

Hamilton Jet Model HM402
Application Review

New 20 Metre High Speed Passenger Ferry for Brunei



Capable of carrying 100 passengers at speeds of 34 knots, the stylish new Hamilton Jet powered fast ferry Mutiara Laut was recently delivered to its Brunei operators by Australian builder Fisher Alufarm.

With an overall length of 19.95 metres, the aluminium monohull vessel is propelled by a twin shipset of Hamilton model 402 waterjets. The jets are directly driven by MAN type D2842L YE diesel engines, each rated 735kW at 2300 rpm via Elbe 122 driveshafts. With a lightship weight of 24 tonnes, this propulsion package provides thrust for a top speed of 41 knots, reducing to 34 knots with the addition of 100 passengers and baggage. The high standard of finish evident on the robustly constructed Hamilton Waterjets complements the equally fine finish

achieved by the builders on the hull. The waterjets have Bureau Veritas certification and underwent, extensive hydrostatic pressure testing in Hamilton's factory before installation. Mutiara Laut can accommodate 75 passengers in the midships economy class cabin in a 2-3-2 seating arrangement. A separate first class cabin aft of the bridgedeck has seating for a further 25 passengers. The compact configuration of the propulsion system has allowed all the machinery to be located well aft under the first class cabin, resulting in a deadweight distribution that maintains optimum trim angles.

▶ Brief Specifications

NAME: Mutiara Laut	SPEED: 41 knots [light] 34 knots [operational]
SERVICE: Fast Passenger Ferry	WATERJETS: Twin Hamilton Model HM402
LENGTH: 19.95 metres [LOA] 18.00 metres [LWL]	ENGINES: Twin MAN diesel Model D2842 LYE, each 735kW (985hp) @ 2300rpm
BEAM: 5.00 metres	BUILDER: Fisher Alufarm Pty. Ltd., Goolwa, South Australia
DRAUGHT: 0.60 metres	OPERATOR: New Island Shipping, Bandar Seri Begawan, Brunei
CONSTRUCTION: Aluminium	Hamilton Jet DISTRIBUTOR: HJ Marine Products, Adelaide, South Australia
DISPLACEMENT: 24 tonnes [light] 31.5 tonnes [operational]	
PAYLOAD: 100 passengers + 3 crew	



Because of the inherent absence of vibration and noise with the waterjet system, this arrangement does not compromise the high environmental standards demanded in the adjacent first class accommodation. During sea trials the vessel exhibited very good ride characteristics, maintaining a relatively flat trim angle both through the planing threshold and over the entire speed range. The easily driven hull is able to plane in a lightship condition using only one jet. Combined with features that ensure passengers and crew of high comfort levels, Mutiara Laut has proved to be a well balanced vessel.



Since the steering and reverse functions are an integral part of the Hamilton waterjet system, vessel control is simple yet precise. The hydraulic steering system actuates on the port jet with steering motion being transferred to the starboard unit by tie-rod. Each jets' conical steering deflector provides the vessel with true straight line tracking at high speed and fine steering control at manoeuvring speeds. The jets' integral split duct reverse deflectors are controlled from the helm station via Hamilton's own HSRC servo-hydraulic follow-up system and ensures powerful astern thrust or, when set in the "zero-speed" position, neutral thrust for precise "on-the-spot" manoeuvring. Exceptional all-round visibility from the elevated wheelhouse assists the helmsman with vessel control during all facets of its operational requirements.