

Case Study 104: **Johor Port Pilot Boat**

SPECIFICATIONS

Waterjets:	DJ130 (Twin)
Engines:	Cummins 6BTM3 315hp @ 2800 rpm
Gearboxes:	ZF 220
Vessel:	12.4m L.O.A 11.2m L.W.L 9.8 tonne
Performance:	30 knots



A fast and reliable workhorse operating in Malaysian waters

Launched in 2002 this 12.4m pilot vessel, propelled by twin **DOEN DJ130** waterjets, operates in the waters of Malaysia. This boat commonly works more than 12 hours per day, and has been operating continuously with only minimal maintenance required.

Power is provided by twin Cummins 6BTM3, 315hp diesels coupled to DOEN waterjets through ZF marine transmissions. A reduction ratio is used to optimise the waterjet impeller selection and the gearbox also provides the vessel with disengagement and a back flushing capability. The DOEN DJ130, 13.0-inch (330mm) diameter high volume axial flow impellers provide excellent cruise capability and fuel economy with un-compromised top speed under arduous sea and varying load conditions; all of which are extremely important for a pilot vessel.

The DOEN balanced steering nozzle gives fast and precise response. These are controlled using a conventional helm power assisted hydraulic steering system. Inboard cylinders are mechanically connected to the waterjets inboard steering tiller. This provides the vessel with exceptional easy control at all speeds and especially when maneuvering alongside a moving ship for pilot transfer. both high and low speeds. A simple mechanical tie bar is used to connect the waterjets providing synchronized steering at all times.

The DJ130 waterjets are fitted with DOEN's Jogstick Reverse System (JRS); an electro hydraulic control system that provides non-follow up jog lever control of the waterjets reverse buckets. An analogue indicator is used to show the reverse bucket position. This robust, simple and cost effective system remains very popular with operators in remote and rugged use applications.