**Media Release**

**Brushless DC servo motor – Quiet and Precise.**

Uniquely designed gearhead, high resolution encoder and brushless servo motor combination provides accurate positioning at low noise levels.

The Koaxdrive gearhead supplied by maxon motor is a unique product that provides the typical transmission advantages of a planetary gearhead, offering torque multiplication and speed reduction at high efficiencies with the added benefit of very low operating noise. Its uniqueness lies in the design which is best described a combination of planetary and worm technologies. The special gear forms are still rotating around a central drive similar to planetary gears however they are also spline type gears mounted at a critical angle to achieve the planetary effect. This design results in an efficiency of 78% and input speeds of up to 8000rpm while still maintaining its low noise attributes. In the example pictured the gearhead is mounted to a stainless steel brushless DC motor containing internal hall sensors for motor commutation phasing and a 5000cpt incremental encoder for accurate positioning of the shaft. With a gearhead reduction up to 1091:1 using a maxon quad counting position controller this gives a resolution of 21,820,000qc/revolution or 0.0000165 degree. It is a level far below the resolution of position controllers themselves with a typical 4qc margin allowed for. The motors, gearheads and encoders are freely selectable to create a combination that most accurately matches the application.

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