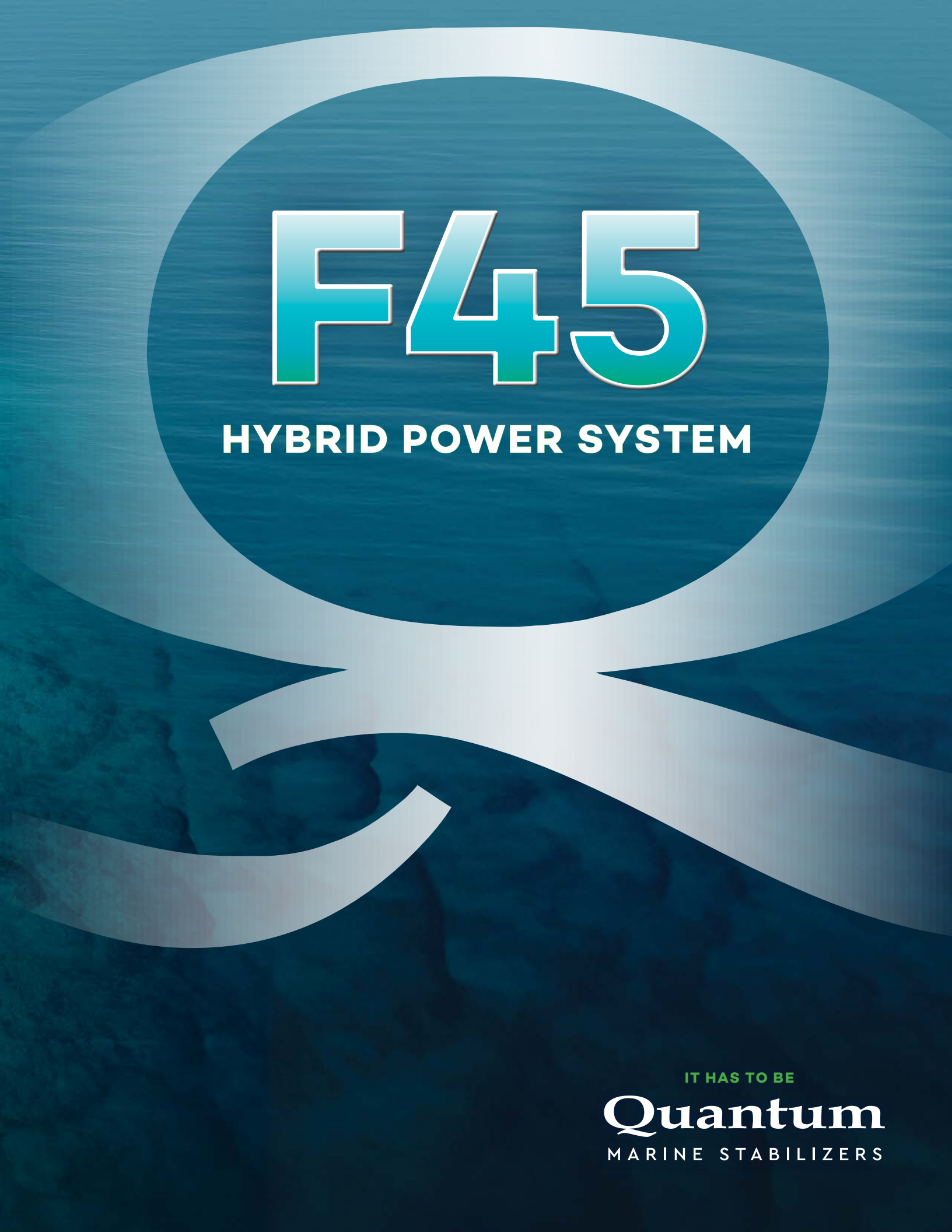




F45

HYBRID POWER SYSTEM

IT HAS TO BE

Quantum
MARINE STABILIZERS

F45 Electric/Hydraulic Hybrid Power System

After almost five years in development, and six months of rigorous testing, the new F45 is ready to dramatically reduce the world of stabilizer power consumption! The first, patent pending system was installed in March 2024, on a 47m Feadship refit.

This new F45 Electric/Hydraulic Hybrid Power System represents a big step forward in marine stabilization, especially for those concerned about carbon footprints, energy conservation and sustainability.

- *Reduced Power Consumption up to 60%*
- *Four Times Quieter*
- *Mass Energy Storage System*
- *80% Energy Recovery*

ADVANTAGES

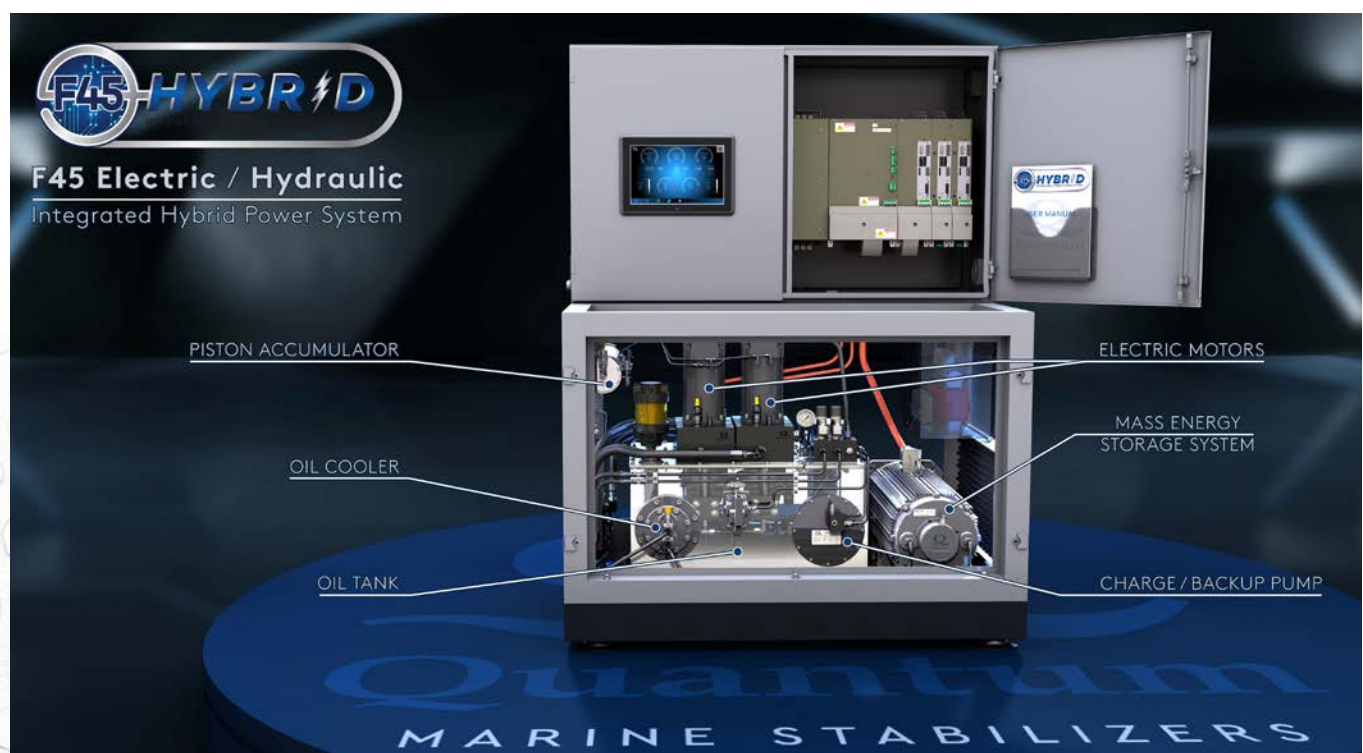
Reduces power consumption- up to 60% - 80%

By reconfiguring and simplifying the design, this system is able to use power as needed, when needed versus a traditional system that must remain running at 40% capacity, even at idle. Results show, the overall cost to run the system is reduced by up to 60% at zero speed and 80% in underway mode, representing enormous savings.

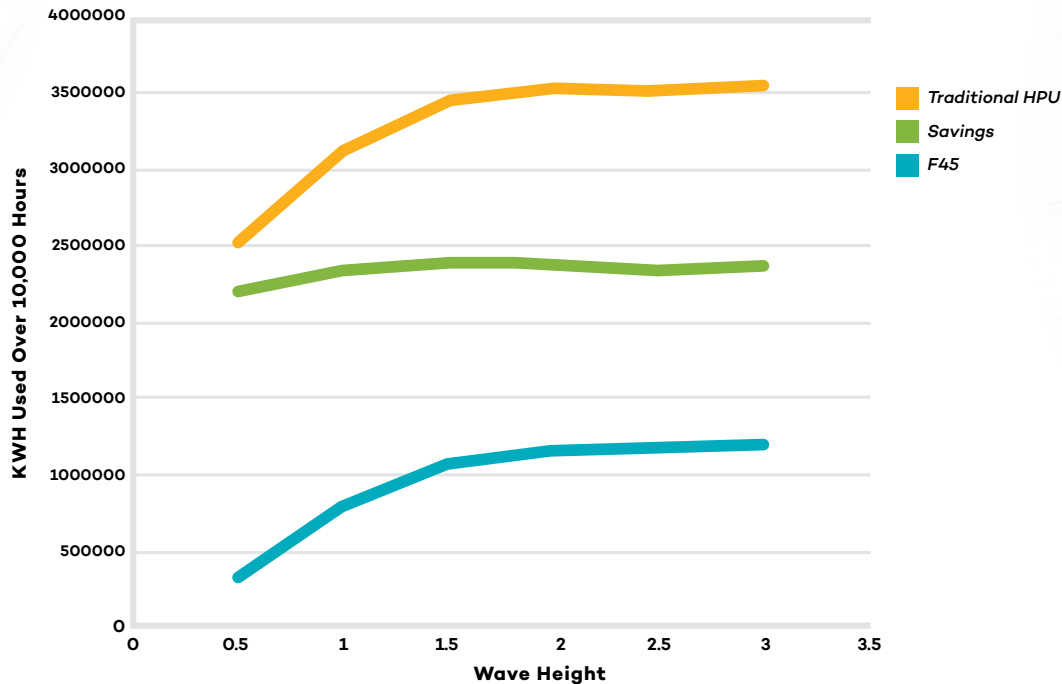
M.E.S.S. - Mass Energy Storage System

M.E.S.S. is a new innovation to manage the unavoidable spikes that occur from running a stabilizer system. It prevents the “diming lights” and protects the useful life of the generator. The F45 uses flywheel technology for the following reasons:

- Managing the large spikes
- Its compact size
- Robust capabilities
- Long-term service life



Camparison Chart for kWh Consumed over 10,000 hours for 4 Fins



Zero Speed™

In Zero Speed™ mode, at full capacity, the power will fluctuate twice between 1kW and the maximum power during a complete roll period (port-starboard-port). When the MESS is active, it will buffer the energy, to mitigate these extreme fluctuations, staying within 15-20% of the power range.

Underway

In Underway Mode, the power consumption is reduced by 80%, due to the energy recovery when the fin is traveling back toward the neutral position. When activated, M.E.S.S. will store and buffer the energy, resulting in consistent low power consumption. This represents a tremendous power savings that will be realized in extending the life of the system and dollars spent.

Note: The percent of energy savings remains consistent, regardless of the size.

4X quieter than any other traditional Hydraulic System

Independent, 3rd party testing was conducted by J&A Enterprises to test for audible noise radiating from the unit and structure borne vibration noise transmitted through the isolation mounts. The results were impressive, with sound readings at 63dB's, four times quieter than a traditional hydraulic system to date.

Longer Periods Without Required Maintenance

This is important for military operations, charter vessels and owners that prefer cruising versus spending time and money in a shipyard.

*The new 5000S
Control System
collects more data
and delivers more
precise movements
to the stabilizers.*

GREEN MINDS THINK ALIKE

Reducing your carbon footprint



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