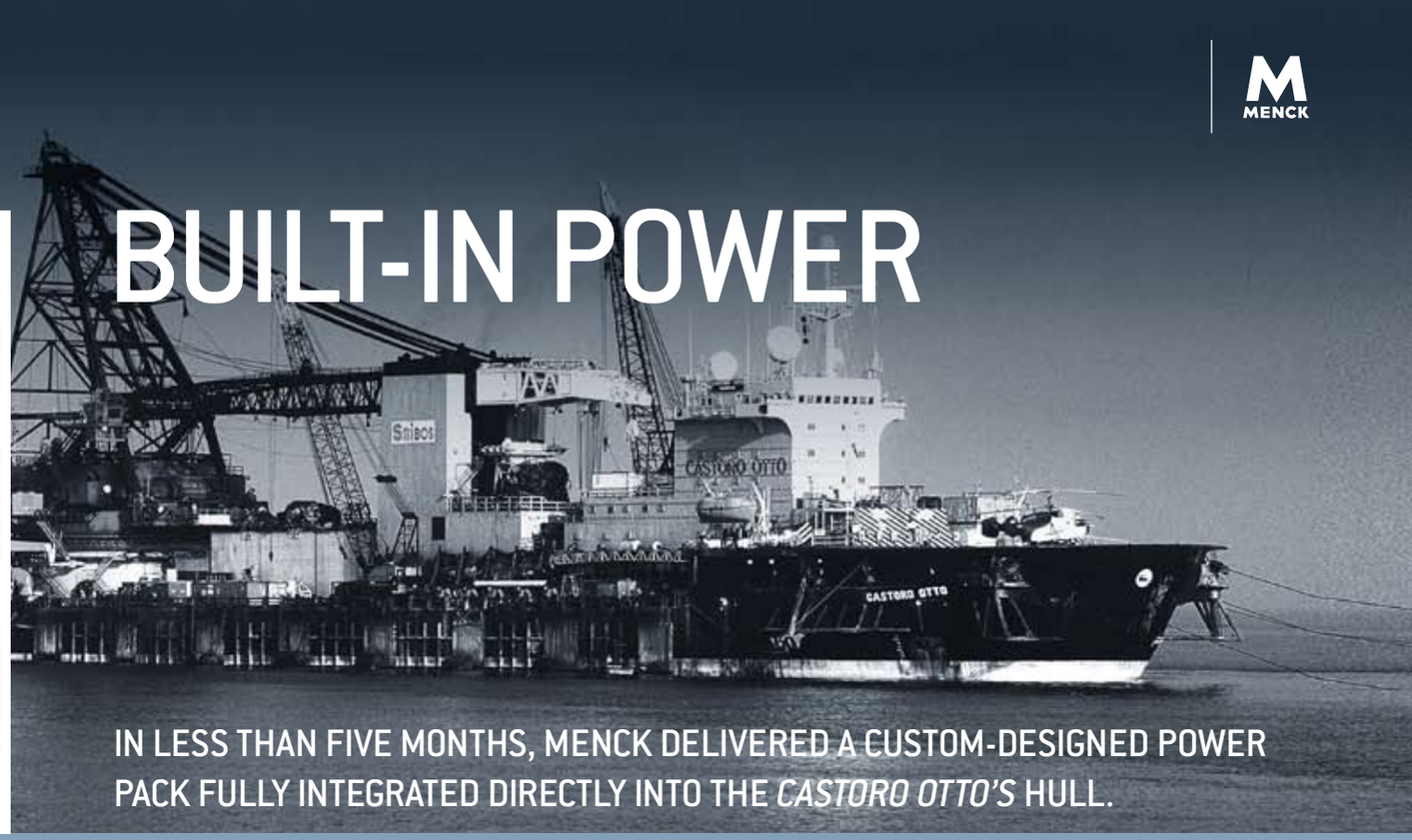
BUILT-IN POWER



IN LESS THAN FIVE MONTHS, MENCK DELIVERED A CUSTOM-DESIGNED POWER PACK FULLY INTEGRATED DIRECTLY INTO THE *CASTORO OTTO'S* HULL.

Photo courtesy of Saipem.

"NOT ONLY HAVE WE GAINED DECK SPACE, WE HAVE ALSO INCREASED OUR VESSEL AVAILABILITY. WE ARE DELIGHTED WITH HOW SWIFTLY THIS PROJECT HAS DEVELOPED AND THE QUALITY THAT IS BEING DELIVERED."

A diesel-hydraulic MHP 3200 power pack has been powering MENCK hammers on the *Castoro Otto* derrick installation and pipe-laying vessel for over 30 years. This reliable power pack was slowly becoming outdated and cumbersome in today's increasingly streamlined and demanding installation business. The power pack needed to be removed from the deck for pipe-laying activities, which was a time-consuming process also requiring on-land storage space and different maintenance levels. Sourcing spare parts was also becoming a problem.

"Saipem came to us with a specific need," recalls Jost Pokelsek, director of after-market sales at MENCK. "They wanted a better solution and said, 'Help us to increase our vessel's availability and save time and improve maintenance procedures too.'"

Six years ago, MENCK brought power pack building in-house. Reducing the dependency on external providers meant that the company had greater control of the quality and performance of the heart of the hammer system. "In-house design enables us to create new products specifically for our needs and ones that can withstand the harsh conditions our equipment faces," remarks Ulf Schmidt, senior project engineer responsible for the development of the new MHP 3200E.

Having a core knowledge base built up around hydraulic power production enabled MENCK to act quickly. During a series of intensive technical discussions with Saipem, the company developed a plan for a power pack that could be installed directly into the ship's hull. This would free valuable deck space and ensure that the vessel was always ready for hydraulic operations. In addition, running the power pack off the vessel's power system would eliminate some diesel motors and reduce fuel use. In mid 2009, Saipem gave the project its go-ahead and the MHP 3200E was born.

Engineering and project management success

Knowledge and agile thinking were invaluable to the success of this project. By putting the power pack down below, not only is valuable deck space made available but general noise levels are also reduced. The power pack is always with the vessel, which makes it more flexible in reacting to customers' requests and increases its availability. Having an integrated power pack provides streamlined maintenance schedules and reduces downtime.

The first challenge was how to fit the power pack into the ship's hull. The unit had to fit through a 2.5-m wide hatch. The MENCK design team developed a modular concept that enabled large assembled parts of the power pack to fit through the opening. This sped up the overall installation by allowing some pre-assembly elsewhere.

The second major challenge was the power source. Eight electric motors run from the ship's power plant drive pumps that produce a hydraulic fluid flow rate of 3200 L/min. The eight motors also run the water-cooling system, thus eliminating the need for a complex cooling solution.

In less than five months, MENCK designed and delivered the new power pack. The company's unparalleled knowledge of designing and experience of building client- and project-specific solutions for offshore hydraulic power generation contributed to the quick turnaround time.

"Not only have we gained deck space, we have also increased our vessel availability," says Dario Donelli, Saipem assets offshore equipment manager. "We are delighted with how swiftly this project has developed and the quality that is being delivered. We have upgraded our machinery and become more efficient at the same time, thanks to MENCK."