

# Zero Speed Stabilizers

A new generation of sea-taming technology

You're anchored off Tahiti Beach in St. Tropez. A groundswell is running and the perceptible lurching of your boat is causing your guests some discomfort. With the harbor jammed as usual and no shelter in sight, you have the crew dispense the Bonine and hope for the best.

With the average size of yachts expanding and available dockside space dwindling in the world's cruising hot spots, more owners and charterers are forced to anchor out, exposed to the swells. Traditional stabilizers, which resist roll when a boat is under way, provide little or no relief when a yacht is not moving. But a new generation of stabilizing systems is spelling relief for the rock-and-roll blues at anchor.

"This technology has made yachting more desirable and more comfortable and has opened it up to people who have not considered the sport because of the rolling," says Mike Perkins, Vice President

of Fort Lauderdale-based Quantum Marine Engineering, which manufactures stabilizing systems for large yachts.

Anti-roll stabilization has been around for decades, but only in recent years has the yachting industry developed truly effective systems for the uncomfortable lurching owners and guests experience anchored out, adrift, or on moorings.

Traditional fins function similar to airplane wings, providing lift on one side of the boat or the other to counteract roll under way. The systems are capable of significantly reducing roll while the yacht is moving, but are of little value while the boat is anchored. Anti-roll tanks, which are still in use in commercial and military craft and on some yachts, provide some roll relief at anchor. But again, the benefits are minimal, generally reducing roll no more than 40 percent and requiring the attention of a well-trained operator.

Doors for improvements in at-anchor performance began to open about a decade ago with the dawn of electronic control units, which replaced slower, less-precise mechanical

gyros, improved, quieter hydraulic systems and advancements in fin shape. A major turning point occurred in the late '90s with fully digital controls that can adapt to a given operating environment and react against roll in real time.

Quantum's Zero Speed stabilizers employ fins that are intentionally unbalanced with extended trailing sides. The electronics and hydraulics react in real time and "push" water to counteract roll, rather than relying on hydrodynamic lift from water moving over the fins. Quantum claims its system can produce roll reduction of 90 percent.

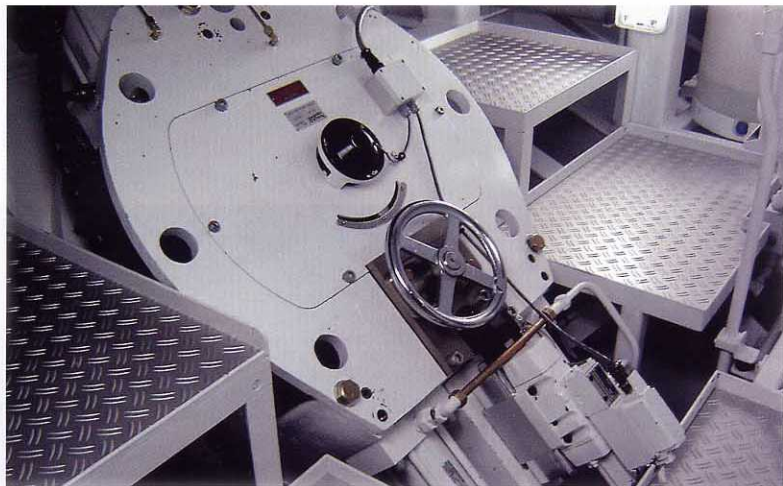
VT Naiad Marine makes a system it calls Stabilization at Anchor. The company says in many cases, it can reduce roll at anchor by 70 percent or more.

"Our business has always been about comfort and this is certainly a comfort-enhancing technology," says VT Naiad President John Venables. Designers, builders, owners and charterers

**In addition to the new-build market, there is growing demand for retrofits. Charter agents and yacht brokers are seeing an increase in demand from clients for at-anchor systems.**



82 // international yachtsman



of yachts over 100 feet have taken note of the latest developments. Consequently, demand for boats equipped with the systems is soaring.

"Pretty much anything in that size range we're suggesting owners use the technology because it's working well," says Andrew Major, Senior Design Engineer at the Setzer Design Group.

In addition to the new-build market, there is growing demand for retrofits. Charter agents and yacht brokers are seeing an increase in demand from clients for at-anchor systems.

Jan Henry, a charter broker with Fraser Yachts in Fort Lauderdale, cites the fact that big-boat charter clients aren't always seasoned yachtsmen, and given the increasing pressure on the glamour ports around the world resulting in more frequent anchoring off, those in her business welcome the advancements.

"When a broker finds out a boat has at-anchor stabilization, it becomes very attractive to us," she says.

She estimates about 20 percent of her clients request boats with the systems, and others, once they experience it, are hooked.

"In some cases, it's completely accidental when they end up on a boat that has it, but that's all they want in the future."

Missy Johnston of Northrop & Johnson Worldwide Charters remembers the familiarization trip not long ago with a group of charter brokers in the Med on a pair of motoryachts. One boat had an at-anchor stabilization system and the other didn't. There was a significant difference between the experiences of the two groups. The boat that didn't have the system rolled and rolled, she says. The boat she was on did not.

"It certainly sold me," says Johnston.

Currently, external fins are the most popular approach to roll stabilization on larger yachts, but other approaches are in use as well. Mass gyros without external fins have been used for stabilization since the early 20th century. But recent advances in gyro systems—gyros that operate with high RPM—have made them potentially viable alternatives to fins in some cases.

The Ferretti Group has an exclusive arrangement with Mitsubishi Heavy Industries to use a system call Anti-Roll Gyro on the company's various boat lines. The strategy calls for one or more high-RPM gyros to be installed inside the hull to reduce roll. According to the Ferretti Group, the systems are appropriate for its largest yachts, but they are particularly appealing for

its models with planning hulls where drag is undesirable and the hulls produce dynamic stability at planning speeds.

Other strategies are in development as well.

With larger custom and semi-custom yachts, each vessel requires a unique solution, although the stabilizer manufacturers may employ off-the-shelf components.

The cost of at-anchor systems can be high. While none of the manufacturers contacted for this article would venture a number, in part because of the potential range of solutions for custom yachts, they all had anecdotes about owners to whom the benefits far outweighed the cost. Perkins suggests yachts with the systems will produce greater resale value than yachts not equipped with them.

Billy Smith, Vice President of Trinity Yachts, which has used Quantum's Zero Speed systems on more than 25 launches since 1999, is a true believer. He says his company now considers the systems standard equipment on its yachts.

"It's the greatest thing to hit yachting since reliable watermakers." 🗣️

**Doors for improvements in at-anchor performance began to open about a decade ago with the dawn of electronic control units, which replaced slower, less-precise mechanical gyros, improved, quieter hydraulic systems and advancements in fin shape.**

