A mini tug with mighty punch

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When the Suez Canal wanted to replace its fleet of 23 ft open mooring boats, they looked on the market and did not find any suitable candidates. There were plenty of fast RIBs with outboards or stern-drives, some slow steel boats, but very few if any boats fulfilling the required specification.

The NanoAir has a 6 mm thick aluminium hull with 40 mm thick rub-rails

The demanding specification comprised: 23 ft maximum length, 12 kn minimum free running speed, 500 Kg minimum bollard pull, naturally aspirated heavy duty diesel inboard, conventional shaft drive, 6 mm aluminium hull, unsinkable, droppable from 3 metres and Classification society approved.

The challenge was picked up by the Mapso-Lomocean-Snijtech consortium.

Lomocean Ltd., based in Auckland, New Zealand, is more famous for cutting edge carbon hulls such as Earthrace and Planet Solar-Turanor.

Mapso has a long history of engineering Voith-Schneider steel tugs with 70 tons bollard pull for the Suez Canal.

Snijtech describes itself as the most advanced metal cutting and forming facility for the marine industry today. Together they developed the NanoAir, which the team claims could be ‘the most engineered small workboat ever produced’.

The NanoAir has a 6 mm thick aluminium hull with 40 mm thick rub-rails, a large foam filled collar, and a rubber D-fender on the stem extending below the waterline.

The large propeller (20’’) is recessed in a tunnel, to reduce draft and vulnerability, and protected underneath with a rope guard.

A particularly important feature is the air cooled Hatz engine. This engine does not need raw water cooling; therefore there is no through-hull opening, no seacock, no water strainer and no seawater pump. The Hatz only needs fuel, oil and air, and has been known to run over 40,000 hours before overhaul.

With the air cooling, the engine can be started while the boat is still on land or on deck of a ship, and in the water the boat is much less sensitive to floating debris.

Applications include harbour workboat, line and hose handling, dredging support, civil engineering, navy submarine handling, yard and marina pusher, oil spill recovery, FPSO and SBM support, ship tender, arctic work, fishing and aquaculture, particularly seine skiff.

The range includes the NanoAir, described here, and the NanoShuttle, a larger version with higher speed for pilot, crew and patrol applications.

By Jake Frith

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