ONMS SMALL BOAT PROGRAM: NEXT GENERATION RESEARCH VESSELS

Mammal-safe propulsion
Reduced emissions in transit
Zero-emission loitering
Reduced noise
Low wake hull forms
Real-time data transmission
ONMS Fleet Range

RV Manta, 83’
Galveston TX

RV Manuma 33’
Pago Pago AS
DESIGN FOCUS:
Serial/Parallel Hybrid
Electric - Diesel - Hydrogen
Shrouded Props, Rim-drive propulsors
Auxiliary low-speed propulsors
Advanced hydrodynamics

Studies by:
USN Center for Innovation in Ship Design
Stevens Institute of Technology
Electric Prototype Testing
Conceptual Arrangement, 52’ fuel-cell variant

- Hydrogen Fuel Cells
- Inverters
- Batteries
- Hydrogen Tanks
Hull Form Development
# Design Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Dimensions</th>
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<tbody>
<tr>
<td>Length Overall (LOA)</td>
<td>51 ft.</td>
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<tr>
<td>Maximum Beam</td>
<td>16 ft.</td>
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<tr>
<td>Length on Waterline (LWL)</td>
<td>49.18 ft.</td>
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<tr>
<td>Beam on Waterline (BWL)</td>
<td>15.5 ft.</td>
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<tr>
<td>Prismatic Coefficient (Cp)</td>
<td>0.742</td>
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<td>Block Coefficient (Cb)</td>
<td>.378</td>
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<tr>
<td>Displacement</td>
<td>19,042 kgf</td>
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<td>Bare hull Draft (T)</td>
<td>2.25 ft.</td>
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<tr>
<td>Maximum Depth Overall (D)</td>
<td>8.2 ft.</td>
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Hybrid Electric Propulsion Options:

- MTU
- BAE
- Xeropoint
Hybrid Electric Propulsion Options:

- Berger Maritime
- Steyr
- Torqeedo