

# ENERPAC APPLICATION INSPIRATION



- Buildings and Stadiums
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- Oil and Gas, Petrochemical
- **Shipbuilding**
- Mining

# Enerpac Application Inspiration



**POWERFUL SOLUTIONS. GLOBAL FORCE.**

With more than 50 years of experience, Enerpac has gained unique expertise in delivering hydraulic solutions for the controlled movement and positioning of heavy loads.

This expertise has been acknowledged by the world's leading industrial professionals and has contributed to the successful movement of a number of the most recognizable structures on earth.

In addition to providing the most comprehensive line of globally-supplied, locally supported Heavy Lifting products, Enerpac combines hydraulics, steel fabrication and electronic control with engineering and application knowledge, to design and manufacture solutions that ensure your projects are completed safely and efficiently.

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## Synchronously Lowering an 80 ton Yacht

**Customer:** Hebo Maritime Service

**Location:** Royal Huisman Shipyard, Vollenhoven,  
The Netherlands

**Challenge:** A multi-million dollar luxury sailing yacht was jacked-up two meters to perform renovations. After the retrofit, the yacht needed to be lowered in order to be transported back to the water. Although the yacht was built of carbon fiber, it still weighed 80 tons. And the weight was not evenly distributed; the back was heavier than the front. The uneven distribution of weight posed a serious challenge to safely lowering the yacht.

**Solution:** An EVO-W Series Synchronous Lifting System was used to safely lower the yacht with precise control. Featuring 9 pre-set work modes, the stage lifting work mode enabled a single operator to monitor and control stroke and center of gravity from a touchscreen display. Four double-acting aluminum hydraulic cylinders lowered the yacht 100mm at a time. The entire operation took two hours and was completed safely.

**Products:** EVO-W Series, Synchronous Lifting  
and Weighing System  
RAR-Series, Double-Acting Aluminium Cylinders



## Ship Transport



**Location:** Pascagoula, Mississippi

Efficiency and accuracy are critical when preparing to load out a new ship. Enerpac developed a custom ESS synchronous lifting system to decrease the total time and the number of workers required to complete the operation.

The 12 point lifting system includes powered hydraulic storage reel, electronic variable speed control and the ability to connect up to two additional 12 point units for even larger lifting jobs.

**Products:** Synchronous Lifting System  
High Tonnage Cylinders



## Precision Positioning of 600 ton Ship Components

**Customer:** Maatschappij De Maas BV

**Location:** Rotterdam, The Netherlands

Instead of the usual two floating cranes, only a single one was available for placing the superstructure – weighing over 600 tons – onto a Multi Role Vessel under construction for the New Zealand Ministry of Defence at Merwede Shipyard. Merwede Shipyards was looking for an alternative; calling Enerpac in was the answer. The result was a perfect combination of a single floating crane plus Enerpac's hydraulic SyncHoist positioning system.

Merwede Shipyard is one of the leading shipyards in the Netherlands and part of the IHC Holland Merwede BV group of companies. The 'MRV' is currently being built at their facilities in Hardinxveld-Giessendam as an order for the Australian company Tenix Defence Pty. Ltd who is the prime contractor for delivery of a fleet of 7 vessels to the New Zealand MOD. The MRV is a new multifunctional transport and patrol vessel for the Royal New Zealand Navy.

The ship is constructed at Merwede Shipyard however the superstructure and the funnel unit were outsourced to Maatschappij De Maas BV in Rotterdam, which operates from the former RDM premises on Heijplaat. This is also where the superstructure and the funnel unit had to be placed on the ship that was towed to Maatschappij De Maas after being launched at Merwede Shipyard.

**Products:** SHS-Series, SyncHoist System





## Weighing and Manipulation System for Ship's Hull Sections



**Customer:** BAE

**Location:** United Kingdom

Six Daring Class Type 45 anti-air warfare destroyers are being assembled, launched and outfitted for the UK Royal Navy at BAE Systems Surface Fleet Solutions' Govan & Scotstoun shipyards in Glasgow. The bow sections, masts and funnels for all six ships are being built in Portsmouth. The ship's hull is manufactured in sections or "blocks" in a fabrication shop adjacent to the berth and slipway. Five blocks are moved in total to build one ship of which the heaviest block weighs over 1400 tons.

**Solution:** Hydraulic lifting and load transfer. Each block is transported to the slipway and aligned longitudinally to the slipway on multi-wheeled transportation vehicles. During this procedure the slide-tracks on the slipway are removed so that the vehicles can drive the blocks into position.

The Enerpac Synchronous Lifting System is now used to lift the block free from the transport so that they can be driven away. During the lifting procedure the 16 points PLC-controlled synchronous lifting system operates within strict load and stroke constraints to ensure that the desired load paths into the ship's hull structure are maintained.

With the transport removed and the hull segments supported by the hydraulic system, the blocks are weighed with the synchronous lifting system to confirm the design calculations.

**Products:** PLC-controlled Synchronous Lifting System  
16x RACL-Series, 150 ton Lock Nut Cylinders







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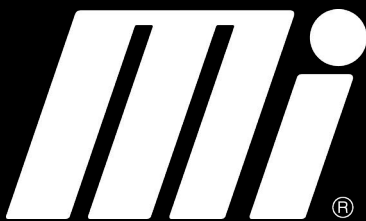
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