

## Case Study 133: Multipurpose Fast Craft

### SPECIFICATIONS

<b>Waterjet:</b>	<b>DJ140HP x2</b>
<b>Engine:</b>	<b>MAN R6-800 588 bkW @ 2300 rpm</b>
<b>Gearbox:</b>	<b>Direct Couple</b>
<b>Vessel:</b>	<b>16.7m L.O.A 13.4m LWL 16.6 tonne (laden)</b>
<b>Performance:</b>	<b>41 knots (laden) 44 knots (light)</b>



### RUSSIAN COAST GUARD – 16.7m Multipurpose Fast Craft

This 16.7m fiberglass vessel has been built for the Russian Coast Guard. It is powered by twin MAN R6-800 diesel engines direct coupled to **DOEN DJ140HP** waterjets. Designed for high-speed patrol and sea rescue activities this vessel has fully enclosed cabin with forward accommodation and sleeping for crew.

The **DJ140HP** is a 380mm diameter single stage compact high performance waterjet that uses Doen's latest impeller technology that delivers mixed flow type, high-speed performance, within an axial build. This approach combines the key benefits of excellent high-speed efficiency with superior cavitation margins and efficiency at lower speeds and cruise conditions. This waterjet model incorporates many innovative features that enhance its application into high-speed craft such as the lightweight fabricated intake tunnel, providing scope for design customization and efficiency optimisation

Each waterjet has its own fully integrated hydraulic system to operate the waterjet reverse and steering functions. Jet driven hydraulic pumps supply fluid power to the jet mounted hydraulic valve bank. All of the hydraulic equipment including reverse cylinders, steering cylinders and hydraulic lines are mounted inboard.

The vessel is fitted with Doen's **ECS-100** Control System with **eDOCK** joystick control. This electronic control system provides primary control of engine throttle and the waterjet steering and reverse functions. A single joystick lever provides combined bucket and throttle control with steering by conventional helm wheel in cruise mode and in docking mode this same joystick provides a full vectored control of the waterjets steering, reverse and engine throttle function for precise and intuitive low speed maneuvering control.