the lowest to the highest score in each category. For an explanation of how we tested fins for speed, thrust and slalom times, see In Depth, page 107.

The Top **3**

Fastest Fins

1. Mares Avanti Superchannel (full-foot) (**2.4 mph**)
2. Mares Avanti Excel; Oceanic Caribe X (**2.3 mph**)
3. Apollo Sports Bio-Fin Pro C-Series, Atomic Aquatics Smoke on the Water (**2.2 mph**)

Thrust Test Champs

1. Atomic Aquatics Smoke on the Water; Mares Avanti Superchannel (full-foot) (**41 pounds**)
2. Apollo Sports Bio-Fin Pro C-Series; Mares Avanti Excel; Oceanic Caribe X (**40 pounds**)
3. Aeriis Mako; Mares Quattro Excel; Cressi-sub Reaction (**38 pounds**)

Slalom Course Champs

1. Mares Avanti Superchannel (full-foot) (**55 seconds**)
2. Oceanic Caribe X (**59 seconds**)
3. Mares Avanti Excel (**62 seconds**)



ON THE WEB » To get a behind-the-scenes look at the 2007 Fin Test, go to www.scubadiving.com/2007_fin_test. **GET MORE** » For more information and data charts on the fins tested in this issue, turn to In Depth, page 106, section 4.



Aeris Mako

The Mako was the surprise hit in this year's test. Don't let the generic look fool you—this fin has a slightly wider blade, flexible center channel, high-performance vents and snappy rails that create an efficient, powerful kicker that scored near the top of every objective performance test. The Mako put up the second-fastest time in the speed test, the third-highest force in the thrust test and the second-fastest time through the slalom course. On the reef, test divers gave it high marks in every ergonomic category, but they particularly liked the fin's quick acceleration and effortless hovering ability.

TEST DIVER COMMENTS "Nice straightforward fin, very functional"... "A very stable fin that loves to dolphin kick"... "Respectable power to effort ratio."

BOTTOM LINE The Mako is a solid fin that gets the job done with power, speed, maneuverability and comfort. It's also one of the least expensive fins in the test group. Price: **\$89.95**.

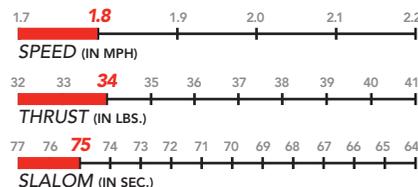


APS Mantaray

The Mantaray is virtually identical to the Deep Outdoors 6-Gill we tested in 2005, with the noticeable addition of an improved nonskid surface. This all-rubber fin uses a multi-vent channeling system designed to focus thrust and reduce effort, and comes with a buckle-free fin strap system. The short, flexible blade is easy to kick and offers quick, off-the-line acceleration, though it tops out at average speed. It's very stable, thanks to flexible side wings that add surface area on the power stroke but relax on the upstroke. The smaller blade also shines in maneuverability, as well as the frog and dolphin kicks. The compact size makes it a good travel fin, and although the buckle-free strap system is a pain to set up, once adjusted to your foot, it allows for easy donning and doffing.

TEST DIVER COMMENTS "A very maneuverable fin" ... "A soft flex that's easy on the legs"... "The straps are great once they are set, but have a learning curve with adjusting."

BOTTOM LINE The Mantaray offers comfort and average performance in a compact, travel-friendly package. Price: **\$149**.



APOLLO SPORTS Bio-Fin Pro C-Series

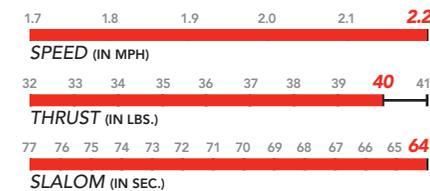
Apollo Sports Bio-Fin Pro C-Series

Not much has changed with the Bio-Fin Pro C-Series since our last review—it's now available in high-visibility white and Apollo's stainless steel spring straps are now standard in more sizes.

But that sameness is a good thing if you're a fan of these heavy, all-rubber fins. The newest version has the same stiffness (70 durometer rubber) and 20-degree blade angle, while sharing the honor of the fastest average speed for the open-heel fins in this test (2.2 mph). It delivered the fastest slalom course time among open-heel fins, and it produced a whopping 40 pounds of thrust. The Bio-Fin Pro was the only open-heel fin to earn an Excellent rating from test divers for Power vs. Stress, and one of only two fins to earn that rating for Acceleration. The convenient spring straps make the fin easy to put on and take off, and while its negative buoyancy drew mixed reactions, test divers ultimately deemed this fin a Testers' Choice among open-heel split fins.

TEST DIVER COMMENTS "Maneuverability and speed best describe this fin"... "No-hassle spring straps worked great"... "Getting used to sculling took some practice, but they are very comfy."

BOTTOM LINE Comfortable rubber construction, killer spring straps and excellent all-round performance make this an easy fin to love, but it's also a little pricey. Price: **\$270**.



Aqua Lung Blades 2 Flex



Aqua Lung utilizes the same foot pocket, blade shape and length that worked well in its Blades 2 fin, but changed the materials to create a more flexible fin that's easier to kick. The Blades 2 Flex delivered above-average scores in the speed, thrust and slalom tests, and test divers found them to be maneuverable and powerful, earning Very Good ratings in most ergonomic tests. Bonus: Nearly all test divers liked the unique quick-release buckle that opens when you step on it.

TEST DIVER COMMENTS "It gives a smooth, powerful glide without a lot of effort" ... "I really liked the quick-release buckle" ... "It was comfortable and efficient, a good combination."

BOTTOM LINE The Blades 2 Flex is a good all-around performer with a comfy foot pocket and cool quick-release buckle system. Price: **\$120**.



FIN BUYING ADVICE

» **FIT AND COMFORT MATTER MOST.** It doesn't matter how fast a fin is, how much thrust it generates or how nimble it is in the water if its fit is so tight, you'd rather walk across hot coals than endure tortured toes. Always try fins on for size, and with open-heel models that means wearing the boots you normally use. There should be a smooth, even contact around your foot with no "hot spots" or pressure points. Anything slightly uncomfortable in the dive store will become a major irritation underwater.

» **SPLIT OR PADDLE?** Consider response. You can find fins with chart-topping speed, thrust, maneuverability and ergonomic performance in either style, so when choosing between split fins or paddle fins, consider the type of response you want when you kick. Divers used to pushing heavy loads often prefer the stiffer, more responsive paddle fin feel—when they kick or scull they want a more direct result. Divers who like the softer feel of split fins at higher speeds will forgive the slight delay in responsiveness often found during slow maneuvers. It's purely a matter of personal preference.

» **CONSIDER THE STRAPS AND BUCKLES.** Traditional straps and buckles are the Achilles heel of fins, prone to breaking right before you jump off the boat. When you buy a new pair of fins always purchase a spare strap/buckle kit to ensure you'll never miss a dive. Many fins now come with self-adjusting spring straps that are more durable and virtually impossible to break. While more expensive, our test divers universally found them comfortable and easy to use.

» **A HIGHER PRICE DOESN'T ALWAYS MEAN HIGHER PERFORMANCE.** This year we were pleased to find a number of fins that were not only great performers, but budget-friendly, too. On the other hand, you don't want to make any sacrifices on quality, comfort or performance. If the perfect pair of fins for you costs more, consider the extra money a sound investment in your long-term diving enjoyment.

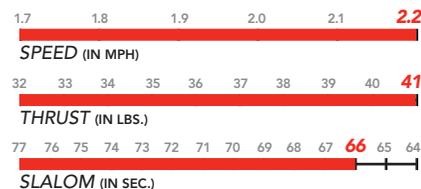


Atomic Aquatics Smoke on the Water

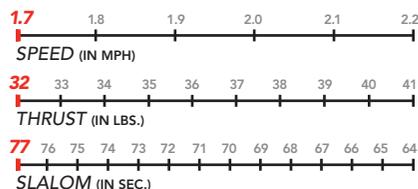
This impressive new fin gets its name from the smoky transparent panels on its long split blades. They are a bit more flexible than previous versions of the Atomic Splitfin, but still generated the highest thrust measurement of all the fins in this review. The Smoke on the Water fins also tied for the fastest speed score among open-heel fins and slashed through the slalom course with a top-three performance. In ergonomic tests, it was one of only two open-heel fins to earn an Excellent rating from test divers for Acceleration, and it also earned the highest score possible for ease of donning and doffing, thanks to the new spring straps with oversized finger grip. Firm rubber rails produce great power with little effort and provide stability with all kick styles.

TEST DIVER COMMENTS "The perfect balance of comfort, speed and maneuverability"... "An all-around great fin made better with the spring strap"... "Power and control: What more can you say?"

BOTTOM LINE The numbers and the comments speak for themselves, as did the consensus of test divers in naming this fin a Testers' Choice among open-heel split fins. Price: \$249.



Aquatec Duo-Vortex



With an "almost split fin" design and downward-angled blade, the Duo-Vortex is an intriguing design, but our tests indicate it still needs some work. The fin was the slowest on the speed course, slowest through the slalom course, and tied for lowest thrust measurement. Test divers rated it only Fair in three of our most important ergonomic evaluations (Power v. Stress, Maneuverability and Acceleration), but Good for Stability. Their general consensus: In spite of its multi-part, flow-through blade, it's a very stiff fin that's difficult to kick. Maneuvering was also difficult compared to the other fins in this review.

TEST DIVER COMMENTS "Pretty stiff fins, but stable side to side" ... "Length hampered maneuverability"... "Not sure this design works."

BOTTOM LINE It's a fascinating concept, but a weak performer in the water. Price: \$159.99.

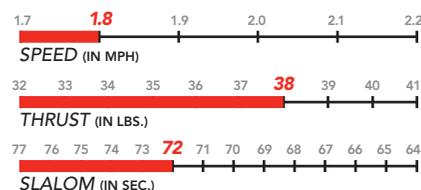


Cressi-sub Reaction

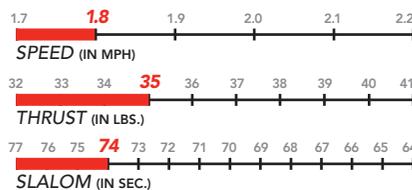
The Reaction is a solid fin with traditional performance characteristics. It features a long, stiff blade that is made more flexible by combining three different material thicknesses, but still takes some muscle to move efficiently. It's also smooth from foot pocket to blade tip for less turbulence, and it's stabilized by efficient side rails. The result is better-than-average thrust compared to the other fins in this review, but slightly slower speed measurements and slalom course times. Test divers said the wide, traditional blade was great for sculling and remained very stable in all kicking styles. Buckles and straps were easy to adjust and earned the Reaction a Very Good rating for Donning and Doffing. The wide heel straps in particular were very secure and comfortable.

TEST DIVER COMMENTS "It has a snappy blade that is either on or off"... "The flutter and dolphin kick produced rapid acceleration"... "As someone who likes a stiffer blade, they worked for me."

BOTTOM LINE The Reaction was lauded most by those who like a stiffer blade. While it offers variable flexibility with a blending of materials, its large surface area still needs some muscle to move. Price: \$98.



H2Odysey Eclipse



The new Eclipse is a light, stiff fin that gets the job done without much fanfare. It boasts a super angulated blade design and easy-to-adjust quick-release buckles, but the coolest thing about these fins is the \$49 price tag. The Eclipse found itself in the middle of the pack in terms of speed, thrust and maneuverability, and test divers consistently rated it a Good performer in all ergonomic categories and with all styles of kicks. Divers who like their fins on the stiff side were able to get nice acceleration and power, but fans of softer fins felt those gains took too much effort.

TEST DIVER COMMENTS "Fin is stiff and rigid, a lot of work for power"... "Very easy to accelerate quickly"... "Great fins, nice power when needed."

BOTTOM LINE A stiff fin best suited to divers with strong legs—but you can't beat the manufacturer's suggested retail price. Price: \$49.

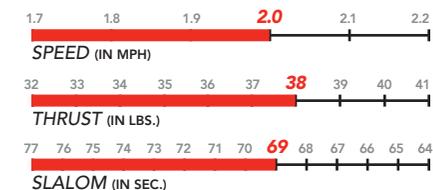


Mares Quattro Excel

The Quattro Excel came out shortly after our last fin test, so we had to wait until this year to see how it would stack up against an increasingly competitive field. It features Mares' patented Channel Thrust Technology, which combines flexible thermoplastic rubber channels with Technopolymer stiffening stringers to control water flow for efficiency and power. Also new are the ABS Plus buckles that allow quick cam action for easy removal without having to alter the strap adjustment. During objective tests, it scored among the top three paddle fins for thrust produced and came in above-average in the speed and maneuverability tests. Test divers considered them one of the stiffer fins in the test group, but found them equally good for flutter, dolphin and frog kicks. The consensus opinion was that the Quattro Excel offers good power, stability and acceleration and works best for divers with big legs pushing heavy loads.

TEST DIVER COMMENTS "Fins very easy to remove and replace"... "This fin gives you more power than maneuverability" ... "A good, powerful fin, but you need to be strong enough to use it."

BOTTOM LINE The Quattro Excel offers a traditional feel with state-of-the-art technology in materials and design. Price: \$180.

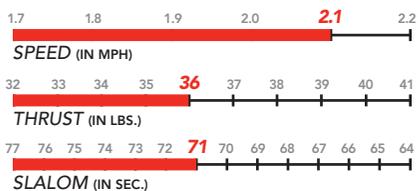


ATOMIC AQUATICS
Smoke on the Water



MARES
Avanti Superchannel

Mares Avanti Superchannel

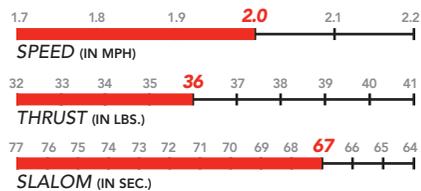


The Avanti Superchannel is brand-new this year and comes with a soft center channel for flex and efficiency and a full rubber foot pocket upper for comfort. It also sports the new ABS Plus buckle system, and in our series of tests, it kicked some serious bottom time. The blade has a smooth flex that turned in speed performance almost as fast as the top open-heel fins in this review. It produced average thrust and snaked through the slalom course in good time, but what test divers noticed was its stability. Divers who prefer a stiffer feel really liked this fin, and found it worked well for pushing heavy loads through the water. Our team also found the fin comfortable to wear, easy to control and a snap to propel with any kick style.

TEST DIVER COMMENTS "A good solid fin"... "Very comfortable and efficient"... "Very good control with small movements."

BOTTOM LINE When the votes were tallied, the Avanti Superchannel came out on top as the favorite open-heel, paddle fin, earning a Testers' Choice Rating. It also comes in with a retail price lower than most in the pack, making it a Best Buy, too. Price: **\$90**.

Oceanic Viper



Test divers found a lot to like about the Viper, a light, comfortable fin with a winning combination of materials, design and a very reasonable price. A soft center channel with lively stiffening panels and resilient rails on a slightly oversized blade work together to produce above-average speed and a respectable amount of thrust, but this fin really seemed to hit its stride in the turns. There wasn't a kicking style it didn't like, and it was one of only two fins that divers rated Very Good in every ergo category. Test divers also found the fin very comfortable, thanks to a soft rubber foot pocket and wide heel strap.

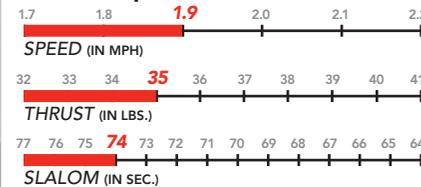
TEST DIVER COMMENTS "These fins delivered"... "They gave more push than I expected"... "Good speed with little effort."

BOTTOM LINE The Viper is a quick, light fin that provides a smooth powerful kick—and all at a great price, earning a Best Buy recommendation. Price: **\$89.95**.



OCEANIC
Viper

Scubapro Kinetix



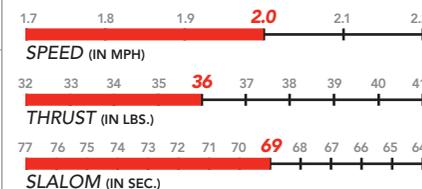
The Kinetix is lightweight and slim, making for a versatile travel fin. Three materials blend together for a smooth flex with an added spunk provided by springy reinforcement on the back. The thermoplastic rubber foot pocket is comfortable with a wide strap and quick-release buckles. Speed was its strongest point, landing it in the middle of the test group. Test divers found it to be a consistent performer with a light snappy feel and gave the fin Good ratings for Power, Stability and Maneuverability.

TEST DIVER COMMENTS "I could maneuver easily with these"... "A good cruising fin"... "Comfortable and maneuverable."

BOTTOM LINE A nice thin paddle fin that offers good all-around performance and travels well. Not a bad price, either. Price: **\$109**.



Oceanic Vortex V-8



The Vortex V-8 is a comfortable split fin that hits the shelf with a price tag that's \$100 less than the next closest split fin in this review. Oceanic utilizes composite materials for flex and firm side rails to direct water flow. On the test courses, the Vortex V-8 delivered near identical performance to its Viper cousin, though the Vortex V-8 took two seconds longer to get through the slalom course. Divers found it a good all-around performer, offering good power to effort attributes.

TEST DIVER COMMENTS "Accelerated quickly with short flutter"... "Easy to adjust and remove"... "Nice finger loop in strap."

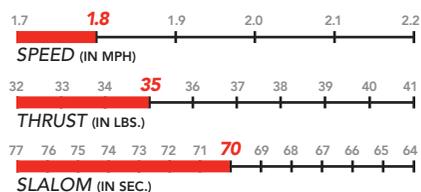
BOTTOM LINE The Vortex V-8 is a good entry-level split fin offering efficient fin performance at a fair price. Price: **\$119.95**.

Mor-fin Natural Delfin

The Natural Delfin is made from 100 percent natural rubber, a big change from the first generation of Mor-fins, which were made from a plastic compound that resulted in sharp edges and a slippery feel on wet boat decks. The new rubber compound has a much more natural feel and better traction, but with less snap to the blade, they're not as fast as their predecessors—though test divers felt they put out decent power with low effort and accelerated smartly with short, quick kicks. The Delfin landed in the middle of the pack for thrust measurements and maneuverability. Test divers said it works best with a dolphin kick, and noticed that due to a lack of side rails, the fins have a tendency to slice sideways. The Delfin uses the same buckle-free strap system that is found on the Mantaray with the same results—easy donning and doffing once it's adjusted, but it's a bit of a pain to set up.

TEST DIVER COMMENTS "Quick acceleration with low effort"... "Very light and comfy"... "Agile and responsive."

BOTTOM LINE The new rubber compound is a marked improvement in comfort. These fins pack well for travel, and work best with a short kick style. Price: **\$195**.

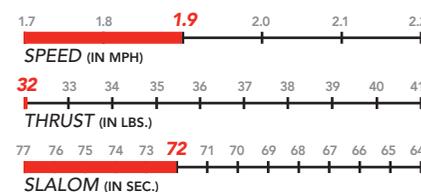


Scubapro Twin Jet Max

This new split fin has evolved from all-rubber construction to a dual-compound design, resulting in a stiffer blade. The fin's open-heel foot pocket design is also new, made of a softer compound for greater comfort. The soleplate has been extended to provide more leverage when transferring power and energy to the fin, and the heel straps are thick with a large finger loop and easy-adjust, quick-release buckles. It landed in the middle of the pack on most objective test measurements, but became a favorite among test divers during ergo tests, earning Very Good ratings in virtually all categories. Our divers thought it worked best with a short, quick flutter kick or dolphin kick, and praised it for a comfortable foot pocket and lack of leg strain.

TEST DIVER COMMENTS "Low leg stress and an easy kicker" ... "I like the large loop in the strap"... "Comfortable with any kick."

BOTTOM LINE The Twin Jet Max is a solid all-around performer that stands out in comfort. Price: **\$219**.





Mares Avanti Excel

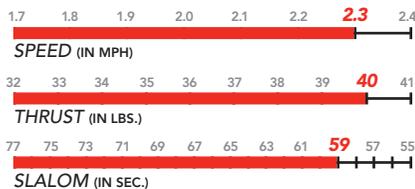
Mares poured a lot of technology into this fin using a blend of thermoplastic rubber and technopolymers in their Super Channel Thrust (a soft center that channels water efficiency), Optimizing Pivot Blade (OPB), and Whale Tail blade-integrated foot pocket, which transfers power directly from your foot to the fin. All we can say is that it works. In the objective tests, this fin racked up speed and thrust measurements better than most of the fins in this review, and its time on the slalom course was a respectable 62 seconds. This fin was a favorite among test divers who rated it Very Good for Power, Stability, Maneuverability and Acceleration. It was one of only two fins to earn an Excellent score for fit and comfort (the other was the Mares Avanti Superchannel full-foot).

TEST DIVER COMMENTS "Great power, but can gently navigate tight spots, too"... "Good acceleration without overworking" ... "No problem pushing a rebreather."

BOTTOM LINE This is a very comfortable fin that's also powerful, maneuverable and fast. What else is there to say? Price: **\$80.**



Oceanic Caribe X



The original Caribe fin was a favorite among testers in past reviews. We were pleased to find that the minimal changes made to reinforce the top of the blade had no negative effect on its performance. The Caribe X is a light, travel-ready fin with a large flexible center supported by snappy rails for a smooth, even flex. The slightly oversized blade kept pace with the fastest fins for speed and thrust, but stood out with agility through the slalom course. Test divers gave it Excellent ratings for Power and Maneuverability and felt it offered exceptional performance with all kicking styles.

TEST DIVER COMMENTS "Low effort, high output and comfy, too"... "Foot pocket is soft, but the fin is still powerful"... "So light and comfortable, you feel like a fish."

BOTTOM LINE The Caribe X was one of the best all-around performers and had the lowest price of all the full-foots tested, making it a Best Buy. Price: **\$44.95.**



OCEANIC Caribe X

FIRST LOOK

THESE FINS WERE not available in time for full testing, but have since been evaluated by the ScubaLab staff using similar speed, thrust, agility and ergonomic tests.

» **MARES RAPTOR** This stylish new split fin features natural rubber rails that taper for smooth flexing, and it uses a blend of composite materials to optimize thrust and efficiency. It also includes the Whale Tail foot pocket for better energy transfer to the blade. The Raptor showed a



lot of promise in our limited speed, thrust and maneuverability tests, turning in numbers that would have landed it in the top tier of this year's test group. The fin was powerful and stable and performed equally well with all kicking styles. We can't wait to put it to a full review in our next fin test. The Raptor comes with the convenient new ABS Plus buckle system and is available in four colors (blue, red, yellow and green) and three sizes (small, regular and extra-large). Price: **\$160.**

» **OCEANIC VORTEX V-16** The newest in the Vortex split fin series, the V-16 combines Oceanic's patented design with a new mix of four materials to lighten the fin and enhance performance. Semi-rigid, natural rubber panels are designed to offer optimal flex while the oversized rails are meant to add rigidity, control water flow and enhance performance. Our preliminary tests showed the V-16 had similar performance characteristics to the V-8 fin in this year's review. The extended heel pad and wide foot pocket felt stable and comfortable. A slightly softer flex made the fin feel more maneuverable and efficient, with good power and less stress on ankles. Buckles were easy to adjust and the large thumb loop made removal a snap. Price: **\$189.95.**



SCUBA DIVING TV EXCLUSIVES

GO BEHIND THE SCENES of the 2007 Fin Test. Visit www.scubadiving.com/video for:

» **"MOTION MECHANICS: THE 2007 SCUBALAB FIN TEST."** See how we put this year's crop of new fins to the test with your host, ScubaLab Director Bill Kendig. You'll learn how we gather the data on speed, thrust, maneuverability and the comments from multiple test divers to bring you the most thorough evaluation of dive fins conducted anywhere.

» **"CAPT. DON'S HABITAT."** Narrated by the famous Capt. Don himself, this clip provides a rare glimpse into how our host resort came to be known to generations of divers as something more than a hotel and dive operation. To quote the Captain, "Don't call it a resort—it's a habitat."



OUR THANKS TO

» **CAPT. DON'S HABITAT** Our 2007 ScubaLab Fin Test would not have been possible if not for the support and assistance of our host resort, Capt. Don's Habitat on Bonaire. General Manager Jack Chalk and his entire staff made our stay comfortable and easy. And the resort's convenient dock access to the reef, accommodating boat schedule and unlimited shore diving let us accomplish the work and still get in some fun dives, too. For more information on the resort, visit www.habitatdiveresorts.com/bonaire or call **011-599-717-8290.**

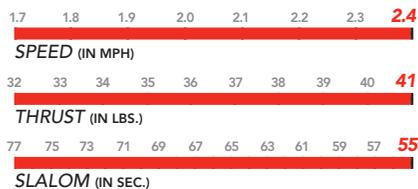
» **TOURISM CORPORATION OF BONAIRE** General Manager Ronella Croes and her staff also provided invaluable assistance in making the 2007 Fin Test a success. TCB is the official source of tourism information on Bonaire. For more information on the island, call **1-800-BONAIRE** or www.InfoBonaire.com.

Mares Avanti Superchannel

The Avanti Superchannel Full-Foot is brand-new and an evolution in the company's Channel Thrust Technology. It has a slightly softer foot pocket and center channel and directs water flow with flexible side channels and rails. This fin was the clear champ among the full-foots we tested. Compared to all the fins in this review, it clocked the fastest speed, twisted through the slalom course with the best time, and it tied for the most thrust generated. It also collected the highest ergonomic scores—of any full-foot fin we've ever tested. Our divers raved about its comfort, maneuverability speed and acceleration and named it their clear Testers' Choice among the full-foots in this review. Bonus: It actually sells for less than the Avanti Excel, making it a great value to boot.

TEST DIVER COMMENTS "Powerful acceleration without effort"... "Handles great in tight turns"... "Loved this fin!"

BOTTOM LINE The Avanti Superchannel has it all. Price: **\$70.**



MARES Avanti Superchannel



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FEATURES	OPEN-HEEL														FULL-FOOT			
	AERIS Mako www.aeris.com	APS Mantaray www.apsmantaray.com	APOLLO SPORTS Bio-Fin Pro C-Series www.divepollo.com	AQUA LUNG Blades 2 Flex www.aqualung.com	AQUATEC Duo-Vortex www.aquatecusa.com	ATOMIC AQUATICS Smoke on the Water www.atomicaquatics.com	CRESSI-SUB Reaction www.cressisubusa.com	H2ODYSSEY Eclipse www.h2odysey.com	MARES Quattro Excel www.mares.com	MARES Avanti Superchannel www.mares.com	MOR-FIN Natural Delfin www.morfin.com	OCEANIC Viper www.oceanicworldwide.com	OCEANIC Vortex V-8 www.oceanicworldwide.com	SCUBA PRO Twin Jet Max www.scubapro.com	SCUBA PRO Kinetix www.scubapro.com	MARES Avanti Excel www.mares.com	MARES Avanti Superchannel www.mares.com	OCEANIC Caribe X www.oceanicworldwide.com
PRICE	\$89.95	\$149	\$270	\$120	\$159.99	\$249	\$98	\$49	\$180	\$90	Starting at \$195	\$89.95	\$119.95	\$219	\$131	\$80	\$70	\$44.95
MADE IN	China	USA	Japan	Italy	Taiwan	Taiwan	Italy	Taiwan	Italy	Czech Rep	Malaysia, Thailand, U.S.	China	Italy	China	Italy	Czech Rep	Czech Rep	Italy
WARRANTY	1-year ltd.	Ltd. life-time	1-year	2-year ltd.	1 year	1 year	1 year	1 year	2-year ltd.	2-year ltd.	1 year	1-year ltd.	1-year ltd.	Ltd. life-time	1 year	2-year ltd.	2-year ltd.	1-year ltd.
FIN STYLE	Paddle	Unique	Split	Paddle	Unique	Split	Paddle	Paddle	Paddle	Paddle	Unique	Paddle	Split	Split	Paddle	Paddle	Paddle	Paddle
FOOT POCKETS	Open Toe	Closed Toe	Open Toe	Closed Toe	Closed Toe	Open Toe	Closed Toe	Closed Toe	Closed Toe	Closed Toe	Closed Toe	Open Toe	Open Toe	Open Toe	Closed Toe	Open Toe	Open Toe	Open Toe
BUOYANCY	Negative	Positive	Negative	Negative	Positive	Positive	Negative	Negative	Negative	Negative	Negative	Negative	Positive	Negative	Positive	Negative	Negative	Negative
SIZES	4	3	5	3	3	4	4	3	3	3	6	4	4	4	3	6	6	6
WEIGHT	1 lb. 13 oz. (per fin) M	1 lb. 11 oz. ML	3 lb. 6 oz. (per fin) M	2 lb. 3 oz. M	2 lb. 3 oz. ML	2 lb. 7 oz. M	2 lb. 4 oz. ML	1 lb. 15 oz. ML	2 lb. 3 oz. M	2 lb. 3 oz. M	1 lb. 13 oz. M	1 lb. 12 oz. M	1 lb. 14 oz. M	2 lb. 9 oz. M	1 lb. 15 oz. ML	1 lb. 6 oz. 44/45	1 lb. 7 oz. 42/43	1 lb. 3 oz. ML
ERGONOMIC PERFORMANCE (5=Excellent 4=Very Good 3=Good 2=Fair 1=Poor)																		
POWER VS. STRESS	4	3	5	4	2	4	3	3	3	4	3	4	3	4	3	4	5	5
STABILITY	4	4	4	4	3	4	4	3	3	4	2	4	3	3	3	4	5	4
MANEUVERABILITY	4	4	4	4	2	4	3	3	3	3	3	4	3	3	4	5	5	5
ACCELERATION	4	3	5	4	2	5	3	3	3	4	3	4	3	4	3	4	5	5
FIT AND COMFORT	4	3	4	4	3	4	3	3	3	3	3	4	3	4	3	5	5	4
ALTERNATE KICKS	4	4	4	4	3	4	3	3	3	4	3	4	3	4	3	4	5	5
SURFACE SWIM	4	3	4	3	3	3	3	3	3	3	3	4	3	3	4	4	4	4
DONNING/DOFFING	4	4	5	4	4	5	4	3	4	4	4	4	4	4	3	4	4	4
ADJUSTING FOR FIT	4	1	N/A	4	3	N/A	3	3	4	4	1	4	4	4	4	N/A	N/A	N/A
NONSKID	4	4	4	4	3	4	3	3	3	4	3	4	3	4	3	3	3	3

ERGONOMIC CHART EXPLANATIONS MOST IMPORTANT

Power vs. Stress: The perception of power produced vs. effort required. **Stability:** How much the fins wobble, slice from side to side or hit each other during the kick cycle. **Maneuverability:** The ease of turning, as well as getting in and out of tight places using fin power; i.e., backing up, changing or reversing directions, using small fin movements. **Acceleration:** During an underwater swim, the ability to quickly pick up speed.

MODERATELY IMPORTANT

Fit & Comfort: Of foot pocket. **Alternate Kicks:** Ease and effectiveness of frog and dolphin kicks. **Surface Swim:** Both face-down and while swimming on the back.

CONVENIENCE ELEMENTS

Donning/doffing: Prior to the dive, after the dive. **Adjusting for Fit:** Ease of using buckles and straps, both in and out of the water. **Nonskid:** The sense of security on a wet boat deck while geared up and wearing fins.

Meet the Test Divers

The 2007 ScubaLab Fin Test required a team of 12 test divers and five test supervisors to gather the data, scores and comments presented here. Our test divers are a representative sample of the diving population, two-thirds men and one-third women, made up of readers like you. Each morning, the test divers split into teams to gather the objective performance data on speed, thrust and maneuverability. Then, after a quick soak in the pool and a hot lunch, they loaded onto the dive boat and headed out to evaluate the ergonomic performance of fins on a series of two-tank reef dives. In short, these test divers were your stand-ins, doing what



you would do if you could do it—trying out every new pair of fins on the market and delivering their honest opinions. It's expensive, it's

time-consuming, but it's also a lot of fun. For a behind-the-scenes look at this year's test, visit www.scubadiving.com/2007_fin_test.

SPEED TEST

Using a flutter kick at an average depth of 10 feet, six test divers took each of the following fins on two speed runs using specially designed underwater digital speedometers. The highest speed for each fin was taken from each diver, then averaged, to come up with the following chart data. Please keep in mind that in real-world diving, the difference of 1/10th mph is insignificant, and speed data is only part of a fin's overall performance. ScubaLab recommends evaluating all areas of fin performance before making a buying decision.

Note: In preparation for the 2007 ScubaLab Fin Test, we invested in a new set of underwater speedometers with updated electronics. Calibration tests showed these new speedometers track fin speeds at a consistent half knot, or .58 mph, slower than the speedometers used in previous fin tests. When comparing speed performance of this year's fins with the speed performance of fins tested in past reviews, add .58 mph to this year's speeds.

AVERAGE SPEED (IN MPH)

OPEN-HEELS

- 2.2 Apollo Sports Bio-Fin Pro C-Series
- Atomic Aquatics Smoke on the Water
- 2.1 Aeris Mako
- Mares Avanti Superchannel
- 2.0 Aqua Lung Blades 2 Flex
- Mares Quattro Excel
- Oceanic Viper
- Oceanic Vortex V-8
- 1.9 Scubapro Twin Jet Max
- Scubapro Kinetix
- 1.8 APS Mantaray
- Cressi-sub Reaction
- H2Odyssey Eclipse
- Mor-fin Natural Delfin
- 1.7 Aquatec Duo-Vortex

FULL-FOOTS

- 2.4 Mares Avanti Superchannel
- 2.3 Mares Avanti Excel
- Oceanic Caribe X

THRUST TEST

To gather average thrust measurements, we used 12 test divers for each fin tested. Using a flutter kick at an average depth of 10 feet, test divers grabbed onto a rigid-handle harness that connected to a scale that connected to a pier piling. Holding the handle securely against their bodies, test divers slowly kicked forward, taking the slack out of the harness, then gradually increased their speed to their maximum effort. A test supervisor monitoring the scale recorded the maximum thrust generated by each diver. The data in the following chart represents the average of these measurements.

AVERAGE THRUST (IN POUNDS)

OPEN-HEELS

- 41 Atomic Aquatics Smoke on the Water
- 40 Apollo Sports Bio-Fin Pro C-Series
- 38 Aeris Mako
- Mares Quattro Excel
- Cressi-sub Reaction
- 37 Aqua Lung Blades 2 Flex
- 36 Oceanic Vortex V-8
- Oceanic Viper
- Mares Avanti Superchannel
- 35 H2Odyssey Eclipse
- Mor-fin Natural Delfin
- Scubapro Kinetix
- 34 APS Mantaray
- 32 Scubapro Twin Jet Max
- Aquatec Duo-Vortex

FULL-FOOTS

- 41 Mares Avanti Superchannel
- 40 Mares Avanti Excel
- Oceanic Caribe X

SLALOM COURSE

Six test divers, using a flutter kick, followed a zig-zag course laid out in the sand in approximately 10 feet of water. While on the course, divers clutched either weight belts or BC straps to ensure all maneuvering power was generated by the fins. Divers swam two round-trip circuits per fin, recording their course times with digital stopwatches. The fastest time for each fin was taken from each diver, then averaged, to come up with the following course times.

AVERAGE COURSE TIME (IN SECONDS)

OPEN-HEELS

- 64 Apollo Sports Bio-Fin Pro C-Series
- 65 Aeris Mako
- 66 Atomic Aquatic Smoke on the Water
- 67 Oceanic Viper
- Aqua Lung Blades 2 Flex
- 69 Oceanic Vortex V-8
- Mares Quattro Excel
- 70 Mares Quattro Excel
- Mor-fin Natural Delfin
- 71 Mares Avanti Superchannel
- 72 Cressi-sub Reaction
- Scubapro Twin Jet Max
- 74 Scubapro Kinetix
- H2Odyssey Eclipse
- 75 APS Mantaray
- 77 Aquatec Duo-Vortex

FULL-FOOTS

- 55 Mares Avanti Superchannel
- 59 Oceanic Caribe X
- 62 Mares Avanti Excel