Caley OCEAN | systems

Case Study I Offshore Handling Systems

Chinese Manned Submersible World Record Dive uses Caley A-Frame Launch and Recovery System

When the Chinese Jiaolong manned submersible successfully achieved a world record breaking dive of 7,015m (23,015ft), it was A-frame technology from leading marine handling systems specialist, Caley Ocean Systems, that safely launched and recovered the submersible back on-board.

Mounted on the stern of the mother ship Xiangyanghong9, the Caley A-frame is used to both launch and recover the Jiaolong manned submersible, weighing 22 tons. The hydraulically-operated, A-frame lifts and pivots to position the Jiaolong above the water before lowering it, during recovery the process is reversed. In addition to winches to lower and raise the submersible, Caley has supplied two bespoke, oceanographic, winches for handling scientific instruments for ocean bed research, these too are deployed using the Caley A-frame.

The Jiaolong submersible successfully completed its world record dive in the Mariana Trench in the Pacific Ocean.

"We are delighted at the success of the Jiaolong in setting a new world record for manned submersibles. As oceanographic research organisations go to ever greater depths they are increasingly relying on the quality and technical performance of Caley A-frames and winch systems," said Gregor McPherson, sales director, Caley Ocean Systems.

Caley Ocean Systems worked with its long-term Chinese agent, Laurel Technologies, on the supply of the A-frame and winch systems for the Xiangyanghong9 vessel.

Caley A-frames for leading Oceanographic Research Projects

Caley Ocean Systems is also upgrading the US Woods Hole Oceanographic Institution's (WHOI) R/V Atlantis research vessel's A-frame handling system, for the launch and recovery of the new 'Alvin' deep submergence vehicle. Originally designed and installed in 1983, the Caley A-frame has withstood the test of time. The upgraded A-frame will handle the heavier Alvin submersible, capable of descending to 6,500m (21,000ft).

In Korea, Caley has been awarded a contract to supply oceanographic winches and A-frame systems to Hyundai Heavy Industries (HHI) for a new oceanographic research vessel. This state-of-the-art, ocean-going, vessel is capable of surveying to the full ocean depth 10,000m (32,808ft). The HHI research vessel will feature high performance, stern and side Caley A-Frame systems for seabed drilling and coring equipment. The handling systems will comply with the new DNV rules on Lifting Appliances.

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