First SWATH ferry due from Damen by year end

Prinses Maxima, the first of two new Small Waterplane Area Twin Hull (SWATH) ferries being built by Damen shipyards in the Netherlands for the Province of Zeeland is due to be delivered by the end of this year, followed by the second ship in the series, the **Prins Willem Alexander**, which is due to be delivered early next year. Both vessels are due to enter service by March of 2004.

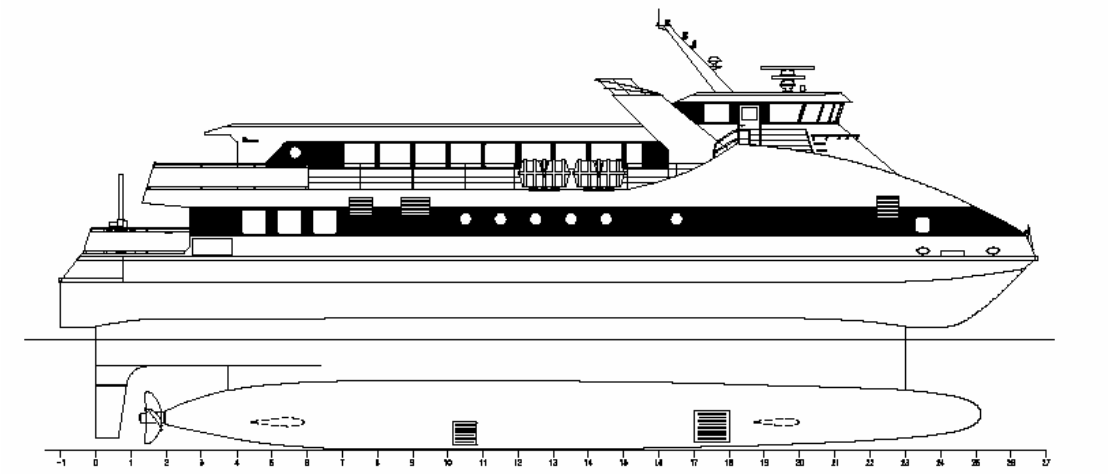
The Damen SWATH 3717 design is noteworthy because of the adoption of a SWATH hullform, and because a new type of 'compact' diesel electric propulsion system has been specified for the vessels.

As Henk van Herwijnen, Damen's Project Manager for Fast Ferries explained, being designed to operate in extreme weather conditions, winds and currents, the seakeeping requirements for the new class of fast passenger and bicycle ferries - which will operate on the Vlissingen-Breskens route in the Netherlands - were such that only a SWATH hullform could comply.

Herwijnen said extensive model testing of the design had been carried out at Maritime Research Institute Netherlands (MARIN) in order to verify the resistance and seakeeping characteristics of the SWATH.

A diesel electric propulsion system - designed in close co-operation with the yard, the owner, and its representatives - was selected in order to avoid having to place large diesel engines in each of the SWATH pontoons, because it offered a high level of reliability and redundancy, flexibility of installation, low levels of noise and vibration, and efficient power distribution and management.

The electric motors at the heart of the system, which were supplied as part of a package from Bakker-Sliedrecht, are designed to have a lifetime of 30 years and have reduced maintenance requirements. The contractor supplying the motors, Bakker-Sliedrecht, was also contracted to provide a Monitoring, Automation & Alarm System for the propulsion and power generation equipment using mimics of the propulsion, power generation, motor drives, bilge levels, ballast systems, tanks and ventilation systems.



The main diesel engines – two MTU 12V 4000 M50 Bs, each rated at 1,80kW at 1,800rpm - are arranged in an engine room on the main deck level, in order to ensure that they can be easily maintained. The generators are a pair of brushless 1,295kW/1,585kVA AVK/Stamford machines (which are complemented by a pair of auxiliary generators), linked to Bakker-Sliedrecht's low speed, double rotor Indar NA 500 – S/6 motors. Brushless AC/DC generators were selected for the ferries in order to save space and weight.

At 37.71m overall with a beam of 17.31m and draft of 4.20m, the new ferries are being built out of high tensile steel with aluminium superstructure, and feature accommodation for 181 plus four crew. They will have a maximum speed of 16.5 knots in Beaufort 2-3 and of 14.5 knots in Beaufort 6-7.

Conceptual design was carried out by Sovereign Marine Services NV with detailed design by Nigel Gee & Associates Ltd in the UK.