



HY Series (500 - 700mhp) Yanmar 6HYM-ETE Marine Diesel Engine (700hp)

Dual Yanmar's Deliver Ferry Power

Yanmar marine diesel engines have been used to power a Brisbane built ferry destined for tourist work in New Caledonia. Dual Yanmar 6HYM-ETE engines each rated at 650 MHP, are mated to ZF transmissions in the all-alloy sea going catamaran hull. Designed and built by Brisbane Ship Constructions (BSC), the tourist ferry is destined to operate on open seas in and around Lifou Island in New Caledonia. The routine run for the ferry is a six hour return trip across open water with no refuelling en route. The ferry has a capacity to seat 100 passengers, 70 downstairs and 30 upstairs.

"Engine selection has been critical to the success of this vessel," said Russell King, BSC project coordinator. "We had to successfully marry a range of competing demands of the design and operation. The engines needed to be fuel efficient to run the 6 hour round trip without refuelling, top speed needed to be no greater than 20 knots and of course reliability and ease of maintenance without special tools in these waters is paramount." "Ultimately we settled on a pair of the Yanmar 6HYM-ETE engines. They delivered on all counts having the right power, the right weight and excellent fuel economy for the job."

"At BSC we have fitted plenty of Yanmar marine diesel engines to our boats over the years, so we are very comfortable and familiar with the Yanmar brand." "We find the Yanmar engines easy to fit up and install, even when the engine room in the cat hulls are pretty tight for room." Operating under a French flag and built to Pacific Class regulations, the BSC ferry measures 19m LOA and has a beam of 8.0m. Fully laden with passengers she weighs 45 tonnes. The cat hull design incorporates plate aluminium with 6mm bottom. There is also a large skeg designed so that the boat can be beached if necessary, with the skegs ensuring that the props are fully protected.

In sea trials conducted on Moreton Bay prior to being delivered to the customer, the Yanmar powered cat returned impressive performance and fuel data. Optimum cruise speed was achieved at 1950 rpm with the GPS showing a speed of 19.0 knots. Fuel consumption at this level of operation is 70 litres per engine per hour. The required maximum vessel speed of 19.6 knots was achieved at a reduced and conservative engine speed of 2050 rpm with the oversized ZF 500-1A transmissions spinning the props at 1043srpm via a reduction ratio of 1.964:1.

Yanmar's 6HYM-ETE model engine is a true blue work boat quality engine and includes Yanmar's latest combustion chamber design named ASSIGN, a system originally pioneered by Yanmar on their large bore, low speed propulsion engines. This technology combined with Yanmar's own mechanical fuel system has enabled a fuel consumption specification of 201gr/kw/hr at 100% load from the heavy duty 368kw (500mhp) model, a result which is the envy of many other brands and is giving owners something to smile about in the current times of high fuel prices. The 6HYM-ETE offers an emission compliant IMO certified product with full classification to BV/ABS/LR/RINA and NK if required.

This is a 6-in-line cylinder block that displaces 13.733 litres. The induction system features a 24-valve cylinder head design with twin turbochargers and can be specified with four power ratings between 303kw (412mhp) @1850rpm to 515kw (700mhp)@ 2200rpm, depending on the application and duty cycle proposed. All up weight without a gearbox is 1385 kg. To keep the engine room fully Yanmar powered, BSC fitted a pair of MASE 25 Kva generator sets. With so many passengers on board for an extended period, often in hot and humid conditions, the ferry operators decided to offer customers the convenience of on-board air-conditioning throughout the cabin, along with a galley service.

The dual MASE gen sets are used to drive the five, 240-volt air conditioning units on board, together with the fridges in the galley, deck mounted freezer boxes for inter-island supplies, sound system and sundry electrical needs.

"We liked the idea of having a fully Yanmar powered engine room," concluded Russell King. "It keeps everything very neat and tidy and that's the way we like to deliver our boats."

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