

## Case Study 277: **20m Fast Patrol Boat**

### SPECIFICATIONS

<b>Waterjet:</b>	<b>DJ220 x2</b>
<b>Engine:</b>	<b>MAN V12-1360</b> 1360 mhp @ 2300 rpm
<b>Gearbox:</b>	<b>MGX 6620SC 1.73:1</b>
<b>Vessel:</b>	<b>20.1m L.O.A</b> <b>16.6m W.L.L</b> <b>38 tonne</b>
<b>Performance:</b>	<b>38 knots</b>



### **Marine Parks Waterjet Air Rider Hull – 20m Fast Patrol Boat**

This vessel is currently the largest Air Rider Design hull from Global Marine Design. Built under Survey in Malaysia for the Marine Parks Department, this 20.0m fast patrol boat is powered by twin MAN V12 1360 diesel engines coupled to the **DOEN DJ220** waterjets. With a top speed of 38knots she has proven herself to be a very capable and fast patrol boat with excellent acceleration and sea keeping in all weather conditions.

The project called for only stainless steel waterjets and the **DJ220** waterjets are subsequently specified with all stainless steel pump assemblies. Fitted with 22" (560mm) single stage high performance axial flow impellers; these waterjets deliver excellent high-speed efficiency with superior cavitation margins and efficiency at lower speeds and cruise conditions. Doen's pre-fabricated aluminium intake design made it possible to customise the inlet ducting and shaft line so as to facilitate waterjet installation into the unusual hull form without any compromise to the vessels' or waterjets performance.

The fully integrated hydraulic system operates the waterjet reverse and steering functions. Twin PTO driven hydraulic pumps supply the tank mounted control valve bank with all reverse and steering cylinders and hydraulic lines completely mounted inboard.

The vessel is fitted with Doen's **ECS-200** Control System. Configured for twin engine - twin station; this electronic control system provides primary control of engine throttle and gear command with the waterjet steering and reverse functions. Twin levers providing combined bucket and throttle control with steering by conventional helm wheel. Additionally the system provides the operator with all necessary monitoring, alarm and back-up control functions.