Tailoring the perfect custom DC gear motor solution.

This robust right angle DC servo gear motor example showcases maxon motors capability to supply unique solutions for demanding applications. Supplied into Australia’s defence industry the motor and gearing needed to be of the most robust and efficient design.

The system is comprised of an 40mm rare earth brushless DC motor fitted with a 42mm 66:1 ceramic planetary reduction gearhead, a right angle 5:1 helical bevel reduction gearhead and a 500cpt digital encoder. The combination is specifically assembled to provide the exact proportion of speed and torque within a fixed shape the motor needs to fit within. The reduction ratio split between the two gearheads needs to be carefully selected in order to focus the high speed and low torque power transmission function on the ceramic planetary gearhead utilising the advantages of a gearhead containing high wear resistant ceramic components. The low speed high torque transfer task is conducted by a large low ratio helical bevel gear train. This design gearbox contains a very large tooth section by comparison to the planetary gearhead making it more suitable for this task. maxon motor’s 40mm rare earth motor gives high levels of power without the negative influences of a laminated stack within the motor. This coreless, ironless design allows for zero cogging movement and accurate motor control at low speeds for precision positioning control.

Oh yes, any colour as long as its black.

For detailed engineering assistance with custom DC gear motor combinations contact maxon motor Australia. Ph. +61 2 9457 7477.

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