

Maxon DC motors exploring ocean depths up to 6,000m.

An ROV fitted with maxon DC motors found the largest submarine built in WWII, lying 190 metres below the ocean. The DC motors and drives have the ability to reach depths up to 6,000m.

A powerful maxon DC motor and planetary gearhead fitted with ceramic components, was the driving system behind an ROV that found the I-402 Japanese Submarine, destroyed by US forces at the end of WWII. Fitted with sonar, depth gauge, scanner, high-res camera and powerful LED lights the ROV is controlled by an operator using a compass and real-time video stream. The maxon DC drives are also fitted to the underwater gripper and camera adjustment mechanism.

The motors and gearheads were selected for their high power, small size, low noise and ability to withstand vibrations to prevent the seals failing when underwater. The DC motors ability to reach depths of up to 6,000 metres was crucial in determining appropriate drive systems for the ROVs. Re-discovered in mid-2015, the submarine was able to be identified thanks to the ROVs powerful lights illuminating its unique features.

For more information on ROVs or motor drive systems for underwater exploration please call maxon motor Australia Tel +61 2 9457 7477.

Length of this press release: 207 words

The media release is available on the internet at: www.maxonmotor.com.au



Comparison of the highest points on Earth vs. depths of the Ocean © 2016 maxon motor ag



The Seamor ROV © 2016 maxon motor ag



The I-402 submarine

In the final days of WWII, Japan developed a novel submarine that was larger than all types known at the time. The objective was to create a submarine class capable of reaching any point on the globe and returning to Japan. It also needed to offer space for several planes that could be launched from the deck. In the end, only three of these submarines were completed. They were 122 meters long, with a weight of 6,600 tons. The hull offered space for three specially designed airplanes. Japan was planning to use this super weapon to attack cities on the East Coast of the US. However, these plans never became reality. The three submarines were captured by US forces. The Americans were quite surprised and thoroughly analyzed the technology. I-402 was scuttled right where it was; the two other exemplars were taken to Hawaii, where the US military destroyed them later to prevent the Soviets from inspecting the submarines as well.

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