

**Green Minds  
Think Alike**

**Hybrid Power System**

*Reducing your carbon footprint*



[sales@quantumstabilizers.com](mailto:sales@quantumstabilizers.com) / [quantumstabilizers.com](http://quantumstabilizers.com)

IT HAS TO BE  
**Quantum**  
MARINE STABILIZERS

## 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.

### ADVANTAGES

#### Reduces power consumption- up to 60% - 80%

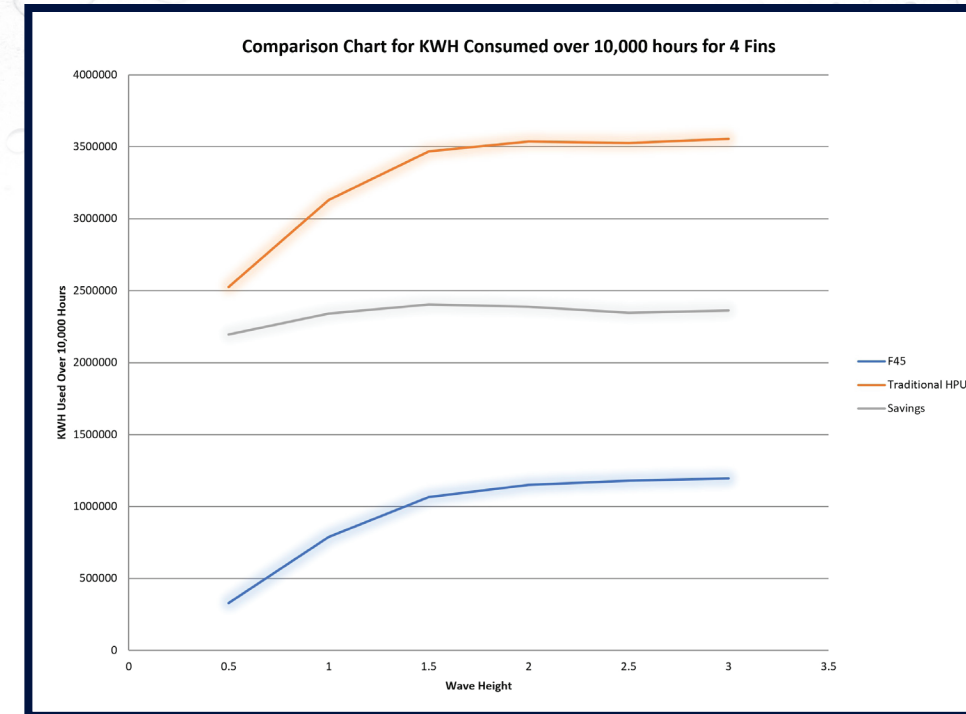
By reconfiguring and simplifying the design, this system is able to use power as needed, when needed versus a traditional system that must remain running at 40% capacity, even at idle. Results show, the overall cost to run the system is reduced by 60% at zero speed and 80% recovery in underway mode,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

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



#### Example: 80m ~ 8.0m<sup>2</sup> P fin ~ QC2500HD hull unit

##### Zero Speed™

In Zero Speed™ Mode, using the 80m specifications above, the stabilizer operation experiences a power fluctuation between 1kW to 90kW every five seconds. When M.E.S.S. is active, it will buffer the energy to mitigate these extreme fluctuations to stay within 15% – 20%.

##### Underway

In Underway Mode, the energy recovery rate is 80%, captured while the fin is traveling back towards the neutral position. When activated, M.E.S.S. will store and buffer the energy maintaining a variant of 5kW to 7kW. This represents a tremendous power savings that will be realized in extending the life of the system and dollars spent.

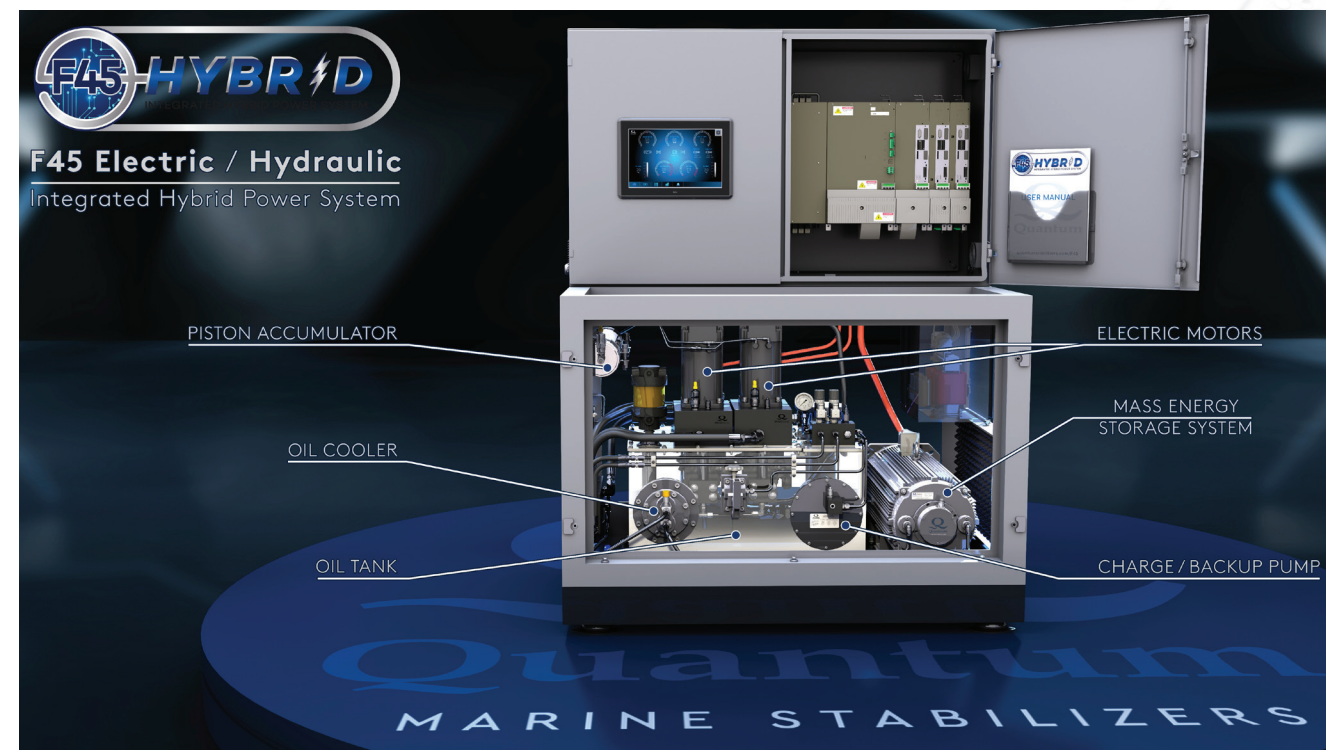
**Note:** The percent of energy savings remains consistent, regardless of the size over 50m+.

##### 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 an 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.*