DJ110 Waterjet

Performance Reliability Simplicity

Case Study 148: HDPE Pilot/Patrol Boat

SPECIFICATIONS

Waterjet:	**DJ110 x2**
Engine:	**FPT N67** **420hp x 3000rpm**
Gearbox:	**ZF220 (1.128:1)**
Vessel:	**14.0m L.O.A** **12.59 L.W.L** **10t**
Performance:	**32 knots**

BATUMI 2, Pilot/Patrol Boat

Working closely with our regional and local partners, SEA-TEK AS. (Norway) and ENKA (Turkey), Doen Waterjets proudly supplied the waterjet propulsion system for BATUMI2. This is the second generation of L153 Boat Series designed & built with High-density polyethylene (HDPE) by Loyd Shipyard. The vessel can be configured for Pilot or Patrol applications. BATUMI2 was very well received throughout its acceptance trials, meeting all requirements and exceeding the contract speed of 30 knots.

As a fast boat operating in 25+ Knot speed regime, waterjets were a natural choice for driving this vessel, offering better efficiency and fuel economy compared to propellers. Other factors for consideration were superior maneuverability, controls, safety and maintenance.

Power is provided by twin FTP engines, which are coupled to the DOEN DJ110Z waterjets through ZF marine transmissions. The DOEN 11-inch (280mm) diameter high volume axial flow impellers provide excellent overall and high speed efficiency at reduced fuel consumption whilst delivering exceptional cavitation margin at low speed in the fully laden condition.

The Doen balanced steering nozzle gives fast, precise response with minimal input force. This is simply controlled using a conventional manual hydraulic steering system, with an inboard cylinder, which is mechanically connected to the waterjets inboard steering tiller. This provides the vessel with exceptional ease of control at all speeds, whether it's maneuvering alongside a moving ship for pilot transfer or high speed pursuit during patrol missions. A simple mechanical tie bar is used to connect the waterjets providing synchronized steering at all times.

The DJ110 waterjets are fitted with DOEN's Rotary Servo Control (RSC), which is a proportional hydraulic control system providing simple and exact follow up control of the waterjets reverse buckets, by conventional lever. This system has fully integrated hydraulics with in-built cooling, bulkhead mounted reverse cylinders with all hydraulic connections inboard and protected from corrosion. Conventional control levers using push pull cables operate this system.

The waterjets were supplied with bolt-in flange providing easy and quick installation for the HDPE hull.

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