



NAVIGATING NEW WATERS

How Hidroser Transformed Shipbuilding with Parker's Innovative Non-Welded Flange Technology



Hidroser, a system integrator for shipbuilding in Turkey, has started using the F37 non-welded flange technology for hydraulic operated systems on vessels. The Turkish firm established its partnership with Parker High Pressure Connectors in the past few years and started to explore the potential of non-welded tube connections in shipyards.

Shipbuilding is a market that differs significantly from the ones that Hidroser has traditionally worked in. In this market, the vessels are used for service operation vessels for maintenance on fish or wind farms, fishing vessels or ferries. This requires high security standards and a maximum reliability. And in addition, an approval from a third-party company such as DNV, ABS etc. is always necessary. The vessels work in purpose-based changing notices at open seas under harsh conditions. As a result, reliability of the components and the service around them is critical.

THE CHALLENGE

Hidroser sought to inspire shipbuilders to embrace non-welded solutions, overcoming the initial resistance to change in a market accustomed to traditional welded connections. Many shipbuilders were hesitant to adopt new technologies due to concerns about reliability and the perceived complexity of non-welded systems, which required a concerted effort to educate stakeholders on the long-term benefits.

THE SOLUTION

Through a collaborative partnership with Parker, Hidroser successfully integrated non-welded connections across numerous shipbuilding projects, providing comprehensive turnkey solutions that included expert engineering, consulting, and on-site support. This strategic alliance allowed Hidroser to deliver high-quality, reliable systems while building trust with clients, demonstrating that investing in non-welded technology leads to long-term savings and operational excellence.

THE BENEFIT

By adopting Parker's F37 non-welded flange technology, Hidroser unlocked significant reductions in installation time and costs, achieving up to 30% faster installation compared to traditional methods. This innovative approach not only improved the reliability and leak-tightness of hydraulic systems but also ensured that vessels could operate more efficiently in challenging marine environments, ultimately enhancing safety and performance.

ENGINEERING YOUR SUCCESS.

F37 Non-welded tube connections - a solution to some of the challenges faced in shipbuilding

Hidroser has mainly focused on industrial hydraulics since 1991. It also works as a system integrator with the manufacture of power units, manifolds, and cylinders in its facility in Corlu. In recent years, Hidroser has expanded its business to include F37 non-welded Parker flange technology, which has a range of advantages over traditional welding technology. This technology was used to build vessels, which require high levels of reliability and efficiency, given the harsh conditions under which they operate.

Flange technology is known for its ability to reduce the installation time and cost of hydraulic systems, compared to traditional welded flanges. It also offers greater flexibility during installation and maintenance, as it can be easily disassembled and reassembled without damaging the system. The technology is also known for its high reliability and leak-tightness, which are important factors in the marine industry where hydraulic systems are subjected to harsh conditions. Hidroser and Parker Complete Piping Solutions have collaborated to bring this technology to the ship-building market in Turkey. With the successful completion of more than 15 projects, many clients have recognized the benefits of F37 non-welded tube connections and are willing to adopt this technology in their hydraulic systems.

According to Ramiz Selimbasic, the

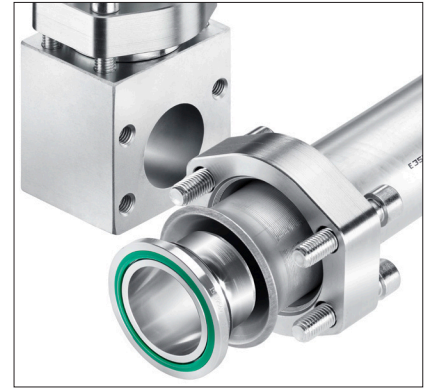
project manager at Parker Hannifin, "The cost of stopping and repairing a vessel is much higher than building it with high-quality components from the start."

Growing in the market together

Parker CPS supported the growth of Hidroser in the tube fittings market in the early stages with piping machine leasing options and the provision of demo machines to create non-welded connections for the vessels in contrast to the traditional welded connections used.

The projects involve the usage of hydraulic systems in the vessel, which are critical as the pipeline is going through the whole vessel. In general, there is a trend in the market where hydraulic power consumption is growing, and thus, bigger pipelines are needed. For those bigger diameters, it is more difficult to build non-leaking connections than with smaller diameters. With big diameters and high-pressure requirements, there are only two options to connect them: either with welded or with non-welded connections. Most manufacturers today are using welded connections, as the availability of non-welded connection suppliers is limited, and the technology is not yet known across all markets.

According to Hidroser, "Welding is a very easy option for the customer. But in the projects, we found out that non-welded connections are more reliable and also easier and much faster to install on-site. So as welding is still more known in the market, we need to convince customers of non-welded connections in most of the projects."



However, non-welded connections are more reliable and offer a longer lifetime. The time saved with the efficient installation sums up into big cost savings with regards to the whole project costs. Within the hydraulic systems on the vessels, the flanges represent an important component as they connect the different tubes and can minimize leakages and therefore define the uptime of the whole vessel.

In addition to the challenges of building vessels that can withstand harsh ocean conditions, there are also several regulatory and safety requirements that must be met in order for a vessel to be approved for use. Parker CPS has a broad range of non-welded technologies with its F37 and High-Performance-Flange (HPF) ranges which is now also certified by third parties for the marine market. This answers to the customers' demanding requirements of big piping diameters and high-pressure ranges.

However, components are not enough. Engineering, service and consulting is always needed in these projects as well.

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Evren CAKIL (Business Development Manager, Hidroser)



Managing projects as turnkey-solution provider

Hidroser as a hydraulic system manufacturer is still new to the area of services and consulting and learned a lot from Parker CPS as well. On-Site services require trained employees. Every stage needs to work out and for Hidroser it is key to deliver the best quality in every stage from 0-100% of the project.

The cost savings associated with non-welded connections can be significant, as repairs to hydraulic systems can be both time-consuming and expensive. In contrast, non-welded connections offer a longer lifetime and faster, more efficient installation. However, there is still a need to convince customers of the benefits of non-welded connections over more traditional welding methods, which remain more widely used in the market. A project can take 1-2 years where Hidroser needs to support the customer in all stages.

"One of the main challenges in the winning those projects is to convince the customers that investing a bit more now into non-welded connections will reduce the costs in both, building the connections now and having more reliable, leak-free connections in the working life of the vessel later" says Evren CAKIL (Business Development Manager, Hidroser).

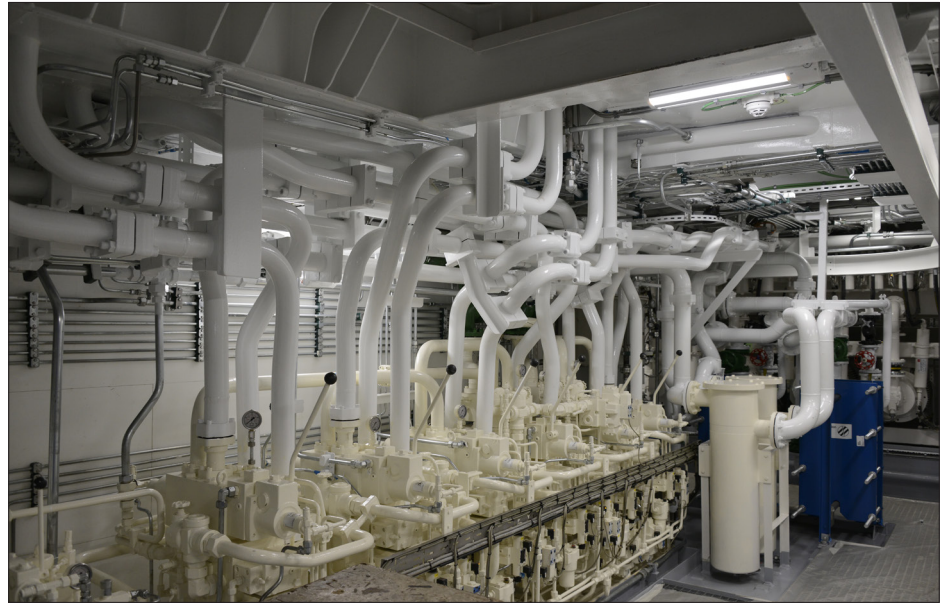
One way in which Hidroser worked to address this challenge is by offering on-site services, including engineering, consulting, and project management. By providing turnkey solutions that take a project from design to delivery, Hidroser and Parker are able to ensure that the non-welded flange technology is installed correctly and operates reliably over the long-term.

A win-win partnership for Hidroser and Parker

Hidroser profits from Parker being a world-wide known brand and successful in applying new technologies. A lot of vessels produced in Turkey are going to the Nordics afterwards. Parker Complete Piping Solutions are also having a good reputation in northern Europe where customers have gained some experience with non-welded connections already.

With Parker CPS as a big supplier and expert in building reliable tube connections, the flanges and fittings used in the vessel projects have all certificates for the marine business and also tools like product tracing and other test approvals which are very important.

The Parker High Pressure Connectors



Division and the Complete Piping Solutions team support Hidroser during the long-term projects with their product and market knowledge and engineering services. "There is no other match on the market when it comes to product knowledge and consulting services at the same time", says Evren CAKIL "in Parker CPS they are more thinking like a partner than like a pure manufacturer of components."

Therefore, within the projects many meetings take place directly with customers of Hidroser and Parker. "The presence of Parker at the customers is helping us to show them the benefits of the products but also of the partnership we have" adds Evren CAKIL.

This way end users and ship owner see Parker bringing a lot of experience into these projects as well which builds trust and helps to overcome doubts when it comes to using a more expensive technology with the flanges in contrast to welded connections, because these pay off in the usage of the vessel later.

On the other hand, the brand reputation of Parker is important in the market and Hidroser as a long-term partner knows exactly how to best represent Parker. The brand reputation needs to be supported by trust at the customers. Here the consulting of CPS comes into the play again to show to the customers to receive the best solution.

Finally, in contrast to other suppliers in this market, Hidroser is able to deliver the whole project with high-quality-full service.

Winning new projects together

By now, Hidroser and Parker have completed more than 15 ship-building projects together, which has allowed them to refine their approach and

improve the efficiency and effectiveness of their services. However, the market for non-welded flange technology is still relatively small, and there is a need for further education and outreach to convince customers of the benefits of this approach.

To this end, Hidroser and Parker are continuing to invest in research and development to further improve the performance and reliability of the non-welded flange technology. They are also working to expand their reach into new markets, including offshore wind energy and oil and gas exploration.

The common goal is to optimize the delivery change and do more pipes on-site. Moreover, Hidroser would like to add more technologies to their portfolio to be more flexible to answer customer requirements. Besides E02-Form and F37 Parker technologies, also the HPF system should be implemented in the near future to complete the non-welded connection range especially in the marine business.

"We have E02-Form and F37 technologies right now. We like to invest in HPF and develop more business with CPS team." Evren CAKIL (Business Development Manager, Hidroser)



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