An oceangoing ship disabled at sea poses immediate problems for the crew, cargo, and rescue vessels involved. Near-shore events also bring increased risk of grounding and environmental impact. Attaching towlines in such circumstances is an exercise in seamanship and safety, often performed in conditions that put vessels and crews at extreme risk.

Existing emergency tow systems rely on a single attachment point, which can put deck hardware under unusual stress, particularly in foul weather. This can cause failures that further endanger crews and vessels.

In response to a request from the Alaska Maritime Prevention & Response Network (Network), Glosten, with support from Samson Rope Technologies, developed a unique solution called the Emergency Vessel Attachment & Towing System (EVATS™). EVATS™ is designed to overcome some of the most dangerous aspects of rescue towing, allowing faster deployment, safer operations for vessel crews, and a more secure connection.

KEY FEATURES:

- Multiple attachment points share towing loads across available deck hardware. Bushing design equalizes load on bridle legs.
- Rescue vessel retrieves towing hawser from safer distance.
- Ultra high-strength high-modulus polyethylene (HMPE) buoyant line with proprietary design
- Components sized to pass through standard ships’ chocks
- Chafe protection
- Hawser bushing for distribution of line loads
- Additional flotation on towing end of hawser
- Bridle legs can be rigged asymmetrically
- Retrieving system with drag device and strobing buoy
- Compatible with large sea anchors and other drag devices
**EVATS**: Not just a tow line, but an emergency towing system

**THE EVATS SYSTEM CONSISTS OF:**

**THE TOWING BRIDLE**, constructed of Samson Quantum-X®, leads through the centerline chock on the disabled ship and attaches to multiple deck fittings. Engineered for improved snag resistance and a higher coefficient of friction, Quantum-X offers enhanced grip on bitts and chocks relative to conventional HMPE ropes. Chafe protection provides increased security where contact is made with the ship’s structure.

**THE HAWSER BUSHING** is sized to fit through most chocks and provides a secure, non-abrasive connection between the bridle to the towing hawser. Made of marine-grade aluminum, it is easy to handle and incorporates optimized line bend ratios to retain the full strength of the rope. The bushing allows the bridle legs to share towing loads equally, even when rigged asymmetrically.

**THE TOWING HAWSER** constructed of Samson AmSteel® Blue, combines extreme strength with ease of handling and positive buoyancy. Tubular line floats are added to ensure the Orkot® thimble remains readily recoverable at the water’s surface.

**THE RETRIEVING LINE** incorporates a pilot anchor to stream the hawser to windward when deployed from a disabled and drifting ship. This allows the rescue vessel to stand off while retrieving the tow system rather than attempting close maneuvers. Additional floats and a strobing beacon make it visible in darkness or periods of reduced visibility.

**A flexible system for emergency tows**

EVATS is stored in its own container for convenient handling; it is easily added to the safety gear on board most vessels. At under 2,000 pounds, it is light enough to be carried by most emergency helicopters stationed in remote areas. If necessary, EVATS can be delivered to a disabled ship from the deck of the rescue vessel.

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**300MT EVATS COMPONENTS**

**Ultra-high strength (HMPE) buoyant lines**

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantum-X*</th>
<th>AmSteel® Blue</th>
<th>Hawser Bushing</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINIMUM BREAK STRENGTH</td>
<td>354** mt</td>
<td>300 mt</td>
<td>300 mt</td>
</tr>
<tr>
<td>BRIDLE LEG LENGTH</td>
<td>75 m</td>
<td>146 m</td>
<td></td>
</tr>
<tr>
<td>DIAMETER</td>
<td>68 mm</td>
<td>68 mm</td>
<td>31 cm</td>
</tr>
</tbody>
</table>

**PACKAGED SYSTEM**

<table>
<thead>
<tr>
<th>Package</th>
<th>WIDTH</th>
<th>HEIGHT</th>
<th>LENGTH</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crate</td>
<td>230 cm</td>
<td>120 cm</td>
<td>150 cm</td>
<td>&lt; 2,000 lb</td>
</tr>
</tbody>
</table>

*400MT EVATS in development

Packaged in a cargo net inside the crate for quick deployment via helicopter.

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Messenger line included for deployment from responding vessel.

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**TUBULAR LINE FLOATS (x2)**

**HAUSER**

**ORKOT THIMBLE**

**PILOT ANCHOR**

**RETRIEVING LINE**

**MARKER BuoYS (x2)**

**STROBING BUOY**

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*Images and diagrams related to EVATS components and packaging.*
Flexible emergency towing system can be deployed from disabled ship or responding vessel

Emergency situations at sea seldom follow accepted safety best practices. The conventional method of attaching an emergency towing hawser to a disabled ship requires responding vessels to maneuver in close proximity to the ship’s bow in extreme conditions. EVATS has been designed to avoid this dangerous operation, allowing faster deployments and safer retrieval of the towing hawser. Deployment and attachment can be carried out even when the disabled ship is in a blackout condition (no power to deck machinery).

EVATS can be deployed by the disabled ship, the responding vessel, or delivered via rescue helicopters commonly used for marine casualty response.

The EVATS system was developed in response to a request from the Alaska Maritime Prevention & Response Network (Network) by Glosten with assistance from Samson.

THE NETWORK AlaskaSeas.org
The Alaska Maritime Prevention & Response Network is a non-profit organization governed by industry representatives that provides vessels operating in Western Alaska and Prince William Sound best management practices and response capabilities to comply with Federal tank and non-tank oil pollution prevention and response regulations.

GLOSTEN Glosten.com
Glosten is a full-service naval architecture and marine engineering consultancy with specialized expertise in marine operations, vessel motion and loads analysis. Glosten serves vessel operators and contractors performing challenging in-water projects.

SAMSON SamsonRope.com
Samson is the worldwide leader in the development and manufacture of high-performance ropes, with a focus on research and development, and solving specific customer applications.