

Quick Disconnect Technology Simplifies Subsea Pressure Simulations

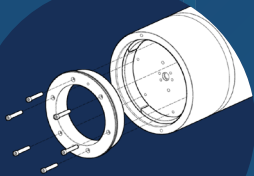
Quick Hits



Offshore Oil & Gas

**10 Gallons at
30,000 PSI**

Vessel Size Requirements



Engineered Solution

93%

Time Savings

Background

Under Pressure

A global leader in offshore oil and gas planned to deploy new subsea valves and sensors to collect data at extreme depths, under unprecedented pressure.

Prove It

Prior to deployment, regulatory compliance required the OEM to rigorously test their products to prove viability. The company's lab planned to use a pressure vessel to create an artificial subsea environment to verify the performance of their valves and sensors at controlled pressure points equal to varying depths of the ocean.

Challenge

Size Matters

The company's test team was challenged with finding the right partner to manufacture a large pressure vessel at such high pressures.

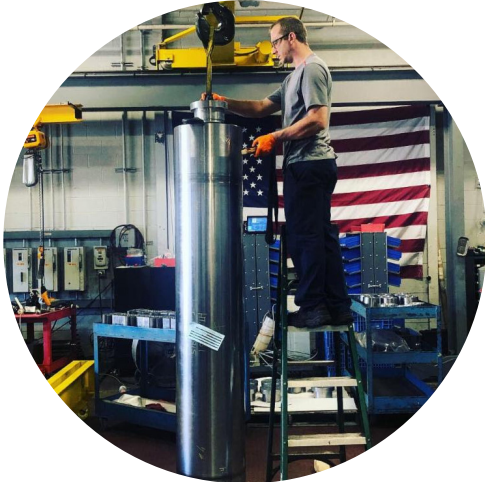
The test required a 10-gallon capacity accumulator with a maximum allowable working pressure of 30,000 PSI. A testing vessel of this size did not exist. At the time, the largest commercial accumulator supported 10-gallon capacity with a maximum working pressure of 25,000 PSI.

Need for Speed

With each controlled pressure simulation, the lab needed to open the accumulator to inspect the valves and sensors and then reseal for continued simulations. Standard pressure vessels are built with threaded end caps, which are notoriously time-consuming to open and require specialty disassembly tools. The frequent assembly and disassembly can also cause galling and stall simulations for maintenance services.

Innovation often ends when time or money exhaust resources; so easier, repeatable access to the interior of the accumulator would be critical for speed to market.

Challenge Accepted



Bring It On

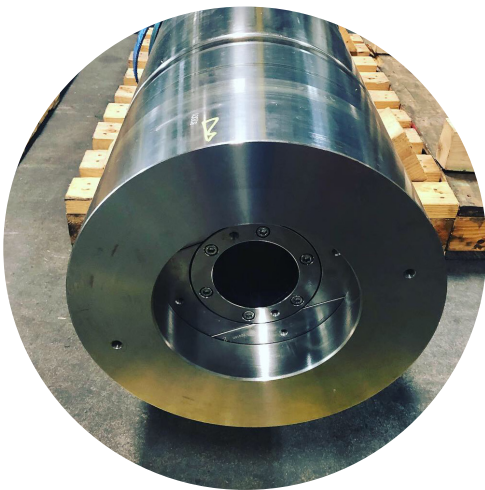
Known for taking on tough jobs, KOCSIS was contracted to engineer and manufacture a solution.

Maximum Force

A stainless steel accumulator was built, measuring 90 inches long by 16 inches in diameter. The accumulator was manufactured using KOCSIS' patented Lockbox design. This specific unit needed to withstand 1.1 million pounds of force produced by the containment of internal pressure.

Quick Disconnect

The Lockbox design reinvented the method of accumulator disassembly. Instead of threaded end caps, Lockbox provided quick disconnect end caps for the testing lab to easily open and inspect. The connection also eliminated the risks of wear, downtime, and maintenance costs.



Results

Test Success

By introducing new technology and efficiencies, the oil and gas leader was able to prove product viability, under record pressure, in record time.

The company independently performed the subsea simulations in their lab. They were able to test onsite instead of subcontracting the test, cutting down on labor and maintenance costs. With the new end cap design, vessel disassembly time was reduced from 67 minutes to 5 minutes per each simulation inspection, a 93% savings.

LOCKBOX

Lockbox by KOCSIS is a patented piston accumulator with an ASME approved closing arrangement. The specialty quick disconnect technology is designed to streamline routine maintenance or inspection of large pressure vessels. Common uses are offshore oil and gas applications where accumulators are consistently inspected and at greater risk for galling and corrosion. Another useful application for Lockbox is testing simulations requiring frequent assembly and disassembly. Lockbox accumulators can be designed to meet various customer specifications with capacities ranging from 5 gallons to more than 160 gallons and operating pressures of 6,000 PSI to 30,000 PSI and beyond.



Kocsis Hydraulics is an OEM providing fluid power technologies for extreme environments. For over 30 years, Kocsis Hydraulics — formerly Kocsis Technologies, Inc., or KTI — has designed and manufactured fluid power technologies including a variety of hydraulic starters, piston accumulators, and hydraulic system components. Our products, services, and expertise are recognized worldwide, on land and subsea, for robustness, resilience, and reliability. Our technicians and engineers work in tandem with you to ensure a comprehensive understanding of your needs so they can put their expertise to work and deliver a finished product that's Built for the Extreme.

KocsisUSA.com