

Myoelectric Semi-Articulated Prosthetic Hands



12G88 Brush DC
Coreless Motor



R13 Gearhead

Prosthetics are artificial devices that assist individuals who have lost limbs in performing routine tasks, significantly improving their independence and confidence. Among the diverse range of prosthetics available, myoelectric semi-articulated prosthetic hands stand out for their functionality and affordability. These devices are designed to support basic tasks while providing a natural appearance, intense durability, and long-lasting battery life. Typically, these prosthetic hands house their actuation in the palm, where a motor, gearhead, and pinion drive a linear mechanism arranged at 180° to drive finger motion.

A prosthetics manufacturer recently turned to Portescap for help in selecting a lightweight, easy-to-integrate motion solution for their new prosthetic hand application. The team selected the 12G88 Athlonix™ brush DC motor for its power density and energy efficiency, along with the R13 gearhead and a magnetic encoder to meet the application's demand for a high degree of accuracy for closed loop motion.

The 12G88 brushed DC motor and gearhead combination successfully met the application's size limitation and power requirements, providing a reliable solution with a streamlined supply chain and significantly improving the device's battery life. The manufacturer was also pleased with Portescap's ability to support customization during the entire development process.

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MOTOR HIGHLIGHTS

- Optimized self-supporting coils and ironless construction
- Neodymium magnet for excellent performance
- Precious metal commutation and long brush life
- Winding and customization options available