Custom small DC servo motor for position and power.

Only just delivered to our customer, this fine example of the high customisation capabilities with maxon brushless DC servo motors.

Pictured here is the maxon 90mm Brushless DC motor fitted with a 52mm Ceramic planetary gearhead and an optical incremental encoder. The motor is being used in a robotic joint application that required a high torque output and highly accurate position control from a short assembly. The pancake style brushless motor has a continuous 24/7 duty rated torque of 517Nm and coupled with the gearhead this gives 30Nm at the output shaft. Because of the positional accuracy and low speed operational requirements the standard integrated encoder that is normally specified with this motor could not be used. An optical encoder needed to fitted to the back side of the motor. Normally, this is a simple task for a high end motor manufacturer however this particular motor is called an “external rotor motor” commonly also referred to as “out runners”. On this style of brushless DC motor the rear of the motor is rotating while the only stationary part is the front mounting flange. maxon motor were able to overcome the technical challenge by manufacturing the motor with an additional shaft section through the rear of the outer rotor and then machine a recess in the front flange to enable an encoder mounting bracket to wrap around the external rotor. Sure, it may not look like a typical brushless DC motor but for automation engineering, it’s solutions that count.

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