



For those Mission Critical  
MOMENTS...

**Quantum**  
Marine Stabilizer Systems

## USCG - RENOWNED GLOBAL SERVICE



Quantum's global reputation for excellence delivers renowned service, including extended warranty options which reduces life cycle costs and ensures quality performance. Quantum proudly serves the U.S. Coast Guard, providing training, technical support, maintenance training certification, Integrated Logistic Support (ILS) and global service.

## ROYAL AUSTRALIAN NAVY – LÜRSEN – ASC – CIVMEC SHIPYARD



Based on Lürssen's OPV80, the first two Arafura-class, offshore patrol vessel (OPV's) were built at ASC Shipbuilding, with the remaining vessels being built at CIVMEC. Quantum is supplying a four-fin system that includes Zero Speed™ technology.

## FAST RESPONSE CUTTER (FRC-B) – BOLLINGER SHIPYARDS



A long-term partner of the Bollinger, multi-phased, FRC contract. Part of the U.S. Coast Guard's Deepwater initiative and among the most successful maritime acquisition programs, the Sentinel class Fast Response Cutter (FRC) has surpassed all historical quality benchmarks. Quantum is supplying the stabilizer systems, technical support, training and life cycle support/service on this Bollinger program.

## WMEC 270 SERVICE LIFE EXTENSION PROGRAM (SLEP) – DEREKTOR SHIPYARD & TACOMA BOATBUILDING



Components from four decommissioned Oliver Hazard Perry-class frigates resulted in more than \$24 million in savings and returned to service aboard WMEC famous class cutters in order to extend their service lives into the 2030s. Quantum was able to preserve the existing system, while redesigning and replacing the hydraulic and stabilizing control system.

## OFFICE of NAVAL RESEARCH (X-CRAFT) SEA FIGHTER – NICHOLS BROTHERS



Awarded (FSF-1) small-waterplane-area twin-hull (SWATH) design by ONR. Quantum developed a comprehensive Ride Control System including the MAGLift™ Rotor with underway and Zero Speed™ capabilities. Intended to assist with station keeping and ship-to-ship transfer operations, while providing a stable launch/fire platform along with support/service. This technology impacted the design and development of future Littoral platforms.

## ROYAL BRUNEI NAVY – LÜRSEN



Quantum was chosen to develop and supply the roll stabilizers for Lürssen's 41m fast patrol boat and an 80m patrol vessel for the Brunei Navy. These were based on the Darussalam-class offshore patrol vessel (OPV's) and used Quantum's roll stabilizer systems along with a life cycle support/service package.

## U.S. NAVY SUPPORT VESSELS & HORNBECK OFFSHORE



The Hornbeck Offshore Support Vessel provides escort services for Submarine & Special Warfare Support Vessels. Quantum's patented MAGLift™ Rotor System proved to be the optimal solution for this bow steering application.

## U.S. NAVY CYCLONE CLASS – BOLLINGER SHIPYARDS



The Cyclone class was designed for coastal patrol and interdiction surveillance. After decades of service, Quantum was awarded the contract to refit the hydraulic power pack and control system. The upgrade was performed dockside, resulting in significant cost savings by avoiding the time and expense of a haul out.

## DAMEN SHIPYARDS



For almost 20 years, Damen has partnered with Quantum on projects for foreign Navies and Coast Guard vessels including the STAN Series which was used for constabulary duties, fishery and environmental patrols. Damen and Quantum collaborated on a custom design for a smaller, lighter stabilizer system along with an integrated hydraulic unit.

## SCHELDE NAVAL SHIPBUILDING – FRIGATES & OFFSHORE PATROL VESSELS



The Sigma-class frigate is built around the concept of a Ship Integrated Geometrical Modularity Approach (SIGMA), which combines high flexibility, at a reduced cost through the use of a modular design. Quantum served as the development partner to design and create the motion control system for the Frigate and roll stabilizers for the OPV's.

## RIVERHAWK FAST SEA FRAMES – AMP – OPV



The Riverhawk Advanced Multi-mission Platform (AMP) is adaptable and can be reconfigured based on the mission. Quantum supplied the patented, MAGLift™ Rotor stabilizer, that generates lift proportional to the speed and direction of the rotation through a rotating cylinder. It offers flexibility for the adaptable AMP model, with slow/loitering and zero speed applications as well as high speed or ice class requirements with the retractable feature.

## EGYPTIAN OPV's – VT HALTER MARINE



The Ambassador IV-class missile boat was built by VT Halter Marine/ST Engineering for ride control equipment. Developed in the U.S. under the Foreign Military Sales (FMS) program. Quantum delivered all aspects of design, engineering, testing, production, installation, training, life cycle support/service.



# MARINE STABILIZER SYSTEMS



## SERVICE & SUPPORT

- ✔ Lifetime Warranty – subject to contract
- ✔ Certified technicians available 24/7 deployed worldwide
- ✔ Comprehensive Integrated Logistics Support (ILS)
- ✔ Global inventory of 30,000 fully traceable parts in stock
- ✔ Extensive parts, prompt shipping
- ✔ Distribution centers on 3 continents
- ✔ Commissioning, inspection, certification, maintenance, training
- ✔ Preventive and corrective maintenance
- ✔ Condition based and reliability centered maintenance
- ✔ Life cycle, legacy, controller hardware and software upgrades
- ✔ Three international patents
- ✔ Full Engineering Department including full-time Naval Architects
- ✔ Full regulatory compliance - including ITAR
- ✔ International service & repair
- ✔ In-house software development
- ✔ In-house controls technology development
- ✔ In-house Computational Fluid Dynamics (CFD)
- ✔ Multiple languages

Quantum is the most customer-centric and solutions driven marine stabilization company on earth. With a worldwide reputation for excellence in design, performance and responsiveness, the global team offers unparalleled, 24/7 service and support.

Since 1985, Quantum has engineered and manufactured thousands of systems, resulting in roll reduction and stability through the innovation of Zero Speed™ technology and three world patents: XT™ Extendable Fins, MAGLift™ Retractable Rotors and Dyna-Foil™ Retractable Fins.

Offering stability and safety for crew members, passengers and cargo while achieving a 50% increase in mission readiness and 18% fuel reduction with Zero Speed™ technology.

## EXPERIENCE

- ✔ Inventor of Zero Speed™ technology
- ✔ World leader in stabilization system design
- ✔ Computational Fluid Dynamics (CFD)
- ✔ Numerical simulations, installation, retrofit engineering
- ✔ New build, Service Life Extension Programs (SLEP)

## PERFORMANCE

- ✔ Installed first-ever military Zero Speed™ system
- ✔ Built world's largest 20m<sup>2</sup> XT™ fixed-fin stabilizers
- ✔ Awarded U.S. Navy, U.S. Coast Guard contracts
- ✔ Awarded 18 international Navy contracts

**Cage Code: QME - 5M2Y6 / QS - 3C9N5**

**DUNS# - QME: 831790563 / QS: 126507206**

# QUANTUM'S PATENTED PRODUCT LINE

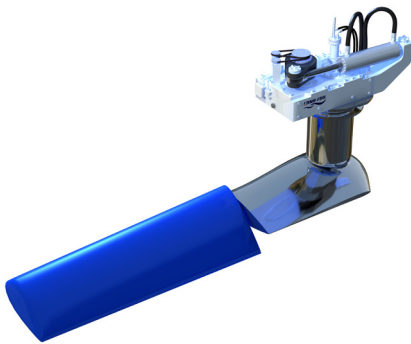
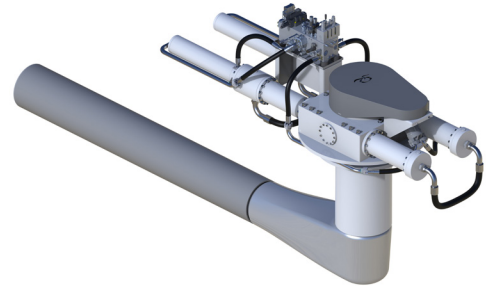


## XT™ Fin

The XT™ Fin is the most popular system to date. The main stabilizer fin houses another fin or "foil," designed to extend or retract based on the speed of the vessel. To maximize the performance at zero speed, the foil is extended, providing 30% more surface area, while generating 100% more lift force. To maximize the performance underway, the foil is retracted, reducing the surface area and the corresponding drag.

## MAGLift™ Rotor

Based upon the "Magnus Effect," a phenomenon where a rotating cylinder creates lift (stabilization) proportional to the speed and direction of the rotation. It is perfect for slow/loitering and zero speed applications. The rotors are also completely retractable underway, making it ideal for ice class or high-speed vessels where drag is a concern.



## Dyna-Foil™

The latest technology using a dual purpose, underway and at Zero Speed™, fully retractable ship stabilizing system. Dyna-Foil™ generates more lift, with less drag and less power, therefore more efficient. It features a high aspect articulating foil, to produce roll stabilization. Ideal for vessels with zero and high-speed stabilizer demands.

## Zero Speed™

Innovators of Zero Speed™ technology in 2000 and recognized as one of the greatest advancements to marine stabilization in history. Zero Speed™ is available on all Quantum patented products.



## On the Environment

Quantum Marine Systems are specifically designed for eco-friendly Environmentally Acceptable Lubricants (EAL) including biodegradable, low toxicity oils and lubricants. Our award-winning, sustainable manufacturing facility is LEED Certified by the U.S. Green Building Council.

# GLOBAL PARTNERS



U.S.A



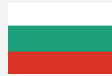
ALBANIA



AUSTRALIA



BAHAMAS



BULGARIA



BRUNEI



CAPE VERDE



CHAD



ECUADOR



EGYPT



ITALY



LEBANON



MEXICO



MOROCCO



NETHERLANDS



SOUTH AFRICA



TRINIDAD



UK.

Aarhus Shipyard, Denmark  
Abeking & Rasmussen, Germany  
AMELS, Holland Perini  
Austal, USA  
Azimut Benetti Group, Italy  
Bath Iron Works, USA  
Blohm & Voss, Germany  
Bollinger Shipyards, USA  
Burger Boat Company, USA  
Charleston Naval Shipyard, USA  
Christensen, USA  
CMN, France  
Codecasa, Italy  
CRN, Italy  
Damen Schelde Naval Shipbuilding, Holland  
Damen Shipyards (Gorinchem, Holland)  
Delta Marine, USA  
Derecktor Shipyards, USA  
DML Appledore, UK  
Dunya Yachts, Turkey  
Fincantieri, Italy  
Feadship – De Vries Group, Holland  
Feadship – Royal Van Lent, Holland  
General Dynamics NASSCO Shipbuilding, USA  
Gibbs & Cox  
Hakvoort Shipyard, Holland  
Halter Naval Shipbuilding, USA  
Heesen Yachts, Holland  
HDW, Germany  
Inace, Brazil  
Ingalls Shipbuilding, USA  
Istanbul Military Shipyard, Turkey  
Kingship, China

Lürssenwerft (Bremen & Kroegerwerft), Germany  
Navantia, Cadiz, Spain  
NAVSEA, USA  
Newport News Shipbuilding, USA  
Nichols Brothers, USA  
Nobiskrug, Germany  
Norfolk Naval Shipyard, USA  
NRCC Bahrain  
Oceanco, Holland  
Oceanfast, Australia  
Office of Naval Research, USA  
Palmer Johnson, USA  
Pearl Harbor Naval Shipyard, USA  
Pendennis Shipyard, UK  
Perini Navi Group, Italy  
Philadelphia Naval Shipyard, USA  
PIRIOU, France  
Portsmouth Naval Shipyard, USA  
Proteksan/Turquoise Yachts, Turkey  
Puget Sound Naval Shipyard, USA  
RiverHawk Marine, USA  
SA Shipyards, Italy  
Sanlorenzo, Italy  
Sensation Yachts, UK  
Sunseeker, UK.  
Swiftships, USA  
Timmerman Yachts, Russia  
Trinity Offshore, USA  
Trinity Yachts, USA  
Vigor Shipyards, USA  
VSE Corporation, USA  
Washington Navy Yard, USA  
YAY Gemi Yapim, Turkey